



Response to Comments

National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water Associated with Construction Activity

Ohio EPA General Permit No.: OHC000004

Agency Contact for this General Permit

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Ohio EPA held a public hearing on February 25, 2013 regarding NPDES General Permit for Discharges of Storm Water Associated with Construction Activity (OHC000004). This document summarizes the comments and questions received at the public hearing and/or during the associated comment period, which ended on March 4, 2013.

Ohio EPA reviewed and considered all comments received during the public comment period. The comments have been organized by the Part of the general permit. The name of the commenter follows the comment in parentheses.

General

Comment 1: It was requested that Ohio EPA support and encourage outreach by state and local regulatory agencies to the regulated industry to provide the opportunity for our members to be informed of current permitting requirements and options for cost-effective storm water control strategies. (Ohio Home Builders Association)

Response 1: Ohio EPA staff will continue to participate in requested outreach forums to inform interested parties of NPDES construction storm water requirements. In addition, we will continue to develop guidance documents as warranted and requested.

Comment 2: Thermal impacts must be addressed. Thermal pollution—an increase in the temperature of a water body due to the presence of heated

runoff or other warm discharges—is a significant problem in our urban areas. This warming effect causes a number of problems in the water body, including reducing dissolved oxygen levels and, in some waters, killing off of coldwater-adapted species. The general permit should limit the temperature increases caused by the water leaving storm water system. At the very least, the permit should require applicants to take actions to limit the thermal discharge associated with the use of BMPs that hold water in sunlight for a long time, or that receive runoff from heated surfaces. This is especially true if the receiving waters are coldwater streams. (Ohio Environmental Council)

Response 2: Ohio EPA intends on evaluating watersheds throughout the state and developing applicable watershed specific construction storm water permits where warranted and as resources permit (i.e., watersheds with coldwater streams). In addition, Part III.F of OHC000004 would provide the Director the authority to require a permittee to revise his/her SWP3 if a TMDL would require specific BMPs. Ohio EPA intends on evaluating the current post-construction storm water permit requirements and identifying needed improvement opportunities over the permit term.

Comment 3: Need for thermal impact control. Stormwater units are known to increase water temperatures. While there is general temperature elevation in most, if not all, urban areas, the permit should address additional thermal impacts created by storm water units and ensure they are adequate to protect sensitive aquatic life. Stormwater units expose water to solar insolation, and are known to increase water temperatures, and the permit should address this problem. In a natural condition, lower temperatures would be seen in groundwater discharges that supply flow to streams, but storm water units do achieve the same temperatures, flow regime or rates of natural groundwater recharge. A permit should require temperatures leaving units minimize or eliminate temperature increases and be low enough to ensure no adverse impacts to sensitive species. The permit should not allow an increase in stream temperatures due to the use of certain BMPs that discharge from an elevated temperature condition (e.g., long exposures to solar insolation, runoff from heated surfaces, etc.). Some BMPs, such as creating a berm Vegetated Filter Strip.

Kieser et al² (no date) “²Kieser, M.S., A.F. Fang, J.A. Spoelstra. Role of urban stormwater best management practices in temperature TMDLs. <http://www.kalamazooriver.net/tmdl/docs/TMDL03.pdf>” stated “flow regime change may help explain the continued degradation of receiving waters despite BMP implementation” and “According to EPA data (http://oaspub.epa.gov/waters/national_rept.control), there are 298 approved temperature-related TMDLs in the nation.”

Ohio's Water Quality Standards, OAC 3745-1-07, Table 7-1, state "At no time shall the water temperature exceed the temperature which would occur if there were no temperature change attributable to human activities." This criterion should apply to storm water discharges and be incorporated or referenced in this permit. (The Nature Conservancy)

Response 3: Please see Comment/Response 2.

Comment 4: Encouraging going beyond the minimum permit standards through Low Impact Development. While we appreciate the effort in these rules and the thought that went into improving Ohio's storm water protections, we ask that Ohio EPA also consider ways to encourage permittees to exceed the present requirements of permits by significant amounts, particularly to the degree that stream life are permanently protected, especially high quality species and aquatic communities. To date, despite the best efforts of storm water management, it appears that streams in urban areas continue to fail to support high quality (rare and sensitive) species and communities. In fact, very few, if any, reach Exceptional Warmwater habitat attainment, and few seem to have Antidegradation status as Outstanding State Waters.

We encourage the Agency to develop incentives and new programs that are based on adequately protecting these species and communities. This might entail incentives for Low Impact Development (LID) that uses "green infrastructure" and significantly exceeds storm water permit requirements for quality and quantity. While we recognize that examples of LID are already in place and concepts are known, we are concerned about additional factors such as establishing a natural flow regime, and, above all, the adequacy of storm water management to prevent declines in stream quality. We feel the evidence is lacking that shows that full protection is achieved.

We encourage Ohio EPA to work with U.S. EPA and local governments to establish adequate protections of high quality streams through such requirements and incentive programs. (The Nature Conservancy)

Response 4: Please see Comment/Response 61.

Comment 5: The permit can do more to incentivize low-impact development. The Draft Permit lists some "green infrastructure" BMPs on the Table of Pre-approved BMPs (Draft Permit page 21). It also allows non-structural post-construction BMPs to be used to reduce the runoff coefficient for the project (Draft Permit page 22). We support both of

these provisions as ways to give applicants an incentive to incorporate innovative stormwater management techniques into their projects. However, the permit can do more to incentivize the implementation of such infrastructure. One way to do that would be to simply require applicants to reduce the runoff coefficient of their development by 20% through the use of any of a suite of "green infrastructure" BMPs. (Ohio Environmental Council)

Response 5: Please see Comment/Response 61.

Comment 6: Please consider a system under which permittees can request guidance or clarification in circumstances where disputes arise with local storm water control authorities regarding compliance with this General Permit. (Ohio Home Builders Association)

Response 6: Ohio EPA currently, and will be in the future, available to provide guidance and clarification to permittees and local government entities in regards to NPDES construction storm water permit requirements. In addition, Ohio EPA staff will continue to participate in conferences and requested presentations to provide outreach to interested parties.

Part I

Comment 7: **Part I.B.1.** This section contains a reference to Part III.G.2.k.iv of the draft permit. The draft permit does not appear to contain a Part III.G.2.k.iv. (City of Columbus Department of Public Utilities)

Response 7: This reference has been corrected. The correct reference of Part III.G.2.g.iv has been included within the final permit.

Comment 8: **Part I.B.1.** Ohio EPA recognizes that the permit applies to "discharges associated with construction activity that...a storm drain leading to surface waters of the state." There are a number of structures which serve as both "normal" storm drains as well as CSO conduits. These may be specifically constructed pipes or streams which have been culverted in the past. In Cuyahoga County, Spring Creek, Morgana Run and Kingsbury Run, to name just three, have flow independent of the combined sewer system and accept storm water runoff downstream all combined sewer regulators. Therefore, the NPDES permit holder has physically limited capabilities to deal with pollutants introduced, particularly in the downstream reaches. We suggest that some small changes to the permit could enhance its ability to protect the environment in cases like these:

- **Part III.C.2.b.iii.** Strike the words "municipal separate storm." Denying this access to responsible parties based solely on the type of permit is not productive.

- **Part III.G.1.h.** Delete the acronym MS4. Clearly, it is important to understand the routing of a discharge, regardless of the ownership or permit status of any intervening conduits involved. (Northeast Ohio Regional Sewer District)

Response 8: The NPDES construction storm water general permit is applicable to storm water discharges associated with construction activity that enter surface waters of the state or a storm drain leading to surface waters of the state. Storm water discharges associated with construction activity that ultimately discharge to a combined sewer system are not subject to this general permit. However, nothing prohibits the owner of the combined sewer system from having regulations that apply to discharges to their system. No changes to the final permit were made based on this comment.

Comment 9: **Part I.B.1.d.** We note that the previous provision for inclusion of “off-site borrow pits and soil disposal areas” has been deleted without explanation. With an extensive tunnel construction program mandated in Ohio for combined sewer overflow (CSO) control, we request that the flexibility of this provision be restored. (Northeast Ohio Regional Sewer District)

Response 9: This permit language was accidentally omitted from the draft permit. The language “(off-site borrow pits and soil disposal areas, which serve only one project, do not have to be contiguous with the construction site)” has been added to the final permit and is consistent with OHC000003.

Comment 10: **Part I.B.2.a.** We question why Structural Post-Construction BMPs are required within the statewide construction storm water general permit. Part I.B.2.a specifies limitations on coverage of this permit, “The following storm water discharges associated with construction activity are not covered by this permit: Storm water discharges that originate from the site after construction activities have been completed, including any temporary support activity, and the site has achieved final stabilization.” Inclusion of Structural Post-Construction BMPs contradicts with the limitations of coverage specified in the general permit. Revise the above language to include storm water discharges after construction or remove the Post-Construction BMP requirements under the general permit. (Ohio Department of Transportation)

Response 10: Post-Construction NPDES permit requirements originate in USEPA’s November 16, 1990 Phase I initial storm water regulations. Ohio EPA has included post-construction requirements in its construction storm water general permits since 1992. Once final stabilization is achieved then coverage under the construction general permit should be terminated. The construction general permit does require the installation of post-

construction best management practices (BMPs) during construction and assurances that it will be maintained, but the discharge from the BMP after construction general permit coverage is terminated does not require an NPDES permit normally for residential and commercial development. If the site was developed for an industry with a regulated storm water discharge then a different NPDES permit would be required for that discharge.

