

Municipal Storm Water Program Evaluation

Construction and Post-Construction Component Worksheet

Date of Evaluation July 26, 2012
Evaluator Name, Title Tim McParland
M54 Permittee City of Westlake #3GQ10013*BG

Instructions: Use this worksheet as a guide for questioning M54 staff and reviewing applicable documents. Keep in mind that additional questions may be necessary based on local regulations, M54 permit requirements, implementation strategies, or water quality issues. Remember to obtain copies of any applicable documents or files which may assist in writing the M54 evaluation report.

Staff Interviewed		
Name	Department/Agency	Phone Number/Email
Robert Kelly, P.E	Director of Engineering	bkelly@cityofwestlake.org 440-617-4145
Jeff Sinnema	Inspector/Storm Water Discharge Coordinator	jsinnema@cityofwestlake.org 440-617-4145

Ordinance/Legal Authority	
Interview Questions	Response
Contributor Ordinance	
Ordinance used to require storm water BMPs at construction sites?	YES
Name and/or code section(s)	Chapter 1135: Erosion and Sedimentation in Land Development
Date initially enacted:	February 18, 1988
Threshold for coverage (e.g., 1 acre, 100 cubic yards, etc.)	Any earth disturbance greater than or equal to one acre (1 ac.). However, the City will ensure that erosion and sediment controls are in place for <i>any</i> disturbance even if it is less than an acre.
Exclusions from coverage allowed: <i>*Please refer to Note #1 on Page 10</i>	<ul style="list-style-type: none"> • Individual service connections • Electric, gas, cable, and telephone lines • Underground public utility lines when activity occurs on a hard surface • Agricultural activities • Silvicultural activities • Surface mining operations

<p>Does your construction program include the following types of construction activity:</p> <p>Single-family residential?</p> <p>Multi-family residential?</p> <p>Commercial development?</p> <p>Institutional development (schools or government facilities)?</p> <p>Mixed-use development?</p> <p>Non-subdivided development?</p> <p>Non-exempt construction on agriculturally-zoned lands? (barn on a farm)</p> <p>Non-silvicultural tree clearing?</p> <p>Your own municipal construction projects?</p> <p>Construction and demolition debris landfills?</p> <p>Construction by other public entities within your political jurisdiction, e.g., a county road project within a municipality?</p> <p>Earth disturbance associated with open spaces and parks (e.g., trails within a park or parking lot improvements at a park)?</p> <p>Private pond construction?</p> <p>Construction of wind or solar panel farms?</p> <p>Establishment of borrow or spoil areas that service multiple, unrelated construction projects?</p> <p>Utility construction projects (including tree clearing along utility corridors or pipeline projects that cross multiple political jurisdictions)?</p>	<p>YES</p>
<p>Does ordinance regulate the discharge of pollutants other than sediments on a construction sites (e.g., construction wastes, fuel tanks, cement</p>	<p>YES Chapter 1135.03 (p)</p>

truck washwater, trash, chemicals, etc.)?)	
Has ordinance been updated to reflect minimum requirements of Ohio EPA NPDES permit #OHC000003?	YES
Date of updates?	December 2, 2010
Date of MS4 Permit Renewal:	June 3, 2009
Post-Construction Ordinance	
Ordinances used to require post-construction storm water BMPs on new development or redevelopment projects:	
Treatment of Water Quality Volume (WQv) Name and code section:	YES Chapter 1111: Storm Drainage
Date initially enacted:	May 18, 1978
Has this ordinance been updated to reflect the minimum requirements of Ohio EPA General Permit #OHC000003?	YES
Date of update:	December 2, 2010
Riparian and Wetland Setback Ordinance Name and code section:	YES Chapter 1130: Buffering
If YES, does ordinance require protection of native vegetation within riparian area or can manicured lawns be established?	NO
If YES, does ordinance allow the location of storm water infrastructure within the riparian setback?	YES
Runoff Reduction (e.g., infiltration or mitigation of a recharge volume)? Name and code section:	NO
BMPs designed to control temperature for discharges to cold water habitat streams? Name and code section:	N/A
Encouraging Green Infrastructure or low-impact development practices: Allow downspout disconnection and use of open storm water conveyance systems? Names and code sections:	YES The code does not prohibit downspout disconnection;