Comment 11: Part I.B.4. With the removal of language pertaining to “routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used,” we recommend OEPA provide a link to the OCAPP Fact Sheet for Mobile Power Washing located by web link:
<http://www.epa.ohio.gov/portals/41/sb/publications/powerwash.pdf>
(Butler County Storm Water District)

Response 11: This permit language was accidentally omitted from the draft permit. The language “routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used” has been added to the final permit and is consistent with OHC000003.

Comment 12: Part I.E.1. Under the prior permit, a SWP3 was not required when applying for a NOI. How is this to work with ODOT Supplemental Specification 832? We recommend OEPA and ODOT incorporate alternative language allowing submittal of the SWP3 for Transportation Projects. (Butler County Storm Water District)

Response 12: Consistent with OHC000003, OHC000004 will not require the SWP3 to be submitted as part of the NOI application. Under Part I.E.1, the words “and SWP3” has been removed from the first and second sentences.

Comment 13: Part I.E.1. The implication is that both an NOI and SWP3 are required to be submitted to Ohio EPA? This could create a “submission nuisance” for all parties involved. If SWP3s do in fact need to be submitted to Ohio EPA along with NOIs, then Part I.F and all subsections need to be revised to include SWP3 submissions along with NOIs. (City of Canton)

Response 13: Please see Comment/Response 12.

Comment 14: Part I.F. In general, this section describing the NOI requirements does not mention submittal of a SWP3 as mentioned in Part I.E.1. Is

submittal of the SWP3 a NOI requirement? Please clarify. (Butler County Storm Water District)

Response 14: No, the SWP3 is not required to be submitted as part of the NOI requirement. Please see Comment/Response 12.

Comment 15: **Part I.F.1.a.** How long will OEPA be given to issue either an approval letter or notify the applicant of an incomplete NOI application? There is a concern approval of the NOI will not be issued in a timely manner, forcing unnecessary delays and potential monetary damage claims for public projects. We recommend OEPA establish a time line for NOI approvals and that time line not exceed 14 days. (Butler County Storm Water District)

Response 15: As with OHC000003, Part I.F.1.a of OHC000004 indicates that a complete and accurate NOI application form and appropriate fee be submitted at least 21 days prior to the commencement of construction activity. The SWP3 is not required to be submitted as part of this application as stated in Response 12. This 21 day timeframe currently allows Ohio EPA time to process complete and accurate NOI applications.

Comment 16: **Part I.F.4.** We recommend that Part I.F.4 include a sentence to indicate that the NOI and SWP3 are also considered public documents and shall be made available to the public consistent with Part III.C.2 of the permit. (United States Environmental Protection Agency)

Response 16: Language has been added to Part I.F.4 to state that the NOI and SWP3 are considered public documents and shall be made available to the public in accordance with Part III.C.2.

Comment 17: **Part I.F.4.** The proposed wording in this paragraph is confusing and should be revised. I recommend revising it accordingly to something like this: “The permittee shall make NOIs and SWP3s available upon request of the director of Ohio EPA, applicable local agencies or representatives (which review, approve, and/or inspect SWP3s, grading plans, and/or storm water management plans), local government officials, or operators of municipal separate storm sewer systems (MS4s) receiving drainage from the permitted site. Each operator that discharges to an NPDES-permitted/regulated MS4 shall provide a copy of its Ohio EPA NOI submission and SWP3 to the MS4 Operator in accordance with the MS4 Operator’s requirements, if applicable. (City of Canton)

Response 17: This comment was evaluated but no changes to the final permit were made.

Comment 18: Part I.F.5. This part of the draft permit allows permittees having coverage under the previous general permit to be automatically covered under this permit until the period of coverage for the project reaches five years. If the permittee wants to continue coverage under the new general permit, it must only submit its NOI 21 days prior to the previous coverage reaching 5 years. This does not appear to be consistent with EPA regulations at 40 CFR 122.28(b)(2) (regarding the requirement for an NOI prior to authorization to discharge under a general permit) and 40 CFR 122.6(d) (regarding the continuation of State-issued permits). If it is the intent of Ohio to limit fee collection to no more than once every five years, it may do so without conflict with federal requirements as long as the NOI itself is required to obtain coverage under the new general permit. (United States Environmental Protection Agency)

Response 18: Part I.F.5 has been revised to comply with 40 CFR 122.28(b)(2) and 40 CFR 122.6(d) as identified by USEPA. This revised language will mostly mirror the Renotification requirement of OHC000003. However, Part I.F.5 must also include language to comply with Ohio Administrative Code (OAC) 3745-38-02(E)(2)(a)(i) which requires entities authorized under a previous construction storm water general permit to renew their coverage with an application fee once per 5 years.

To comply with 40 CFR 122.28(b)(2), 40 CFR 122.6(d) and OAC 3745-38-02(E)(2)(a)(i), Ohio EPA will provide renewal notification to all current permittees once OHC000004 has been issued and is effective. This renewal notification will provide instructions on how the permittee is to notify Ohio EPA of their intent to be covered by OHC000004. An application fee will be required for permittees whose coverage is greater than 5 years old. For permittees whose coverage is less than 5 years old, no application fee will be required. Permittees will have 90 days from receipt of Ohio EPA's notification to submit their renewal application if they intend to continue coverage under OHC000004.

Comment 19: Part I.F.5. An additional fee should not be required for a re-notification application. Since the permit was previously processed, it seems that an additional fee would not be necessary to merely renew an existing application. (Ohio Valley Development Council of the Homebuilders Association of Greater Cincinnati & Ohio Home Builders Association)

Response 19: For additional information, please see Comment/Response 18. In accordance with Ohio Administrative Code (OAC) 3745-38-02(E)(2)(a)(i), entities authorized under a construction storm water general permit will be required to renew their coverage (NOI and associated fee) for projects

which take longer than 5 years to complete. Most projects issued coverage under the general permit take less than 5 years to complete, so this permit condition should only affect a small percentage of sites.

Comment 20: Part I.F.5. We support the requirement that applicants renew their coverage every five years. We understand that this requirement will help the agency maintain a more accurate and complete database of the universe of active and completed permits. (Ohio Environmental Council)

Response 20: Comment noted. For additional information, please see Comment/Response 18.

Comment 21: Part I.F.5. The implications of some of the wording as currently proposed can be somewhat confusing and should be clarified/revised. If I understand the intent correctly, I recommend that respective wording within this section be revised to something like this: “...Permittees having initial coverage under previous generations of this general permit (OHC000003, OHC000002, and OHR100000) will have permit coverage automatically continued under OHC000004 until the time from date of approval for coverage under their initial permit exceeds five (5) years. Permittees who obtain initial coverage under OHC000004 and who want to continue coverage under OHC000004 beyond five (5) years must submit a new NOI form and appropriate application fee at least 21 days prior to the date corresponding to five (5) years from their initial coverage date...” (City of Canton)

Response 21: Please see Comment/Response 18. Part I.F.5 has been revised to address USEPA’s comment on this permit condition.

Part II

Comment 22: Part II. Given the U.S. EPA’s recent findings the numeric limitations are unsubstantiated, and the current stay on numeric effluent standards, the Ohio Home Builders Association agrees it is appropriate to leave such revised limits out of the permit without including a placeholder. The Ohio Homebuilders does not support the use of numeric effluent limits in the general construction storm water permit. (Ohio Home Builders Association)

Response 22: Comment noted.

Comment 23: Part II.A.1 & 2. At what storm frequency and intensity must the applicant control storm water discharges from the site? This requirement appears to utilize storm water as a surrogate for

sediment. How does this requirement differ from recent legal ruling (Virginian Department of Transportation, Et Al. v. United States Environmental Protection Agency, Et Al.) by U.S. District Judge Liam O’Grady? (Butler County Storm Water District)

Response 23: The language in 40 CFR 450.21 on controlling volume and discharge rate from a construction site to minimize soil, stream bank, and stream channel erosion does not provide specific design criteria during construction. Ohio EPA’s current NPDES construction general permit already requires best management practices (BMPs) to control volume and release rate to minimize onsite soil erosion and offsite stream erosion. Part III.G.2.d.ii of the general permit requires a sediment settling basin, with a 48-hour discharge time, whenever there is any concentrated runoff. Part III.G.2.d.iii of the general permit requires a minimum amount of silt fence to detain sheet flow runoff dependent on the land slope. When vegetated land is developed, the changes usually reduce permeability and increase the volume and release rate of storm water. These changes will result in both a greater amount of onsite sediment discharge and a greater likelihood of offsite stream channel erosion. As the watershed of a stream receives more impervious surface that it used to have, stream channels become much deeper due to the added flow rate and duration of post-storm flows.

The court ruling that was referenced has to do with U.S. EPA allowing the use of storm water runoff flow as a surrogate for sediment when establishing a TMDL for a particular stream and watershed. The conditions in 40 CFR 450.21, as well as the language in Ohio EPA’s statewide NPDES construction general permit, are not for evaluating the quality of a particular stream or watershed and establish limits for that, but rather to use known BMPs to reduce flow to minimize onsite sediment discharge and onsite/offsite stream bed erosion.

Comment 24: Part II.A.2. Requires the permittee to “Control storm water discharges, including both peak flow rates and total storm water volume.” The agency should specify how “minimize” is determined. Disruptions to many flows (base flows, channel forming flows) are detrimental to stream quality and survival of stream life. The Agency should establish release rates that are protective of stream quality under all flow conditions.

While peak flows and total volume are important, the whole range or flows is critical to lessening the impacts of storm water. The National Research Council (2010)¹ “¹National Research Council. 2008. Urban Stormwater Management in the United States. The National Academies Press, Washington, D.C. http://www.epa.gov/npdes/pubs/nrc_stormwaterreport.pdf” stated:

“The full distribution and sequence of flows (i.e., the flow regime) should be taken into consideration when assessing the impacts of storm water on streams. Permanently increased storm water volume is only one aspect of an urban-altered storm hydrograph. It contributes to high in-stream velocities, which in turn increase streambank erosion and accompanying sediment pollution of surface water. Other hydrologic changes, however, include changes in the sequence and frequency of high flows, the rate of rise and fall of the hydrograph, and the season of the year in which high flows can occur. These all can affect both the physical and biological conditions of streams, lakes, and wetlands. Thus, effective hydrologic mitigation for urban development cannot just aim to reduce post-development peak flows to predevelopment peak flows.” (NRC 2010, Executive Summary, pg 6)

Release rates must protect downstream channel integrity and not cause channel scour or instability. The Agency should establish and clarify how the storm water BMP release rates improve upon stream protection required for storm water permits. The release rates must prevent unstable channels, and protect stream integrity and biological diversity. A combination of release rates and groundwater recharge is needed to protect base flows. (The Nature Conservancy)

Response 24: Please see Comment/Response 23.

Comment 25: Part II.A.4. What does OEPA consider a “steep slope”? We recommend OEPA define the term “steep slope” under the permits definitions section. (Butler County Storm Water District)

Response 25: Part II.A.4 is a condition to satisfy USEPA’s federal construction and development effluent limitation guidelines. As such, the final permit will include a definition of “steep slopes” consistent with the definition included within USEPA’s 2012 construction storm water general permit.

Comment 26: Part II.A.5. If the design of sediment and erosion controls are to address amount, frequency, intensity and duration of precipitation, OEPA needs to set a minimum design parameter. Does OEPA intend the Small MS4 program to enact sediment and erosion control design requirements? The term “shall” imply a quantified design parameter while “should” or “may” refers to design guidance. (Butler County Storm Water District)

Response 26: The sediment settling basin criteria outlined in Part III.G.2.d sizes these basins to capture and treat the first 0.5” of runoff per disturbed acre, with a minimum 48 hour drawdown period. If properly designed and constructed,

these basins will detain all runoff from 80% of rainfall events, and the first 0.5" of runoff from any larger rainfall events.

Comment 27: Part II.A.6. Reference should be made to Part III.g.2.a within this permit. (Butler County Storm Water District)

Response 27: To alleviate confusion, the recommended buffer language found within Part III.g.2.a will be modified to reference Part II.A.6.

Comment 28: Part II.B. We strongly support the requirement that applicants stabilize any areas that will lie dormant for more than 14 days. This will reduce the amount of sediment that washes into the waters of the state. (Ohio Environmental Council)

Response 28: Comment noted. The 14 day stabilization requirement is to address USEPA's federal construction and development effluent limitation guideline.

Comment 29: Part II.C. What does OEPA consider appropriate controls? Does Part III.G.2.g.iv satisfy this requirement? We believe the term "appropriate controls" is vague and enforced unequal around the State. (Butler County Storm Water District)

Response 29: Yes, Part III.G.2.g.iv of the general permit does satisfy this requirement. If the trench water being discharged is turbid, the turbid water needs to be either discharged into a sediment settling pond or into a filter bag. If the trench water is not turbid, then it can be directly discharged into a stream or storm sewer. Please be sure that the water is not discharged directly onto disturbed soil prior to entering a stream or storm sewer.

Comment 30: Part II.E.1. Again, the term "appropriate controls" is vague and ineffective. We recommend citing Caltrans Storm Water Quality Handbook – Construction Site Best Management Practices Manual, Section 8 Concrete Waste Management WM-8. See attachment herein or website link: <http://www.dot.ca.gov/hq/construc/stormwater/WM-08updated.pdf> (Butler County Storm Water District)

Response 30: Consistent with OHC000003, OHC000004 does not authorize concrete truck wash out into a drainage channel, storm sewer or surface waters of the state. As indicated in Part III.G.2.g.i, the SWP3 must include controls for such non-sediment pollutants. Recommended BMPs, such as a sump or pit on-site with no potential for discharge, can be found in the Rainwater and Land Development manual. Other controls which would result in no discharge of concrete truck washout to a drainage channel, storm sewer or surface water of the state would be acceptable as well.

Comment 31: Part II.F. Recommend changing “SWPPP” to “SWP3 as referenced throughout the document. (Butler County Storm Water District)

Response 31: As requested by the comment, SWPPP has been changed to SWP3 in Part II.F in the final permit.

Part III

Comment 32: Part III.B. According to Part III.B, permittees with continuing coverage from previous versions of the permit that have initiated construction activity prior to the effective date of the permit are not required to update their SWP3. We recommend that the permit require that SWP3s must be updated within a specified time period. This is related to our comment on Part I.F.5 of the draft permit. (United States Environmental Protection Agency)

Response 32: To address USEPA’s comment, Part III.B has been revised to require permittees continuing coverage under OHC000004 to update their SWP3 to ensure that this permit’s requirements are addressed within 180 days after the effective date of this permit. The revised language is similar to language found within USEPA’s 2012 construction storm water general permit. It provides permittees the ability to document within their SWP3 that any new permit requirements are not feasible to implement because it was not required by the general permit which they were originally issued coverage under. Ohio EPA believes examples of OHC000004 permit conditions that would be infeasible for permittees renewing coverage to comply with include: (1) Post-Construction Storm Water Management requirements, if general permit coverage was obtained prior to April 21, 2003, and (2) Sediment settling pond design requirements, if the general permit coverage was obtained prior to the effective date of this permit and the sediment settling pond has been installed.

Comment 33: Part III.B. The first paragraph should be revised to clearly imply that SWP3s are required to be included with the submission of NOIs (if such is the case). The first two sentences should be revised accordingly to something like this: “A SWP3 shall be completed and submitted with an NOI and updated in accordance with Part III.D. Upon request and good cause shown, the director may waive the requirement to have a SWP3 completed and submitted with the NOI...” If SWP3 revisions are required to be submitted to Ohio EPA, then this requirement should also be clarified in this paragraph. (City of Canton)

Response 33: Consistent with OHC000003, OHC000004 will not require SWP3s to be submitted with the NOI application. Please see Comment/Response 12.

Comment 34: Part III.C.2. I recommend the first sentence to be revised to provide for on-site availability of SWP3s not only to the director or his authorized representative, but also as required by applicable MS4 Operators or their representatives. (City of Canton)

Response 34: Obviously, this is already intended by the permit and required by MS4 operators. To clearly indicate this, the first sentence of Part III.C.2 has been revised per your comment.

Comment 35: Part III.G.1.c. The pre-disturbance imperviousness should be requested in order to allow local or state reviewers to ascertain whether a site is new development or redevelopment and verify the appropriate water quality volume.

“An estimate of the impervious area and percent imperviousness created by the construction activity and existing prior to the construction activity;”

Need or justification for the change: Current plan requirements are inadequate for complete review. Permit requirements, such as whether the full water quality volume will be required are determined by the change in site imperviousness before and after the earth disturbing activity. Adding this to the plan requirements is necessary for plans to be adequately and quickly reviewed. Almost all local storm water authorities ask for pre-development and post-development calculations of storm water runoff characteristics, and this requirement is consistent with this approach. It should not be considered burdensome to the development community since it would often be a part of typical storm water calculations at a local level. (Ohio Department of Natural Resources – Division of Soil and Water Resources)

Response 35: This comment was evaluated but no changes were made to the final permit.

Comment 36: Part III.G.1.n.ii. Part III.G of the draft permit contains requirements for the SWP3 that a covered entity must prepare. Part III.G.1.n.ii provides as follows:

“Existing and proposed contours. A delineation of drainage watersheds expected during and after major grading activities as well as the size of each drainage watershed, in acres.”

Although this language is unchanged from the current permit, Columbus requests clarification on this requirement. Does this language require a particular level of detail in delineating contour

lines, for example one foot or two foot contours? In addition, a large area of disturbance may have multiple iterations of the drainage watershed. Does the permit language require delineation for each iteration? (City of Columbus Department of Public Utilities)

Response 36: Ohio EPA does not expect a high level of detail in the grading contours during and after major grading activities. The SWP3 only needs the amount of contour level detail to sufficiently identify the drainage areas. The purpose of this permit language is to ensure that sediment control BMPs are sized sufficiently and located correctly. The size of the sediment settling basin and the amount of silt fence depend on the drainage area to those BMPs.