<p>Permit the installation of rain gardens and other bioretention facilities? Names and code section:</p> <p>Allow rainwater harvesting (rain barrels and cisterns)? Name and code section:</p> <p>Allow or require the use of pervious pavement systems? Name and code section:</p> <p>Allow reduction in the size of traditional storm water management structures if LID used? Name and code section:</p> <p>Provide a credit to a storm water utility fee if LID is used? Describe:</p> <p>Balanced Growth Principles, i.e., other non-structural ordinances or codes that promote better site design: Allow conservation design as a subdivision layout (retain ≥ 40% open space by maintaining existing zoned density) Standard or variance required? Name and code section:</p> <p>Encourage the use of vegetation that requires little to no maintenance in common areas (e.g., meadow vegetation vs. mowed lawn) Name and code section:</p> <p>Reduce impervious area created by commercial parking lots (e.g., update codes so that they are context-specific, allow shared parking, landbanked parking, parking garages rather than surface lots, etc.) Name of code section</p>	<p>however it does not encourage it either.</p> <p>YES The code does not prohibit rain garden installation; however it does not encourage it either.</p> <p>YES The code does not prohibit rainwater harvesting; however it does not encourage it either.</p> <p>YES The code does not prohibit the use of pervious pavement; however it does not encourage it either.</p> <p>YES Chapter 1111: Storm Drainage</p> <p>N/A The City does not have a storm water utility fee.</p> <p>YES</p> <p>STANDARD A variance is not required; however a zoning classification change is necessary. Several cluster developments exist within the City, e.g. The Glenn Subdivision, Century Oaks Subdivision, Brentonwood Phase 4, and The Water's Edge.</p> <p>NO</p> <p>YES Chapter 11: Planning and Platting Codes</p>
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<p>Allow sidewalks on only one side of the road in residential neighborhoods Name and code section:</p> <p>Zoning that encourages smart growth in compact neighborhoods or mixed-use development:</p> <p>If YES, does zoning create walkable neighborhoods with access to commercial areas and employment centers? Describe:</p> <p>If YES, does this zoning provide incentives for vertical development rather than horizontal sprawl? Describe:</p> <p>If YES, does this zoning encourage a range of housing options for people of various incomes? Describe how:</p> <p>If YES, do you provide incentives for infill development or development in the core? Describe incentive programs:</p> <p>If YES, does zoning direct growth in areas where there are a variety of transportation choices (walking, biking, public transportation vs. just the car)? Describe how:</p>	<p>NO Sidewalks are required on both sides of the street.</p> <p>NO Nothing in the code explicitly encourages this; however the planning commission will allow for it.</p> <p>YES A city-wide bike plan is used to encourage / require new developments to have bicycle access and pathways (e.g. Crocker park).</p> <p>NO The Planning Commission has recently re-zoned Crocker Park to allow up to five (5) stories of residential property above commercial developments; however nothing in the City's code provides incentives for vertical development.</p> <p>NO</p> <p>NO</p> <p>NO The entire City is walkable, with sidewalks on both sides of the street and bike routes spread throughout the community. The City encourages RTA to incorporate additional bus stops throughout the city as well. However, nothing in the City code directs growth towards specific areas which might be more accessible to these features.</p>
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Provision within Ordinance:	
<p>Do permit or plan approvals have to be issued before construction activities that disturb 1 or more acre can commence?</p> <p>Plan Approvals Construction YES</p> <p>Post-Construction YES</p> <p>Permits & Type (Building, Grading, etc.) Construction YES</p> <p>Post-Construction YES</p> <p>Does your definition of "construction activities" include any grading, grubbing, filling, clearing or excavating activity? YES</p>	<p>Grading, Storm Water, and Building Permits.</p>
<p>Are plans for storm water controls used during construction submitted separately from plans that depict post-construction BMPs?</p> <p>Describe the submission process and the timing of plan submission:</p>	<p>NO</p> <p>Plans are first submitted to the Planning Commission. Once they are approved by the Planning Commission, they are sent to the Zoning Department for approval. After that, City Council must approve the project. Finally, the Engineering Department can review the plans and permits can then be issued if the plans are adequate. This process is further detailed in Chapter 1220: Development Plans. Essentially, it can take several months from the date of plan submission until the issuance of permits necessary to begin construction.</p>

<p>Does your ordinance explicitly specify selection criteria or minimum acceptable BMP design?</p> <p>Construction</p> <p>Post-Construction</p> <p>If NO, are these standards referenced?</p> <p>Construction</p> <p>Post-Construction</p> <p>If YES, list references:</p> <p>Construction</p> <p>Post-Construction</p>	<p>NO</p> <p>NO</p> <p>YES</p> <p>YES</p> <p>Chapter 1135.02</p> <p>Chapter 1111.01</p> <p>***See Note #2 on Page 10</p>										
<p>CONSTRUCTION SITE ENFORCEMENT AUTHORITY</p>											
<p>Types of enforcement mechanisms available for construction site issues per your ordinance:</p> <p>Issues notice of non-compliance (public projects), inspection report given for (private projects)</p>	<table border="0"> <tr> <td>Notices of Violations (NOV)</td> <td>YES</td> </tr> <tr> <td>Administrative fines</td> <td>NO</td> </tr> <tr> <td>Stop-work orders</td> <td>YES</td> </tr> <tr> <td>Civil penalties</td> <td>NO</td> </tr> <tr> <td>Criminal penalties</td> <td>YES</td> </tr> </table>	Notices of Violations (NOV)	YES	Administrative fines	NO	Stop-work orders	YES	Civil penalties	NO	Criminal penalties	YES
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<p>Which type of enforcement action have you most commonly implemented?</p>	<p>The most commonly implemented type of enforcement action is a notice of non-compliance letter if verbal communication on site does not instigate corrective actions in a timely fashion.</p>										
<p>Describe the enforcement mechanism used when the following compliance situations are encountered on construction sites:</p> <ol style="list-style-type: none"> 1. Construction has commenced without a permit or plan approval 2. A BMP indicated on the SWP3 has not been installed or requires maintenance (first incidence) 	<p>Stop work order.</p> <p>Verbal communication with the contractor on site.</p>										