Comment 37: Part III.G.1.n.vii. Additional plan elements should be requested in order to streamline local or state plan reviews and insure that practices implemented in the field have appropriate design choices. This part of the permit should be replaced with the following language:

“Data for all sediment traps, sediment basins and storm water management treatment practices noting important inputs to design and resulting parameters such as their contributing drainage area, disturbed area, water quality volume, sedimentation volume, practice surface area, facility discharge and dewatering time, outlet type and dimensions. (See the ODNR’s Rainwater and Land Development manual for examples of data sheets).”

Need or justification for the change: Typical information needed for adequate construction or development site plan review is not currently required in this draft or previous permit. Quick and thorough reviews, whether by local storm water authorities or by Ohio EPA staff, is not possible without requesting additional information about site data and pollution control practice designs. ODNR’s experience shows that nearly all non-compliant construction sites begin with non-compliant plans and we feel that making this change to encourage development of adequate plans and sound plan review shift emphasis from enforcement on problem site to prevention. It also supports local governments that utilize construction general permit as the minimum standard for required plan elements. Data sheets for practices have been prepared and are planned for inclusion as public resources in Ohio’s Rainwater and Land Development manual in March and/or April, 2013. (Ohio Department of Natural Resources – Division of Soil and Water Resources)

Response 37: Ohio EPA agrees that the suggested data sheets would streamline local and/or state plan reviews by organizing such design information. Since this

language was not included within the draft permit for comment, the final permit will recommend that the suggested data sheets or similar be used and included within the SWP3.

Comment 38: Part III.G.2.a. We recommend that the last sentence in Part III.G.2.a require the permittee to meet the buffer effluent limitation in Part II.A.6 of the draft permit. (United States Environmental Protection Agency)

Response 38: To alleviate confusion, the recommended buffer language found within Part III.g.2.a will be modified to reference Part II.A.6.

Comment 39: Part III.G.2.a. There are alternatives to the standard buffer width in the proposed permit that should be allowable on streams and buffers on wetlands are needed as well. The setback approach contained in Ohio's Rainwater and Land Development manual is an empirically derived formula that adjusts area width with the watershed size. Additionally local governments have established buffer widths that should be acknowledged.

Non-Structural Preservation Methods. The SWP3 shall make use of practices which preserve the existing natural condition as much as feasible. Such practices may include: preserving existing vegetation and vegetative buffer strips, phasing of construction operations in order to minimize the amount of disturbed land at any one time and designation of tree preservation areas or other protective clearing or grubbing practices. ~~The recommended buffer that operators should leave undisturbed along a surface water of the State is 50 feet as measured from the ordinary high water mark of the surface water. To the extent that surface waters of the state are present on the site, these surface waters shall have a minimum vegetated setback or buffer left undisturbed (if vegetated) between the ordinary high water mark and the earth disturbance area. The appropriate setback or buffer distance for streams shall be determined by the greater of the following methods:~~

-the setback or riparian buffer required by the local government and established by resolution or ordinance.

-the distance contained within an established streamway area using the formula $147 * \text{Drainage Area}(\text{mi}^2)^{0.38}$ up to a distance of 120 from the bank.

-a distance of 50' from the ordinary high water mark.

The setback or buffer distance for wetlands if not contained within the same area as a stream shall be:

- Category 3 wetlands shall be provided a minimum of 120 feet of buffer or setback

- Category 2 wetlands shall be provided a minimum of 75 feet of buffer or setback

- Category 1 wetlands shall be provided a minimum of 50 feet of buffer or setback

Wetland buffers should be preserved in a natural state and established prior to any soil-disturbing activities. These areas should not be mowed or disturbed. If planting is needed within the buffer, only native species should be utilized.

Need or justification for the change: The suggested language recognizes that some local communities have established permanent riparian setbacks and that Ohio has published a criteria for sizing that is based on actual stream characteristics and is published in the Ohio Standards and Specifications, the Rainwater and Land Development manual (RLD). Additionally it has been recognized that directly discharging storm water into wetland is problematic and thus the suggested language includes the buffers that Ohio EPA's stream and wetland mitigation staff uses for wetlands buffers (also published in RLD). (Ohio Department of Natural Resources – Division of Soil and Water Resources)

Response 39: This comment was evaluated but no changes to Part III.G.2.a were made in the final permit in response to this comment.

Comment 40: **Part III.G.2.b.i.** This Table is a duplication of an existing Table already referenced within the permit. Recommend eliminating this duplication or referencing the prior. (Butler County Storm Water District)

Response 40: Tables 1 and 2 will be deleted as requested. Part III.G.2.b.i will simply reference Tables 1 and 2 in Part II.B.

Comment 41: **Part III.G.2.d.ii.** Please clarify. Is this structural practice required to meet requirements set forth previously in Part II.A.2 and Part II.A.5? (Butler County Storm Water District)

Response 41: The language in Parts II.A.2 and II.A.5 are in response to the non-numeric effluent limit criteria adopted into 40 CFR 450.21. The sediment-settling pond requirement in Part III.G.2.d.ii has not changed from OHC000003 and is a requirement to satisfy conditions of Part II.A.2 and II.A.5.

Comment 42: **Part III.G.2.d.ii.** Part III.G of the draft permit contains requirements for the SWP3 that a covered entity must prepare. Part III.G.2.d.ii provides in part as follows:

“In accordance with Part II.F, if feasible, sediment settling ponds shall be dewatered at the pond surface using a skimmer or equivalent device.”

The skimmer requirement appears to be new language in the draft permit. Columbus is unaware of any devices equivalent to a single proprietary skimmer on the market. Is Ohio EPA aware of equivalent devices? (City of Columbus Department of Public Utilities)

Response 42: The federal non-numeric effluent limitation guidelines in 40 CFR 450.21, that were adopted on December 1, 2009, mandated state agencies to require sediment settling basins to be dewatered at the surface unless infeasible, when the state agency issues all future NPDES construction storm water discharge permits. The permit does not mandate the use of a particular skimmer. Although it seems apparent that the Faircloth Skimmer is the most commonly used skimmer from our staff’s experience, it is not the only skimmer available for use. For example, Innovative Applied Solutions, LLC also has a commercially available skimmer and the Rainwater and Land Development manual does reference another skimmer (the Delaware Department of Transportation’s skimmer). In any case, whether a commercially available or site-constructed skimmer is used, it must be designed for the particular characteristics of the site such as drainage area and must meet drain time of the permit (minimum 48 hours).

Comment 43: Part III.G.2.d.ii. Paragraph 5 line two of page 17 of the draft permit appears to have a typographical spelling error. The word “are” it appears should be corrected to “area.” (City of Columbus Department of Public Utilities)

Response 43: This typographical error has been corrected in the final permit.

Comment 44: Part III.G.2.d.ii. We support the use of skimmers to reduce the loading of sediment into the receiving waters. However, we are concerned that this BMP may result in an increase in the thermal impacts to the receiving waters. Water in a detention pond will be warmed by the sun, and warmer water will tend to rise to the top of the pond. Thus, a detention pond that uses a skimmer may be discharging warmer water than a detention pond that does not use a skimmer. While we encourage the use of skimmers to reduce sediment loading, we also encourage OEPA and ODNR to consider ways to reduce the potential thermal impacts of this BMP. (Ohio Environmental Council)

Response 44: The federal non-numeric effluent limitation guidelines in 40 CFR 450.21, that were adopted on December 1, 2009, mandated state agencies to require sediment settling basins to be dewatered at the surface unless infeasible, when the state agency issues all future NPDES construction

storm water discharge permits. This condition only applies to sediment basins during construction activity so the discharge will be temporary. Ohio EPA will evaluate this concern during the permit term to determine if improvement opportunities are needed.

Comment 45: Part III.G.2.d.iii. Does the silt fence table on this page meet the design requirements set forth in Part II.A.2 and Part II.A.5? If the table meets design requirements, please cite the reference within the permit. (Butler County Storm Water District)

Response 45: The silt fence criteria in Part III.G.2.d.iii were also contained in OHC000003. Silt fence installed at a construction site with only sheet flow runoff meeting the criteria in Part III.G.2.d.iii could be the only sediment control required and meet the conditions of Parts II.A.2 and II.A.5.

Comment 46: Part III.G.2.e. The last sentence in Part III.G.2.e regarding final stabilization incorrectly refers to Part VII.H.1. The Correct reference is Part VII.I.1. (United States Environmental Protection Agency)

Response 46: As noted by the comment, this reference has been corrected in the final permit.

Comment 47: Part III.G.2.e. It is clear micropools and forebays are not effective in certain parts of Ohio. OEPA needs to consider alternative pretreatment practices such as catch basin sump, mechanical or manufactured systems and catch basin inserts. We recommend allowance of catch basin and manhole sumps in lieu of forebays. The sediment re-suspension argument applies to sediment forebays as well. (Butler County Storm Water District)

Response 47: Part III.G.2.e of OHC000003 and OHC000004 require area(s) below the discharge orifice sized at 20 percent of the water quality volume to receive accumulated sediment. Many state agency design manuals recommend the use of forebays in dry detention ponds to remove larger sediment and micropools before the outlet to remove fine, suspended sediment. Although dry detention ponds are not the most preferred BMPs, dry detention ponds with outlets designed to slowly discharge the water quality volume over a 48-hour period should keep re-suspended sediment from being discharged. On a case-by-case basis, Ohio EPA can consider the substitution of catch basin sumps, manufactured systems, and catch basin inserts in lieu of forebays and micropools.

Comment 48: Part III.G.2.e. For large construction activities, we request the Ohio EPA set-up a process by which pre-manufactured systems can be pre-certified for use as a prescriptive BMP under this permit. The Ohio EPA should maintain a list of the approved systems as an

addendum to the permit. (Ohio Valley Development Council of the Homebuilders Association of Greater Cincinnati & Ohio Home Builders Association)

Response 48: Currently, post-construction storm water BMPs must meet two criteria, (1) 80% reduction of total suspended solids (TSS) and (2) extended detention (minimum 24 hour) of the water quality volume such that stream bed erosion is minimized, protecting the physical and biological integrity of the receiving stream. The practices in Table 2, if constructed according to Rainwater and Land Development Manual specifications, have been shown to meet these two criteria. To this point in time, we are not aware of any flow-based (i.e., without an extended detention component) manufactured treatment devices that have been able to meet the two criteria. For those sites where discharges are determined to have negligible hydrologic impacts (see "Use of Alternative Post-Construction BMPs", in Part III.G.2.e of OHC000004), a manufactured BMP that meets the 80% TSS reduction standard may be considered, with prior approval by Ohio EPA and the local MS4. The 80% TSS reduction performance claim of any specific proprietary storm water treatment device must be verified, and based on independent, third-party laboratory and field test results according to TARP or other approved protocols. For more information on such protocols and a listing of practices which have completed such testing, please see the following links:

<http://www.njstormwater.org>
<http://www.mastep.net/>

For additional information, please see Comment/Response 50 and 51.

Comment 49: Part III.G.2.e. For Use of Alternative Post-Construction BMPs, it is requested that the third paragraph be modified as shown below. The paragraph as written is too restrictive limiting creative design solutions. (Ohio Valley Development Council of the Homebuilders Association of Greater Cincinnati)

~~"The Director shall only consider the use of alternative BMPs on projects where the permittee can demonstrate that the implementation of the BMPs listed in Table 2 is infeasible due to physical site constraints that prevent the ability to provide functional BMP design. Alternative Other practices may include, but are not limited to, underground detention structures, vegetated swales and vegetated filter strips designed using water quality flow, natural depressions, rain barrels, green roofs, rain gardens, catch basin inserts, and hydrodynamics separators. The Director may also consider non-structural post-construction approaches where no local requirements for such practices exist."~~

Response 49: Please see Comment/Response 48, 50 and 51.

Comment 50: Part III.G.2.e. Part III.G.2.e Comment: Potential users of manufactured treatment devices need to know that practices need to be adequately tested before they will be approved for use. It is proposed that the underlined sentence be added to the following permit language:

Use of Alternative Post-Construction BMPs. This permit does not preclude the use of innovative or experimental post-construction storm water management technologies. However, the Director may require these practices to be tested using the protocol outlined in the Technology Acceptance Reciprocity Partnership's (TARP) Protocol for Stormwater Best Management Practice Demonstrations or other approvable protocol. For guidance, see the following:

- <http://www.dep.state.pa.us/dep/deputate/pollprev/techservices/tarp>
- <http://www.njstormwater.org>

The Director may require discharges from such structures to be monitored to ensure compliance with Part III.G.2.e of this permit. Permittees shall request approval from Ohio EPA to use alternative post-construction BMPs if the permittee can demonstrate that the alternative BMPs are equivalent in effectiveness to those listed in Table 2 above. To demonstrate this equivalency, the permittee shall show that the alternative BMP has a minimum total suspended solids (TSS) removal efficiency of 80 percent under both laboratory and field conditions. Tests shall be conducted by an independent, third party tester. Also, the WQv discharge rate from the practice shall be reduced to prevent stream bed erosion and protect the physical and biological stream integrity unless there will be negligible hydrological impact to the receiving surface water of the State. The discharges will have a negligible impact if the permittee can demonstrate that one of the following four conditions exist:

Need or justification for the change: Proposed use of manufacturer treatment practices should be weighed using an objective, verified testing procedure such as that required by New Jersey's Department of Environmental Protection (NJDEP) and verified by the New Jersey Corporation for Advanced Technology (NJCAT). That testing in both laboratory and field situations are needed concurs with other state's requirements. (Ohio Department of Natural Resources – Division of Soil and Water Resources)

Response 50: Yes, Ohio EPA does not approve the use of alternative post-construction storm water treatment practices unless they meet our performance criteria (see Comment/Response 48) under both laboratory and field conditions. Laboratory tests, using the approved protocols and sediment particle size

distribution, allow apples to apples comparisons of the performance of specific technologies/devices. Field tests, using approved protocols, allow performance evaluation under real-world conditions including complications related to implementation, operation and maintenance of a storm water treatment technology/device outside of the controlled laboratory environment. Ohio EPA has very limited resources to be able to evaluate the performance of proprietary storm water treatment devices. However, several organizations such as the St. Anthony Falls Laboratory at the University of Minnesota and the University of New Hampshire Stormwater Center have the infrastructure and professional staff necessary to conduct such investigations. Verified performance results from these or similar organizations, using Ohio EPA approved protocols, will be accepted by Ohio EPA.

Comment 51: Part III.G.2.e. For Use of Alternative Post-Construction BMPs, it is impractical to assume development around the state can occur in a competitive manner if alternative BMPs are only considered on a case-by-case basis, especially with the onerous language that the alternative BMPs listed can only be used "...where the permittee can demonstrate that the implementation of the BMPs listed in Table 2 is infeasible due to physical site constraints..." The language, as proposed, is too restrictive in limiting alternative, more creative design solutions. (Ohio Home Builders Association)

Response 51: Most alternative post-construction BMPs cannot achieve the necessary detention time to protect receiving streams from hydrologic impacts and have not been proven to be as effective at removing suspended sediment from storm water runoff. Post-construction BMPs that are at the surface are often easier and more cost effective to maintain. Ohio EPA does not want to eliminate the consideration of alternative post-construction BMPs, but Ohio EPA wants to ensure that the alternative BMPs are just as effective. For example, pervious concrete was previously considered an alternative BMP, but was included in Table 2 in OHC000004 because it was proved to be as effective.

Comment 52: Part III.G.2.e. For Non-Structural Post-Construction BMPs, the reference and provided link to the Ohio Lake Erie Commission's Balanced Growth Program should be removed from the permit language. Such reference is both inappropriate and unsupported. The permits set forth detailed and specific requirements. Reference to unsupported and unreviewed reports or recommendations generated by a third party is not appropriate. The voluntary program and resulting study go beyond the scope of the intent of the permitting program. (Ohio Home Builders Association)

Response 52: The reference to the Ohio Lake Erie Commission's Balanced Growth Program is simply to provide examples. Language in the final permit has been revised to more clearly indicate this.

Comment 53: Part III.G.2.e. The Draft General Permit discourages applicants from building post-construction storm water units within floodplains or stream meander belts by requiring the applicant to demonstrate a rationale for their selection of post-construction BMPs. This rationale must include a discussion of the extent to which the proposed BMPs are anticipated to impact morphology, hydrology, and water quality. We appreciate OEPA's commitment to working with applicants to select a suite of BMPs that are appropriate to each site. However, storm water units that are built in floodplains or meander belts have negative effects on a watercourse's morphology and hydrology over time. Stormwater units that are built in floodplains will often release any detained pollutants during flood events, thereby negating the benefits of the BMP.

Thus, the OEC suggests that OEPA should consider including a stronger means to discourage applicants from building post-construction storm water units in a floodplains or meander belts of a stream. For example, the permit could require applicants who seek to build storm water units within these zones to offset that impact by building additional green infrastructure or non-structural BMPs that would reduce the site's runoff coefficient, or to perform off-site mitigation. Applicants seeking to locate BMPs in the floodplain would still have to justify their plan and explain why it is preferable to alternatives that would not require building in the floodplain or meander belt. (Ohio Environmental Council)

Response 53: Consistent with OHC000003, OHC000004 does not contain riparian setback and mitigation requirements that are found within the alternative construction storm water general permits for the Big Darby Creek and Portions of the Olentangy River watersheds. As indicated within the comment, OHC000004 discourages installation of post-construction BMPs within floodplains. However, some local governments do require riparian setbacks and/or prohibitions on installation of storm water controls within the floodplain.

Comment 54: Part III.G.2.e. For Offsite Mitigation of Post-Construction Requirements, Offsite mitigation projects do not result in environmental gains if they are built in areas that will never be jeopardized by development. For example, it is not a net gain to install a storm water mitigation project next to an undeveloped wetland that has been preserved in perpetuity.

While we recognize that OEPA would probably not approve such a project, it would add clarity to the process if the permit explicitly stated that off-site mitigation will only be permitted in areas that are already developed or areas that are "ripe" for development (e.g. an area that is zoned for residential development). (Ohio Environmental Council)

Response 54: Offsite mitigation of post-construction requirements is reviewed on a case-by-case basis. Ohio EPA does not believe additional detail is needed for this requirement. No change to the final permit was made in regards to this comment.