<p>3. A BMP is required but not shown on the SWP3</p> <p>4. A BMP has not been installed or maintained despite prior notification from the MS4 (repeated incidences)</p> <p>5. If using a third party inspection service provider, e.g., the SWCD, MS4 receives inspection report indicating repeated non-compliance issue</p>	<p>Verbal communication with the contractor on site. This communication is typically documented in the daily report created by inspectors and later forwarded to the Engineering Department.</p> <p>A stop work order is issued and the contractor's permits will be revoked until corrective action is completed.</p> <p>N/A</p>										
<p>Describe the last enforcement action your community has taken against a contractor or developer for non-compliance with construction site requirements and provide the documentation to demonstrate the action.</p>	<p>The Parks Sub-division, inspected on 7-19-2012, had issues with inlet protection for the yard drains and perimeter silt fence. The inspector filled out an inspection report and notified the contractor on site of the issues at hand and the corrective actions necessary. An inspector's daily work record is kept for every site inspected and issues are discussed every morning during a group meeting. Mr. Kelly will then decide if further enforcement action is necessary. The issues at The Parks were corrected the following day and no further action was necessary.</p>										
<p>Have your enforcement protocols and procedures for construction site issues been formalized in a written enforcement escalation plan?</p>	<p>NO</p> <p>The code includes what mechanisms are available but does not establish a specific procedure or sequence of enforcement actions.</p>										
<p>POST-CONSTRUCTION ENFORCEMENT AUTHORITY</p>											
<p>Types of enforcement mechanisms available for post-construction site issues per your ordinance:</p>	<table border="0"> <tr> <td>Notices of Violations (NOV)</td> <td>YES</td> </tr> <tr> <td>Administrative fines</td> <td>NO</td> </tr> <tr> <td>Stop-work orders</td> <td>YES</td> </tr> <tr> <td>Civil penalties</td> <td>NO</td> </tr> <tr> <td>Criminal penalties</td> <td>YES</td> </tr> </table>	Notices of Violations (NOV)	YES	Administrative fines	NO	Stop-work orders	YES	Civil penalties	NO	Criminal penalties	YES
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<p>Which type of enforcement action have you most commonly implemented?</p>	<p>The most common type of enforcement action is typically a letter of non-compliance. The City will typically make a phone call to the responsible party if they are no longer on site to make corrective actions.</p>
<p>Describe the enforcement mechanism used when the following compliance situations are encountered regarding post-construction:</p> <ol style="list-style-type: none"> 1. The post-construction BMP has been installed too early in the construction process (e.g., the permanent WQv outlet has been installed when the sediment control outlet is still required, or the bioretention soil has been placed prior to upland areas being stabilized) 2. The post-construction BMP has not been maintained (first incident) 3. The post-construction BMP has not been maintained after multiple notifications 4. A homeowner has cut down trees in the riparian setback area (if applicable) 5. A homeowner has installed a shed in a vegetated filter strip disrupting sheet flow runoff 	<p>The City has not developed its long-term maintenance program yet, but is currently working on it. Thus, the City cannot answer these questions with 100% certainty. <i>Please provide Ohio EPA with the long-term maintenance processes and procedures once the program is developed. No program to ensure long-term maintenance is a violation of the NPDES permit.</i> The City intends to develop a long-term maintenance agreement that requires the responsible party to submit inspection reports annually to the Engineering Department. The City will then conduct a follow-up inspection of the BMPs as well.</p> <p>Request immediate corrective action before any final occupancy permits, etc. can be issued.</p> <p>Verbal communication to responsible party requesting corrective action.</p> <p>Summon the responsible party to court.</p> <p>Tree cutting is allowed on SFR private property so no corrective action would be required in a situation as such. Anything other than single family residential property is not allowed to cut trees and the City would dispatch personnel to the location and require them to get a permit or replant other trees.</p> <p>The homeowner would be required to relocate the shed such that sheet flow would not be disrupted.</p>

Describe the last enforcement action your community has taken against a property owner/homeowners association for non-compliance with post-construction site requirements and provide the documentation to demonstrate the action.	Last summer, a phone call was made to owner of Kolick's Jewelers (Emerald Square) notifying them that their water quality basin needed to be cleaned out. The owner of the Jewelry Store completed the necessary maintenance and no further enforcement action was necessary. <i>No documentation exists.</i>		
Have your enforcement protocols and procedures for post-construction issues been formalized in a written enforcement escalation plan?	NO The code includes what mechanisms are available but does not establish a specific procedure or sequence of enforcement actions.		
Applicable Documents		Reviewed	Obtained
Sediment and Erosion Control Ordinance		YES	YES
Post-Construction Storm Water BMP Ordinances(s)		YES	YES
Enforcement escalation plan or procedures Construction: Post-Construction:		Does not exist.	Does not exist.

Notes
<p>1) To align with the NPDES permit program, the <i>only</i> exclusions allowed are (a) if rainfall erosivity factor, R, is < 5 for the project, (b) construction is "routine maintenance" to re-establish the original line, grade or hydraulic capacity of storm water infrastructure, i.e., ditch cleaning and detention basin dredging, where < 5 acres is disturbed, (c) silvicultural disturbances, (d) agricultural disturbances or (e) construction related to oil & gas well exploration.</p> <p>Individual service connections (e.g. electric, gas, cable, and telephone lines), and underground public utility lines are <i>not</i> exempt from coverage if the overall common plan of development for any of these activities disturbs greater than one acre (1ac.) of earth. <i>The City must remove these exclusions from Chapter 1135.09: Exemptions, in order to align with current NPDES permit requirements.</i></p> <p>2) The references used within the City's ordinances for both active construction and post-construction standards contained outdated titles such as "The Water Management and Sediment Control for Urbanizing Areas" and "ODOT Siltation Controls". <i>The City must update these titles to reflect the most current edition of the manuals in which they are referencing as discussed during this interview (e.g., "ODOT Siltation Controls" is now referred to as "ODOT Spec. 832: Supplemental Specification for Temporary Sediment and Erosion Controls").</i> In addition, <i>Ohio EPA recommends that if a reference to "Ohio EPA Standards" is included as part of the City's own standards that the language be updated to include "most current" to ensure that outdated standards for BMP selection criteria are not in use.</i></p>