Comment 55: Part III.G.2.e. For Offsite Mitigation of Post-Construction Requirements, Offsite mitigation only results in a net environmental improvement if the site designated for mitigation is developable, and is designated for development, such as within an area zoned (or could be zoned) as residential, a municipal planning area and/or within a facility planning area designated to receive water and wastewater utilities (e.g., 201 Facility Planning Area).

These cases do not result in a net positive environmental mitigation when the area designated for mitigation could not have been developed anyway. Even when "the mitigation ratio of the WQv is 1.5 to 1 or the WQv at the point of retrofit, whichever is greater" is used, there is a net loss since the protected area (e.g., floodplain, wetlands) could not have been developed.

In this permit, any mitigation should only be allowed in areas that could have been developed, and are designated as developable. (The Nature Conservancy)

Response 55: Please see Comment/Response 54.

Comment 56: Part III.G.2.e. "So that receiving stream's physical, chemical and biological characteristics are protected and stream functions are maintained, post-construction storm water practices shall provide perpetual management of runoff quality and quantity. To meet the post-construction requirements of this permit, the SWP3 shall contain a description of the post-construction BMPs that will be installed during construction for the site and the rationale for their selection. The rationale shall address the anticipated impacts on the channel and floodplain morphology, hydrology, and water quality."

While "The rationale shall address the anticipated impacts on the channel" requirement is good, it seems vague and it is not clear what would be adequate. Ohio EPA needs to develop clear expectations

on these impacts. While all are important, we strongly encourage you to address hydrologic impacts, i.e., the flow regime, of storm water units and ensure these are adequate to protect downstream aquatic life. This rule should clarify when the channel is protected from storm water runoff, especially channel-forming flows or flashiness.

This section states “practices ... shall provide perpetual management of runoff quality and quantity.” How do these practices ensure a natural flow regime that is critical to stream life, such as base flow, among other factors?

No storm water BMPs should be sited within the floodplain or stream meander belt. BMPs in the floodplain will eventually lose their pollutants in floods, and these pollutants will be released to the stream. BMP units within the meander belt will eventually be eroded by the stream and result in the same releases. Also, BMPs with berms or levees within the meander belt can restrict streams and damage the natural and higher quality formation of stream features (riparian areas, meanders, riffles, pools, etc.) Damage to or restrictions of these natural stream features should always be avoided since it could be a significant negative impact on stream quality. (The Nature Conservancy)

Response 56: Part III.G.2.e of OHC000004 requires the installation of structural post-construction BMPs listed in Table 2 to provide for extended detention of runoff from a 0.75-inch rainfall event. In addition, local governments require detention of runoff from storm events larger than 0.75-inches. OHC000004 requires a permittee to provide a rationale on why the permittee selected the structural post-construction BMP in Table 2. However, the permit does not list specific criteria for the selection process in order to provide flexibility to permittees in selecting Table 2 BMPs. In regards to installation of post-construction BMPs, please see Comment/Response 53.

Comment 57: Part III.G.2.e. Table 2 Permeable Pavement BMP. This table includes “permeable pavement.” Since all pavements eventually are replaced, there is likelihood that this permeability would be lost when replaced with a pavement that is not permeable. Also, pores might become occluded and reduce the permeability. Permeability could lead to groundwater pollution in certain high pollution and shallow groundwater situations (a problem common to all infiltration). Permeable pavement should only be used when it is ensured that the maintenance is permanent. The permit, such as in the Post-Construction Storm Water Management Requirements, should require permanent inspection and maintenance of all permeable pavement

installations, and it should be required to be permanently adequately functional. (The Nature Conservancy)

Response 57: Part III.G.2.e and Part IV.B.1 of OHC000004 require a long term post-construction maintenance plan and agreement prior to termination of construction activities. Although Table 2 of the draft general permit allows for pervious pavement with infiltration, it also allows for choosing pervious pavement with extended detention with a reduced detention time.

Comment 58: Part III.G.2.e. The proposed permit fails to define well the volume of water that must be treated in a post-construction practice on 1 to 5 acres sites. This sizing represents a significant portion of development in Ohio and often in degraded watersheds and are often where less effective alternatives to treating the water quality volume are being utilized. We propose having one standard for all sites, providing an allowance for minimal effect sites such as where less than 25% of a small site is developed and storm water can be treated with practices that maintain sheet flow. The following changes to the permit language are suggested:

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~~Large Construction Activities.~~ For all large construction activities (involving the disturbance of five one or more acres of land or will disturb less than five one acres, but is a part of a larger common plan of development or sale which will disturb five one or more acres of land), the post construction BMP(s) chosen must be able to detain storm water runoff for protection of the stream channels, stream erosion control, and improved water quality. The BMP(s) chosen must be compatible with site and soil conditions. Structural (designed) post-construction storm water treatment practices shall be incorporated into the permanent drainage system for the site. The BMP(s) chosen must be sized to treat the water quality volume (WQv) and ensure compliance with Ohio's Water Quality Standards in OAC Chapter 3745-1. The WQv shall be equivalent to the volume of runoff from a 0.75-inch rainfall and shall be determined according to the following equation:

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~~Small Construction Activities.~~ For all small land disturbance activities (which disturb one or more, but less than five acres of land and is not a part of a larger common plan of development or sale which will disturb five or more acres of land), a description of measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed must be included in the SWP3. Structural measures should be placed on upland soils to the degree attainable.

~~Such practices may include, but are not limited to: storm water detention structures (including wet basins); storm water retention structures; flow attenuation by use of open vegetated swales and natural depressions; infiltration of runoff onsite; and sequential systems (which combine several practices). The SWP3 shall include an explanation of the technical basis used to select the practices to control pollution where flows exceed pre-development levels.~~
Small sites with minimal effect. These sites are defined as sites disturbing between one to five acres, where the final imperviousness of the site will be less than 25% of the site area. These areas may be treated by maintaining sheet flow and reduced flow with practices such as level spreaders, permeable pavement and stormwater source controls.

Justification or Need for the change: Treating the water quality volume is feasible on most 1 to 5 acre sites with bioretention, underground storage (e.g. multi-chamber stormtech with an isolator row), permeable pavement or even pocket wetlands or extended detention provided a suitable outlet can be provided. Minimal-effect sites could be provided with a reduced requirement option such as using permeable pavement or source control BMPs. (Ohio Department of Natural Resources – Division of Soil and Water Resources)

Response 58: This comment was evaluated but no changes to the final permit were made.

Comment 59: Part III.G.2.e. The volumetric runoff coefficient in the draft reflects an older and more confusing approach that can be simplified as many states have done and as newer storm water references illustrate. The following change is suggested:

The WQv shall be equivalent to the volume of runoff from a 0.75-inch rainfall and shall be determined according to the following equation:

$$WQv = C \underline{Rv} * P * A / 12$$

where:

WQv = water quality volume in acre-feet

~~C = runoff coefficient appropriate for storms less than 1 inch (Either use the following formula: $C = 0.858i^3 - 0.78i^2 + 0.774i + 0.04$, where i = fraction of post-construction impervious surface or use Table 1)~~

P = 0.75 inch precipitation depth

A = area draining into the BMP in acres

$R_v = 0.05 + 0.9i$ = the volumetric runoff coefficient
Where i = fraction of post-construction impervious

Delete Table 1 (Runoff Coefficients Based on Type of Land Use)

Need or justification for the change: We recommend replacing the term and the formula for C , runoff coefficient with a simpler and accepted alternative. The use of the term and methodology for computing the above runoff coefficient is confusing and overly complicated. The runoff coefficient or C is commonly confused with the Rational Formula or Method ($q = CiA$), a method for determining peak discharge.

A better approach is suggested here and has been taken by numerous states in their storm water requirements, standards and specifications. That approach is to use the term R_v (the Volumetric Runoff Coefficient) and the formula given above. This term has been advocated by the Center for Watershed Protection and comes from the simple pollution load model. An even simpler approach is the formula, $R_v = 0.9i$. Both options are presented in updated WEF/ASCE-EWRI (2012) guidance, Design of Urban Stormwater Controls. Making this change or addition will also facilitate calculation of runoff volumes when the Runoff Reduction Method is utilized to quantify treatment volume requirements when a volume reduction standard is added to watershed-specific or statewide permits in the future.

(Reference: WEF/ASCE-EWRI. 2012. Design of Urban Stormwater Controls. WEF Manual of Practice No. 23; ASCE/EWRI Manuals and Reports on Engineering Practice No. 87. McGraw-Hill, New York.)
(Ohio Department of Natural Resources – Division of Soil and Water Resources)

Response 59: Ohio EPA will accept the proposed equation in this comment to be used for determining the WQ_v . However, no change to the final permit was made. This approach will be identified in Ohio EPA's Post-Construction Q&A document as an accepted method in calculating the WQ_v and can be the method used in determining the WQ_v if chosen.

Comment 60: Part III.G.2.e. Table 2 notes and terminology needs to be updated to reflect more accurately the effective processes at work. Correct practice names and notes that are essential to proper practice functioning are provided along with removing two practices that were originally agreed to be removed by Ohio EPA. The following is the existing table followed by the altered suggested changes.