Construction Project Inventory	
Interview Question	Response
Do you keep an inventory of construction projects that are actively occurring in your community? If YES, how?	YES OnBase
Do you track construction projects <1 acre (e.g., individual lot within a subdivision or small addition to a business)?	YES Excel Spreadsheet
How often is your inventory of construction projects updated?	Every day.
Information tracked:	Project status YES Inspection Findings YES Enforcement Actions YES Complaints YES NOI submittal YES
Are site inspections at active construction sites conducted at a frequency of at least once per month?	YES At least once per week. SWPPP inspection is conducted as part of other site inspections. Inspections conducted specifically for storm water take place once every other month or so but ESC's are inspected during every visit.
If construction sites are not inspected at least once per month, how do you prioritize or determine inspection frequency?	N/A
Is this inspection criteria and frequency explicitly stated in your SWMP?	NO The SWMP does not contain any inspection criteria or frequency standards. <i>The SWMP must be updated to reflect that storm water inspections are conducted at least once per month. Failure to update SWMP to meet minimum performance standards is a violation of the NPDES permit.</i>
Number of active construction sites on date of interview (for subdivisions where only individual lot construction is occurring, count the entire subdivision or phase of subdivision as one site):	8

	Site #1: Stonegate Subdivision Most recent inspection date: July 5 th , 2012 Prior inspection date: May 18 th , 2012 Site #2: Westlake Middle School Most recent inspection date: July 5 th , 2012 Prior inspection date: May 18 th , 2012		
Applicable Documents		Reviewed	Obtained
List of active construction projects		YES	YES
List of projects covered under a state/EPA general permit		YES	YES

Notes
<p>The City of Westlake has completed the following projects and needs to submit a Notice of Termination (NOT) immediately:</p> <ul style="list-style-type: none"> - Crocker Detention Basin, #3GC02478*AG - New Youth Soccer Fields, #3GC04471*AG - Clague Road Widening & Improvements, #3GC04597*AG - New Westlake Service Facility, #3GC01267*AG <p>The City of Westlake is listed as the Permittee for the four (4) sites listed above. During the interview, it was noted that all of these sites are completed and have reached final stabilization. Failure to submit a Notice of Termination (NOT) for municipal construction projects within forty-five (45) days of reaching final stabilization is a <i>direct violation of NPDES Permit #OHC000003 for general construction activities</i>. Please refer to the Ohio EPA's website (see below for web address) for the Notice of Termination form as well as instructions for filling it out, and submit an NOT for the four (4) projects listed above.</p> <p>http://www.epa.ohio.gov/dsw/storm/stormform.aspx</p>

Post-Construction BMP Inventory	
Interview Question	Response
Are post-construction BMPs tracked?	YES OnBase
Does this include all types of BMPs, e.g., riparian setback area, green roof or pervious pavement as well as bioretention cells and extended detention ponds?	NO In process. Only detention basins are tracked at this time.
Information tracked:	Location YES Type YES Maintenance Requirements YES Inspection findings YES Other (e.g., Ownership) Ownership

Database used?	YES		
Number of private post-construction structural BMPs installed in community	In process of tracking this.		
Applicable Documents		Reviewed	Obtained
Inventory of Post-Construction BMPs		Does not exist	Does not exist

Construction and Post-Construction BMP Standards			
Interview Questions		Response	
CONSTRUCTION BMPs			
Do your erosion and sediment control standards include BMP selection criteria?		YES <i>Rainwater and Land Development manual.</i>	
Do your construction site standards account for different needs for different times of the year (e.g., growing season vs. winter)? Please elaborate:		YES Stabilization procedures in the winter vs. the growing season, etc.	
Do your standards include operation and maintenance requirements?		YES	
POST-CONSTRUCTION BMPs			
Do your post-construction standards include BMP selection criteria?		YES	
Has your community established standards for post-construction BMP selection and design for small construction activities (i.e., where the larger common plan of development or sale disturbs < 5 acres)? If so, what are your standards?		YES <i>Rainwater and Land Development manual.</i>	
Do your standards include operation and maintenance requirements?		YES	
Applicable Documents		Reviewed	Obtained
BMP guidance or technical document		YES	YES

Plan Review Procedures	
Interview Questions	Response
Who is responsible for erosion and sediment control plan review?	The Engineering Department: Bob Kelly Jeff Sinnema

Plan Review Procedures	
Interview Questions	Response
If third party, is there an MOU or other agreement in place?	N/A
Is it current?	N/A
Who is responsible for post-construction plan review?	The Engineering Department: Bob Kelly Jeff Sinnema
If third party, is there an MOU or other agreement in place?	N/A
Is it current?	N/A
What training or professional certifications have plan review personnel received?	
Construction	Jeff Sinnema: CMS4S, in the process of receiving both CPESC & CESSWI
Post-Construction	Bob Kelly: P.E.
How many years of experience does plan review personnel have inspecting storm water BMPs?	
Construction	Jeff Sinnema: Approximately 16 years.
Post-Construction	Bob Kelly: Approximately 30 years.
How often do plan review personnel receive training?	
Construction	Typically twice annually.
Post-Construction	Typically twice annually.
Do you use a checklist to conduct plan review?	
Construction	YES
Post-Construction	YES
If NO, what criteria is used to review plans?	
Construction	N/A
Post-Construction	N/A

Plan Review Procedures	
Interview Questions	Response
<p>Size threshold for plan review (i.e. 1 acre, 10,000 square feet)?</p> <p style="padding-left: 40px;">Construction</p> <p style="padding-left: 40px;">Post-Construction</p>	<p>There is no minimum threshold for plan review.</p> <p>There is no minimum threshold for plan review.</p>
Do you verify the submission of a Notice of Intent (NOI) or Individual Lot NOI to Ohio EPA as part of your plan review process?	YES
Do you require a pre-construction meeting with developers and/or contractors?	YES
Is the sequence of implementation of sediment and erosion controls discussed during these meetings?	YES
Is the timing of installation of post-construction BMPs discussed during these meetings?	YES
Does your community have standard conditions of plan approval?	YES
Do they include erosion and sediment control and/or post-construction water quality requirements?	YES
Does your community require a performance bond that can be used to pay for BMPs (site stabilization) in the event the developer does not complete the project?	YES
<p>Does your community require a long-term maintenance plan for post-construction BMPs?</p> <p><i>*As requested during this interview, attached you will find a model LTM agreement which is also available on OEPA's webpage*</i> http://www.epa.ohio.gov/dsw/storm/ms4_index.aspx</p> <p>If YES, is the plan required to include the following:</p> <p style="padding-left: 40px;">Identify the party responsible for long-term maintenance?</p> <p style="padding-left: 40px;">A list of routine and non-routine maintenance tasks and the frequency for their performance?</p> <p style="padding-left: 40px;">A map that identifies the types and locations of</p>	<p style="text-align: center;">NO</p> <p style="text-align: center;">The City is currently developing their Long Term Maintenance Plan requirements.</p> <p style="text-align: center;">N/A</p> <p style="text-align: center;">N/A</p>

Plan Review Procedures		
Interview Questions	Response	
post-construction BMPs and their maintenance or access easements?	N/A	
A list of deed restrictions, conservation easements or environmental covenants required to maintain post-construction BMPs in perpetuity?	N/A	
Is this plan kept on file or input into a database for future reference to ensure the required tasks are being completed?	N/A	
Applicable Documents	Reviewed	Obtained
Copy of standard conditions of approval	YES	YES
Example of standard conditions applied to an approved project	YES	YES
Checklist used by plan reviewers	YES	YES

Project Inspections	
Interview Questions	Response
CONSTRUCTION INSPECTIONS	
Who is responsible for erosion and sediment control site inspection?	The Engineering Department: Jeff Sinnema Dave Kubera Jim Smolik Mark Chomoa John Parsons Wes Davis
If third party, is there an MOU or other agreement in place?	
Is it current?	N/A
POST-CONSTRUCTION INSPECTIONS	
Who is responsible for post-construction site inspection?	<i>(Once the Program is developed, the following personnel will be held responsible for post-construction inspections)</i> The Engineering Department: Jeff Sinnema Jim Smolik Mark Chomoa Wes Davis
If third party, is there an MOU or other agreement in place?	N/A

Project Inspections	
Interview Questions	Response
Is it current?	N/A
Is an "as-built" inspection conducted at the time a post-construction BMP is installed to ensure compliance with the approved BMP construction plan?	YES
Does the MS4 conduct inspections for long-term maintenance of privately-owned post-construction BMPs?	NO
If YES, at what frequency?	N/A
If NO, does the MS4 collect inspection reports from the responsible party? At what frequency?	<p>The City is currently developing their post-construction program including Long Term Maintenance plan requirements as well as annual inspections.</p> <p><i>*During this interview, the City was looking for suggestions on how to keep track of ownership and responsible persons for maintaining privately owned post-construction BMPs. Ohio EPA does not have any formal recommendations as to how to keep track; however Ohio EPA recommends inquiring how surrounding communities track this information (e.g. North Ridgeville, Avon Lake)</i></p>
CONSTRUCTION & POST-CONSTRUCTION INSPECTION QUESTIONS	
Findings from construction and post-construction inspections tracked in a database?	YES Findings are typically tracked through OnBase on the inspector's daily reports.
<p>What training or professional certifications have site inspection personnel received?</p> <p>Construction</p> <p>Post-Construction</p>	<p>Jeff Sinnema- CMS4S, in the process of receiving both CPESC & CESSWI</p> <p>Dave Kubera – Attends EPA Workshops</p> <p>Jim Smolik – P.E.</p> <p>Mark Chomoa – Attends EPA Workshops</p> <p>John Parsons – Attends EPA Workshops</p> <p>Wes Davis – None (Just recently hired)</p>

Project Inspections		
Interview Questions	Response	
<p>How many years of experience does site inspection personnel have inspecting storm water BMPs?</p> <p>Construction</p> <p>Post-Construction</p> <p>How often do site inspection personnel receive training?</p> <p>Construction</p> <p>Post-Construction</p>	<p>Jeff Sinnema- Approximately 16 + years. Dave Kubera – Approximately 10 + years. Jim Smolik – Approximately 10 + years. Mark Chomoa – Approximately 10 + years John Parsons – Approximately 10 + years Wes Davis – Approximately 1 year</p> <p>Typically Annually.</p> <p>Typically Annually.</p>	
<p>Do you use a checklist or the approved plan to conduct site inspections?</p> <p>Construction</p> <p>Post-Construction</p> <p>If NO, what standards are used to determine if a site is compliance?</p> <p>Construction</p> <p>Post-Construction</p>	<p>YES</p> <p>YES</p> <p>N/A</p> <p>N/A</p>	
Applicable Documents	Reviewed	Obtained
Most recent inspection staff training records	YES	YES
Example of active construction project inspection checklist	YES	YES
Example of inspection record to verify “as-built” of post-construction BMPs	YES	YES
Records from inspection tracking database or filing system	YES	YES
Checklist for inspecting long-term maintenance of post-construction BMPs	YES (draft)	YES (draft)