EXISTING Table 2:

**Table 2
 Structural Post-Construction BMPs & Associated Drain (Drawdown) Times
 Best Management Practice Drain Time of WQv**

Best Management Practice	Drain Time of WQv
Infiltration Basin or Trench [^]	24 - 48 hours
Permeable Pavement-Extended Detention	24 hours
Permeable Pavement-Infiltration	48 hours
Enhanced Water Quality Swale	24 hours
Dry Extended Detention Basin*	48 hours
Wet Extended Detention Basin**	24 hours
Constructed Wetland (above permanent pool)+	24 hours
Sand & Other Media Filtration	24 hours
Bioretention Area/ Cell [^]	24 hours
Pocket Wetland#	24 hours
Vegetated Filter Strip with Berm	24 hours

*Dry basins must include forebay and micropool each sized at 10% of the WQv.

**Provide both a permanent pool and an EDv above the permanent pool, each sized at 0.75 WQv.

+Extended detention shall be provided for the Wav above the permanent water pool.

[^] The WQv shall completely infiltrate within 48 hours so there is no standing or residual water in the BMP.

Pocket wetlands must have a wet pool equal to the WQv, with 25% of the WQv in a pool and 75% in marshes. The EDv above the permanent pool must be equal to the WQv.

PROPOSED NEW Table 2:

Best Management Practice	Drain Time of WQv
Infiltration Basin or Trench ^{^1}	24- 48 hours
Permeable Pavement-Infiltration ¹	48 hours
Permeable Pavement-Extended Detention	24 hours
Enhanced Water Quality Swale (Now Bioretention See Note 5)	24 hours
Dry Extended Detention Basin ^{± 2}	48 hours
Wet Extended Detention Basin ^{** 3}	24 hours
Constructed Wetland (above permanent pool)+ ⁴	24 hours
Sand & Other Media Filtration ⁵	24 hours
Bioretention Area/Cell ^{^5,6}	24 hours
Pocket Wetland ^{# 7}	24 hours
Vegetated Filter Strip with Berm	24 hours

¹ Practices that are designed to fully infiltrate the WQv (basin, trench, permeable pavement) shall empty within 48 hours to provide storage for the subsequent storm events.

^{*2} Dry basins must include forebay and micropool each sized at 10% of the WQv.

^{**3} Provide both a permanent pool and an EDv above the permanent pool, each sized at 0.75 WQv.

⁺⁴ Extended detention shall be provided for the WQv above the permanent water pool.

^{^ 5} The surface ponding area (WQv) shall completely empty pass through the media layer within 24 hours so there is no standing or residual water in the BMP. Shorter draw down times are acceptable as long as design criteria in Ohio's Rainwater and Land Development manual have been met.

⁶ This would include Grassed Linear Bioretention which was previously called Enhanced Water Quality Swale.

^{# 7} Pocket wetlands must have a wet pool equal to the WQv, with 25% of the WQv in a pool and 75% in marshes. The EDv above the permanent pool must be equal to the WQv.

Need or justification for the change: Not all practices utilize the same system processes, but this table was conceived in an earlier permit on the basis of practices that utilize detention and subsequent

settling of pollutants as the main system process. Since that time other types of practices have been added that utilize other system processes such as filtration through a media or infiltration. These changes are necessary to properly name and note the practices and their important design characteristics.

A note was added that applies to practices that are designed to fully infiltrate the WQv (infiltration basin and trenches and infiltrating permeable pavement).

Enhanced Water Quality Swale was removed, because it is actually a bioretention practice that ponds and treats the WQv (prior to any overflow) through a soil media. A note was added to make sure permit users know that this category covers that practice. Linear grassed bioretention was also used with bioretention to designate the use of bioretention in swale situations. A note was also added to reflect that shorter draw down times are acceptable since the main processes are not dependent on the settling time as a pond but adsorption, filtration, evapo-transpiration that is primary a function of the media. This note applies to sand filter as well.

Vegetated Filter Strip with Berm was removed because we do not have design standards for this as a detention practice. And application of the common understanding of Vegetated Filter Strip would not meet the goal of treating the WQv. (Ohio Department of Natural Resources – Division of Soil and Water Resources)

Response 60: Ohio EPA agrees with ODNR's rationale for the proposed changes identified in this comment. OHC000004 has been revised to reflect ODNR's proposed changes.

Comment 61: Part III.G.2.e. Users of green infrastructure practices need direction on the use of these practices before the end of the next term. This suggested text should be added immediately before or after the paragraph regarding Transportation Projects on page 21 of 36.

Runoff Reduction Option. Permittees may also meet the post-construction requirements of this permit through the use of green infrastructure that reduces the volume of runoff generated by the developed area and manages storm water where it falls. To implement this option, permittees must demonstrate that the practices implemented are sufficient to infiltrate, absorb, capture and/or reuse the WQv associated with the developed site. Practices shall be considered appropriate green infrastructure practices and used to comply with the runoff reduction option in accordance with reduction credit published in Ohio's Rainwater and Land Development

manual. The reduction credit stipulated there shall be used to demonstrate infiltration, absorption, capture and/or reuse towards the total required WQv.

The permittee must demonstrate that the use of these practices is appropriate for site soil conditions and soil conditions and meet standards in the most recent version of Ohio's Rainwater and Land Development manual or other acceptable standard. Where treatment of the full WQv is not feasible through the runoff reduction option, the remaining portion of the WQv not infiltrated, absorbed, harvested and/or reused on site must be treated using a BMP listed in Table 2 of this section before being discharged from the site.

Need or justification for the change: Runoff reduction credits have been formulated and will be incorporated into the Rainwater and Land Development manual within a few months. This text was considered in the permit development and we suspect it was not added because credits for types of practices were not finalized. ODNR hopes it will be reconsidered since the credits and practice materials are available though not published in our manual yet.

In practice, designers that incorporate green infrastructure practices will be attempting to utilize various references for crediting the practices they utilize. This text will encourage the application of green infrastructure practices and the use of a central resource for crediting those practices. Since this permit is renewed on a 5 year cycle, it is critical and beneficial to permittees and the agency (as well as local storm water approval authorities) to incorporate language that point permittees to the standard that will be provided in ODNR's manual (for the sake of consistent and valid approaches to crediting practices used. Additionally the use of these practices is tremendously beneficial to the resulting downstream water quality and water resource integrity. (Ohio Department of Natural Resources – Division of Soil and Water Resources)

Response 61: Ohio EPA supports the use of green infrastructure practices and encourages the use of such practices. However, Ohio EPA is reluctant to incorporate this comment into the permit since the credit system associated with the runoff reduction method is yet to be fully developed and incorporated into ODNR's Rainwater and Land Development manual. Ohio EPA is supportive of this approach and will work with ODNR in developing this method.

Part III.G.2.e and Part III.G.4 of OHC000004 allows permittees to use alternative methods to satisfy the permit's post-construction requirements. Therefore, once ODNR has completed the Runoff Reduction Method and

incorporated into the Rainwater and Land Development manual, this method will be an option permittees may choose to use to satisfy post-construction permit conditions. After incorporation into the Rainwater and Land Development manual, Ohio EPA's Post-Construction Q&A Document will identify this method as an accepted option for permittees to use to satisfy post-construction storm water management requirements. Ohio EPA is supportive of more options to satisfy post-construction requirements; likewise, permittees will benefit to having more options to choose from.

Comment 62: Part III.G.2.e. In the second paragraph starting with "Detail drawings...", to be consistent with MS4 permit requirements, I recommend revising the third sentence to: "***For sites that discharge to a regulated municipal separate storm sewer system (MS4), the permittee, land owner, or other entity with legal control of the property may be required to develop and implement a maintenance plan to comply with the requirements of the MS4 Operator.***" (City of Canton)

Response 62: This comment was evaluated but no changes to the final permit were made.

Comment 63: Part III.G.2.e. Airport runways and taxiways/lanes should be included within the Transportation Projects requirements. (The Department of Port Control)

Response 63: Airport runways and taxiways/lanes are not appropriate to be included under the Transportation Projects section of the permit. The intent of this condition is to be applicable for linear transportation projects where acquiring additional right-of-way for standard post-construction BMPs will be either very difficult or not possible. Ohio EPA and ODOT have worked for several years on post-construction issues related to roadway projects. ODOT has demonstrated unique circumstances regarding their projects and has committed to performing onsite studies of its alternative BMPs to confirm that they are equivalent in effectiveness. Ohio EPA staff have worked with airports over the years and been able to address the post-construction requirements of the permit.