Notes

MS4-Owned Construction Projects	
Interview Questions	Response

MS4-Owned Construction Projects	
Interview Questions	Response
Projects designed in-house or contracted?	BOTH Case-by-case basis dependent on the magnitude of the project and the type of work that is being completed.
Designers trained in storm water BMP implementation?	YES
Checklist used during the design and/or review of public construction projects?	YES
Are projects greater than one acre covered by a general construction permit (has an NOI been submitted)?	YES
If contracted planners and engineers are used for the design of MS4-owned projects, does the contract language specify that sediment and erosion control and post-construction storm water BMPs be incorporated into the design?	NO Nothing explicitly states that ESC's and post-construction BMPs must be incorporated into the design; however the Scope of Service does require compliance with the "State of Ohio".
Are municipal construction projects inspected for compliance with the SWP3?	YES
Are they inspected with the same frequency for BMP compliance as a private construction project?	YES
Who inspects municipal construction projects for compliance?	The Engineering Department: Jeff Sinnema Dave Kubera Jim Smolik Mark Chomoa John Parsons Wes Davis
Project inspectors trained?	YES
Frequency:	Typically annually.
If contracted inspectors are utilized, are minimum inspection, maintenance and reporting requirements specified in the contract?	N/A
For municipally-owned post-construction BMPs, how often are they inspected to ensure long-term maintenance?	The City is currently developing their post-construction BMP maintenance and inspection requirements.

MS4-Owned Construction Projects			
Interview Questions		Response	
Which department is responsible for conducting these inspections?		Once the program has been finalized, the Engineering department will be responsible.	
Applicable Documents		Reviewed	Obtained
MS4-owned project storm water design standards and/or checklist		YES	YES
Contract language for active public project not developed or inspected in-house		Does not exist	Does not exist

Outreach and Education	
Interview Questions	Response
Type of training provided to construction operators:	None has been provided. <i>Please be aware that at least one PIPE activity must be targeted to the development community during the current NPDES permit term. None have been reported. Please ensure that your PIPE program targets this group with at least one message by January 29, 2014.</i>
Designers and Engineers:	YES Tom Litizia came in to City Hall one time to conduct a presentation on stabilization and erosion and sediment controls (design methods as well as maintenance)
Attendance required?	N/A
Training frequency?	N/A
Number of operators trained:	N/A
Training topics:	Site stabilization requirements, erosion and sediment control design methods and maintenance requirements.
Presentations given by MS4 staff to professional groups?	YES Presentations have been provided to OEPA and Cleveland State.
Brochures or outreach materials targeted at operators:	None at this time.
How/when is the information distributed?	N/A
Website used to educate operators?	YES ***See Note #1 (below) on Page 20.

Web address:	http://www.cityofwestlake.org/departments/engineering.aspx
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Applicable Documents	Reviewed	Obtained
Training materials	Does not exist	Does not exist
Brochures, outreach materials	Does not exist	Does not exist

Notes
<p>1) The City's ordinances as well as BMP design detail drawings are available on the community's website; however, the detail drawings are outdated and are no longer consistent with Ohio EPA requirements (e.g. paved gutters in detention basins). <i>Ohio EPA recommends that the website is updated to include current detail drawings of active construction BMPs as well as post-construction BMPs from the current edition of the <u>Rainwater and Land Development</u> manual. Please refer to the "Notes" section of the file review for the Lutheran Home project on Pg. 27 for more information.</i></p>

CONSTRUCTION & POST-CONSTRUCTION FILE RECORDS REVIEW

In addition to interviewing staff, select 2 to 3 approved projects with erosion and sediment control plans to review with the permittee. You are essentially conducting a file review. Try to choose different project types (residential, commercial) and sizes. Also, if one exists, review a public project plan to see if the permittee is applying equivalent standards to municipal construction.

Construction Project #1 Name: The Parks Subdivision #3GC04790*AG (20 ac.)	
BMPs adequately incorporated into the plan to address erosion control, sediment control, and housekeeping?	<p>YES</p> <ul style="list-style-type: none"> • BMPs used during construction include geotextile frame inlet protection, perimeter silt fence, temporary sediment traps, rock construction entrances, and concrete wash out pits. The BMPs as depicted appear to be sufficient enough to prevent sediment laden runoff from entering surface waters of the State.
Design specifications and details for all BMPs included on the plans?	<p>YES</p> <p>Detail drawings consistent with current Ohio EPA requirements are included for all of the BMPs used during the construction process</p>
Maintenance requirements specified?	<p>YES</p> <p>Narrative is included with the detail drawings which describes routine maintenance procedures for silt fence and inlet protection, as well as a description of proper installation techniques.</p>
Have any NOV's or other enforcement actions issued for this site. <i>Obtain copies of NOV's. If none, why not?</i>	<p>NO</p> <p>A previous inspection conducted July 19th, 2012 indicates that geotextile frame inlet protection was not installed according to the detail drawings and narrative in the SWP3. In addition, a vulnerable preexisting yard drain was found on the North property line and the silt fence needed to be maintained along the North and South property lines. Verbal communication between the inspector (Wes Davis) and the contractor on site (Majestic Excavating) appears to have occurred. It was</p>

Construction Project #1 Name: The Parks Subdivision #3GCO4790*AG (20 ac.)

observed during the field review (see field review section for details) that several issues still have not been corrected.

Notes:

Jeff indicated that a follow up SWP3 inspection conducted during the week of July 23rd revealed that there was an additional vulnerable preexisting yard drain near the emergency access onto Lincoln Drive. The inspector spoke with the foreman on site and requested that inlet protection be installed immediately as detailed in the SWP3. During the field review, it was observed that inlet protection was installed; however it was not installed properly. Again, verbal communication occurred between the inspector and the foreman on site requesting that corrective action be completed immediately. At the time of the field review, this was the *third* incidence of inlet protection not installed as described in the SWP3. This is a prime example of why *Ohio EPA recommends that the City creates a formalized written escalation plan to ensure that corrective action is completed in a timely fashion and that consequences will result from repeated incidences of non-compliance.* It is certainly acceptable to provide contractors with verbal warnings during the *initial* discovery of compliance issues (as long as it's documented in the daily report); however repeated incidences should *at a minimum* result in a letter to the permittee and any other responsible party which explicitly spells out "Notice of Violation" and references specific sections of the local code in which they are in violation of, while providing a deadline for corrective action to be completed.

During this interview, when given a hypothetical situation of "repeated incidences of non-compliance despite previous warnings", the Director of Engineering stated that the City would "Issue a stop work order and revoke the contractor's permits until corrective action is completed". Although this is not necessarily a requirement from Ohio EPA, nor is it necessarily applicable to the scenario at The Parks Subdivision, the point to be made is that it is essential that the City creates a formalized written enforcement escalation procedure which can be followed consistently for every project in the City of Westlake. The City has already established the possible consequences which can result from non-compliance with the local code; however these mechanisms are not formalized in a written procedure applicable to any construction site in the community.

Construction Project #1 Name: The Parks Subdivision #3GC04790*AG (20 ac.)	
Construction Project #2 Name: St. John Medical Center #3GC05675*AG (4.83 ac.)	
BMPs adequately incorporated into the plan to address erosion control, sediment control, and housekeeping?	<p style="text-align: center;">YES</p> <ul style="list-style-type: none"> • BMPs used during the construction process include perimeter silt fence, inlet protection, rock construction entrances, and a concrete wash out pit. <p>Room For Improvement:</p> <ul style="list-style-type: none"> • No post construction BMP is provided. Plan designates “permanent seeding” as the post-construction BMP; however this is not considered a post-construction BMP in practice. • It appears that the site would fall under the “redevelopment” category. Please remember that for any redevelopment, a 20% or greater overall reduction of impervious area must be created or a post-construction BMP must be provided which is capable of treating 20% or greater of the water quality volume associated with the project.
Design specifications and details for all BMPs included on the plans?	<p style="text-align: center;">YES</p> <p>Detail drawings are provided for all BMPs including narrative describing proper installation and routine maintenance procedures.</p>
Maintenance requirements specified?	<p style="text-align: center;">YES</p> <p>Site inspection and maintenance procedures/requirements are specified in the narrative details of the SWP3.</p>
Have any NOV's or other enforcement actions been issued against this site? <i>Obtain copies of NOV's. If none, why not?</i>	<p style="text-align: center;">NO</p> <p>The City has not been typically sending NOV's. Verbal communication and documentation of the discussion is the common practice in most cases.</p>

Construction Project #1 Name: The Parks Subdivision #3GCO4790*AG (20 ac.)	
<p>Notes: It appears that intercommunication between the inspectors in regards to previous compliance issues is lacking. Although familiar with the site, the inspector was not aware of the compliance issues noted during the previous inspection of this project since it was conducted by another inspector. <i>Ohio EPA recommends that inspectors familiarize themselves with the daily inspectors report submitted during the previous site visit to be aware of any issues which should be followed up on.</i></p> <p><i>In addition, the City must ensure all NPDES permit requirements are met during the plan review process. The City should have noted that Permanent Seeding is not considered a post-construction BMP, nor were calculations provided to verify that site conditions reduce the overall impervious area prior to redevelopment by no less than 20%. The City must request that a post-construction BMP is implemented to meet NPDES permit requirements for redevelopment projects. If on-site retrofit is not feasible, the City must require the contractor to develop off-site mitigation at one and a half (1.5) times the water quality volume associated with the redevelopment.</i></p>	

Post-Construction Project #1 Name: The Parks Subdivision #3GCO4790*AG (20 ac.)	
Date that project was accepted by community or otherwise deemed "completed"	N/A (Still Active)
Were post-construction BMPs provided for all drainage areas associated with the developed site? List the post-construction BMPs provided:	<p>YES</p> <p>DA #1: Easterly Wet Extended Detention Basin>>>5.1 ac + 3.0 ac disturbed, 2.0 inch orifice. (Calculations provided on plans)</p> <p>DA #2: Westerly Wet Extended Detention Basin>>>40.2 ac + 18.5 ac disturbed, 4.5 inch orifice. (Calculation provided on plans)</p>
Design specifications and details for all BMPs included on the plans?	<p>YES</p> <p>Room for Improvement:</p> <ul style="list-style-type: none"> The riser pipes used as temporary dewatering structures for the sediment basins (which are later converted into the permanent detention basins after construction is completed) are constructed using an outdated design. Perforated riser pipes wrapped in geotextile fabric are no longer an acceptable design method because they