Comment 64: Part III.G.2.e. (This is more of a question/general recommendation). In the third paragraph starting with "Post-construction...", there is no provision for addressing pollutants that discharge from post-construction BMPs that do not discharge to a regulated MS4 (and do not fit under an otherwise regulated discharge category such as industrial sites). Has EPA ever considered creating, say, a "Post-Construction Storm Water Discharge Permit" that would apply to sites that were previously regulated under the CGP but do not discharge to a regulated MS4 or do not otherwise have a permit regulating their

discharges (such as industrial permits)? In essence, the majority of MS4s in Ohio are unregulated. However, all land disturbances in Ohio of 1 acre or more are required to get a CGP (EPA should require that all communities in Ohio – not just regulated MS4s - have some kind of ordinance or regulatory mechanism to require CGP as applicable). For those sites that do not discharge to a regulated MS4, there is no entity that I'm aware of that ensures long-term O&M of the post-construction BMPs on those sites....Perhaps EPA should contract with, say, County SWCDs to have the SWCD do routine (annual?) inspections of those BMPs that don't discharge to a regulated MS4 to see if they are being maintained and functioning as intended? EPA would likely have to be the enforcement authority... (City of Canton)

Response 64: Once the permittee achieves final stabilization of the construction activity and submits a Notice of Termination (NOT) form to terminate their NPDES construction general permit coverage, Ohio EPA cannot enforce the conditions of the general permit upon the former permittee unless the former permittee did not comply with the general permit. A condition of Part IV.B.1 is that the permittee, prior to submitting the NOT, have a maintenance agreement in place to ensure all post-construction BMPs will be maintained in perpetuity.

Comment 65: Part III.G.2.e. In the fourth paragraph starting with “Construction activities...”, I recommend adding “floodplain mitigation activities” to the list of construction activities that do not include the installation of any impervious surface...that are not required to comply with conditions of Part III.G.2.e of the permit. (City of Canton)

Response 65: Since floodplain management activities do not result in the installation of impervious surface and thus do not need post-construction BMPs, there is no need to add this activity to the list of construction activities that do not need post-construction BMPs.

Comment 66: Part III.G.2.e. In the fifth paragraph starting with “Large Construction Activities...” and the third sentence starting with “Structural (designed)...”, the implication of the wording is that non-structural BMPs are not designed. This may not be true in all cases (e.g. sizing riparian setbacks based on size of watershed; sizing rain barrels based on anticipated roof runoff or need, designing percentages of developments to be open space, etc.). To be consistent with terminology and definitions in Ohio EPA’s Post-Construction Q&A Document, “structural” BMPs should be described in the CGP as practices that must be built to provide treatment of storm water either through storage, filtration, or infiltration. (City of Canton)

Response 66: Ohio EPA agrees that non-structural post-construction BMPs are designed as well. In response to your comment, Ohio EPA decided to remove the word “designed.” The language will state “Structural post-construction storm water treatment practices shall be incorporated into the permanent drainage system for the site.” Ohio EPA decided not to include the underlined language recommended in the comment because Ohio EPA did not want to limit BMPs to those that only store, filter or infiltrate runoff. Possible future BMPs could achieve water quality enhancement through evaporating, biologically treating, or chemically treating runoff.

Comment 67: Part III.G.2.e. In the last paragraph starting with “The Director...”, the implications of the current wording in the second sentence (starting with “Permittees shall request...” could be confusing. I recommend revising it to something like this: *“If alternative BMPs are desired to be used, permittees shall request approval from Ohio EPA to such BMPs and the permittee must demonstrate that the alternative BMPs are equivalent in effectiveness to those listed in Table 2 above.”* (City of Canton)

Response 67: Ohio EPA evaluated the proposed language from this comment. Ohio EPA decided that the existing language is clear enough and has kept the current language.

Comment 68: Part III.G.2.f. OEPA should define “isolated wetland” within the definitions section of this permit. (Butler County Storm Water District)

Response 68: Please see the definition for “State isolated wetland permit requirements” in Part VII of the permit.

Comment 69: Part III.G.2.g.ii. Recommend OEPA cite OCAPP document pertaining to Mobile Power Washing and Environmental Regulations. See website link:

<http://www.epa.ohio.gov/portals/41/sb/publications/powerwash.pdf>

(Butler County Storm Water District)

Response 69: This comment was evaluated but no change to the permit was made.

Comment 70: Part III.G.2.d.v. We recommend that the third and fourth sentence of the fourth paragraph of Part III.G.2.v be revised so that it refers to the buffer effluent limitation in Part II.A.6 rather than recommending a buffer size. An example revision could read as follows: *“For all construction activities immediately adjacent to waters of the State, the permittee must comply with the buffer effluent limitation in Part II.A.6, as measured from the high water mark of the stream. Where this is not feasible due to the nature of the construction activity (e.g., stream crossings for roads or utilities), the project shall be designed*

such that the number of stream crossings and the width of the disturbance within the buffer are minimized.” (United States Environmental Protection Agency)

Response 70: Language as recommended by this comment has been added to Part III.G.2.d.v.

Part IV

Comment 71: **Part IV.B.2.** I recommend revising the wording of the first sentence from “All permittees shall submit...” to “**Permittees may submit...**” (City of Canton)

Response 71: Submission of a NOT form within 45 days of completing all permit requirements is a requirement of the permit. No changes to the final permit were made.

Comment 72: **Part IV.B.2.c.** This part indicates a maintenance agreement is in place to ensure all post-construction BMPs are adequately maintained in perpetuity. This is a new condition for submitting a NOT. (Kroger)

Response 72: The condition to have a maintenance agreement in place, prior to submittal of NOT, to ensure all post-construction BMPs will be maintained in perpetuity was a condition of OHC000003 in Part III.G.2.e. This language was included in the NOT requirements of OHC000004 for clarification purposes. This language is more appropriate to be included in Part IV.B.1 instead of Part IV.B.2.c; therefore, this language has been deleted from Part IV.B.2.c and included in Part IV.B.1 of the final permit.

Comment 73: **Part IV.B.2.d.** To avoid confusion, the second sentence should be clarified and revised to say something like this: “(Note: individual lots **designed to be without housing...**” (City of Canton)

Response 73: Ohio EPA agrees that the language in the note does need to be clarified; however, Ohio EPA does not agree that the note only applies to individual lots that are not expected to have constructed houses. Ohio EPA will revise the language in the note to state the following: “(Note: For individual lots without housing, which are sold by the developer, the individual lot permittee shall implement final stabilization prior to the individual lot permittee terminating permit coverage.)”

Part V

Comment 74: **Part V.** The permit does not include the following standard conditions required in all permits. See 40 CFR 122.41: (a) Duty to Reapply, (b) Permit Actions, (c) Monitoring and Records, (d) Reporting

Requirements, (e) Bypass, (f) Upset. (United States Environmental Protection Agency)

Response 74: To be consistent with 40 CFR 122.41 the missing Standard Permit Conditions that must be found within all NPDES permits has been added to OHC000004. These missing conditions have been added to OHC000004 as follows: (a) "Duty to Reapply" has been added as Part V.P, (b) "Permit Actions" has been added as Part V.Q, (c) "Bypass" has been incorporated by reference as Part V.R, (d) "Upset" has been incorporated by reference as Part V.S, (e) "Monitoring and Records" has been incorporated by reference as Part V.T, (f) "Reporting Requirements" has been incorporated by reference as Part V.U.

Comment 75: **Part V.A.** I recommend adding the following sentence after the first sentence (starting with "The permittee..."): **"If the site discharges to a regulated MS4, additional enforcement may apply by the Operator of the regulated MS4."** (City of Canton)

Response 75: This comment was evaluated but no changes were made to the final permit. Part V (Standard Permit Conditions) of the final permit is written to mirror the requirements found within 40 CFR 122.41.

Comment 76: **Part V.E.** Part V.E (Duty to provide information) does not include information to determine if cause exist to modify, revoke and reissue, or to terminate permit coverage. We recommend this language be included to make the provision equivalent to 40 CFR 122.41(h). (United States Environmental Protection Agency)

Response 76: To be consistent with 40 CFR 122.41(h) language has been added to Part V.E determine if cause exist to modify, revoke and reissue, or to terminate permit coverage.

Comment 77: **Part V.G.1.c.** This part states: "For a municipality, State, Federal or other public agency: By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA)."

It is recommended that the following be added to Part V.G.1.c: "For purposes of this section, a principal executive officer of a State agency includes (1) any person authorized by the Director of said Agency (2) Co-Permittee or any person authorized by the Co-Permittee having responsibility for the overall operations of the

project NPDES permit requirements.” (Ohio Department of Transportation)

Response 77: This comment was evaluated but no changes were made to the final permit. Part V (Standard Permit Conditions) of the final permit is written to mirror the requirements found within 40 CFR 122.41.

Comment 78: **Part V.O. Part V.O (inspection and entry) does not include a provision equivalent to 40 CFR 122.41(i)(4) regarding sampling and monitoring the discharge. (United States Environmental Protection Agency)**

Response 78: To be consistent with 40 CFR 122.41(i)(4) language has been added to Part V.O regarding sampling and monitoring the discharge in the final permit.

Comment 79: **Part V.O.1. This part states: “Enter upon the permittees premise where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit.” It is recommended to add the following to Part V.O.1: “The director or an authorized representative of Ohio EPA must abide by the safety requirements of the permittee.” (Ohio Department of Transportation)**

Response 79: This comment was evaluated but no changes were made to the final permit. Part V (Standard Permit Conditions) of the final permit is written to mirror the requirements found within 40 CFR 122.41. However, all Ohio EPA inspection personnel will always follow safety requirements imposed by the permittee.

Part VII

Comment 80: **Part VII.P. Under definition of “Operator”, the reference to Part II.A is incorrect and should be Part I.F. (Butler County Storm Water District)**

Response 80: This error has been corrected in the final permit.

End of Response to Comments