Post-Construction Project #1 Name: The Parks Subdivision #3GCo4790*AG (20 ac.)	
	<p>do not ensure a proper drawdown time of the water quality volume.</p> <ul style="list-style-type: none"> The approved plans do not consist of a separate detail drawing of the outlet structure during post-construction.
Were post-construction BMPs selected appropriate for their drainage areas, site and soil conditions?	YES
Did the community verify the installation of post-construction BMPs per the approved plan at the time the project was completed?	N/A This project is still active.
Does MS4 have a copy of the long-term maintenance plan?	NO The project is still in the early phases of construction. The City is currently developing their long term maintenance agreement requirements and inspection procedures for post-construction BMPs.
Who does the plan say is responsible for long-term maintenance?	N/A
Has the MS4 conducted any long-term maintenance inspections or collected any long-term maintenance inspection reports from the responsible party? <i>Obtain copy of latest inspection report.</i>	N/A
<p>Notes: The City has now been informed that perforated riser pipes wrapped in geotextile fabric are no longer an acceptable design for temporary dewatering structures <i>unless</i> the pipe is capped on the inside with a single orifice sized correctly to ensure a proper drawdown time of the water quality volume and calculations are provided to verify that the sizing of the orifice is appropriate for the contributing drainage area. Included with this report are the current specifications for temporary dewatering structures per the most recent edition of the <i>Rainwater and Land Development</i> manual and the current OEPA NPDES Permit #OHC000003 for General Construction Activities.</p> <p>It is critical that the sediment basins are modified as appropriate to convert from the active construction phase into the post-construction phase. Temporary dewatering structures should be removed and the sediment basin should be re-graded according to the plan for proper post-construction function when earth disturbing activities have been completed for the project. <i>Ohio EPA recommends that the City request a detail drawing of the permanent detention basins and their outlet structures to ensure that they are properly converted when the site is completed.</i></p>	

Post-Construction Project #1 Name: The Parks subdivision #3GCo4790*AG (20 ac.)

Post-Construction Project #2 Name: Lutheran Home #3GCo1033*AG (17.5 ac.)	
Date that project was accepted by community or otherwise deemed "completed"	October 2008
Were post-construction BMPs provided for all drainage areas associated with the developed site?	YES
List the post-construction BMPs provided:	<p>DA #1: (8.11 Ac.) Drains to the Northern (preexisting) detention basin which has been modified to accommodate the additional runoff and sediment storage volumes associated with the site. No calculations for the sizing of the orifice or indication if the preexisting outlet structure had been modified exist.</p> <p>DA #2: (11.75 Ac.) Drains to the Southern wet extended detention basin. The calculations provided by Neff and Associates indicate that a 2 inch orifice is necessary for the outlet structure; however calculations are not provided to verify the Northern basin has been modified appropriately.</p>
Design specifications and details for all BMPs included on the plans?	YES
Were post-construction BMPs selected appropriate for their drainage areas, site and soil conditions?	YES
Did the community verify the installation of post-construction BMPs per the approved plan at the time the project was completed?	NO
Does MS4 have a copy of the long-term maintenance plan?	NO
Who does the plan say is responsible for long-term maintenance?	N/A
Has the MS4 conducted any long-term maintenance inspections or collected any long-term maintenance inspection reports from the responsible party? <i>Obtain copy of latest inspection report.</i>	NO

Notes:

It was observed during this file review that the Southern detention basin is designed with a concrete gutter from the inlet to the outlet structure. Although at the time of plan submittal this was an acceptable design method, current Ohio EPA standards, which the City references as their own, do not encourage the use of paved gutters. Detention basins are designed to slowly convey runoff from the inlet structure to the outlet structure, allowing sediment and other pollutants to settle out of it before discharging from site. Although concrete prevents erosion of the bottom of the basin, it will increase the velocity of the runoff which it conveys, essentially defeating the purpose of "detention". Other alternatives such as grasses and other types of vegetation will sufficiently prevent such erosion from occurring, while rip rap and check dams can effectively decrease the velocity of runoff at inlets or in conveyance channels.

After browsing through the Engineering Department homepage on the community's website (which can be used to educate operators), it was observed that concrete gutters are recommended as part of the design of post-construction BMPs. The "Drainage and Retention Information" section of the Engineering Department's homepage contains detail drawings of retention basins with concrete gutters and typical sections of paved conveyance channels. In addition, the "Construction Details" section includes a detail drawing of what the City describes as "Erosion and Sedimentation Control". This drawing includes details for a "barrier fence", i.e. silt fence across a conveyance channel. *Silt fence is designed to be used in situations of sheet flow; never concentrated flow or across conveyance channels. In addition, silt fence is designed to be used as a sediment control, NOT an erosion control or velocity retarder. BMPs such as a level spreader can be used to transform concentrated flow into a sheet flow which can then be treated by silt fencing; while rock check dams can be used to dissipate the velocity of runoff to prevent highly erosive flow rates. Ohio EPA recommends that the City updates all of the above mentioned drawings with detail drawings from the most current edition of the Rainwater and Land Development manual, since the City references these standards as their own.*

CONSTRUCTION FIELD REVIEW WORKSHEET

Name of MS4: City of Westlake
MS4 Permit No: 3GQ10013*BG

Name of Site: St. John Medical Center	
Location: 29000 Center Ridge Rd.	NPDES Permit: #3GC05675*AG
Date of Inspection: 7/26/2012	Time of Inspection: 3:30PM
Name of Inspector: Jeff Sinnema	
Others Present During Inspection: Tim McParland, DSW, NEDO Jim Masirovits, Project Superintendent (Donley's)	

1. Did MS4 inspector identify himself to the project superintendent or site foreman and state the purpose of his inspection?

YES

The inspector did introduce himself to Mr. Jim Masirovits, Project Superintendent on site and state the purpose of his inspection; however, not until after the inspection was completed. Ohio EPA recommends that the inspector introduce his or her self to the superintendent upon arrival on site to allow the superintendent the opportunity to accompany them on their inspection and witness compliance issues first hand.

2. Did the MS4 inspector ask if any amendments have been made to the SWP3 since his or her last inspection?

NO

Another reason Ohio EPA recommends approaching the project superintendent upon arrival on site is to explore the possibility of amendments being made to the SWP3 since their last inspection was conducted.

3. Did the MS4 inspector review the site inspection reports required of the developer once every 7 days and within 24 hours of a 0.5-inch or greater rainfall?

NO

Ohio EPA recommends that the City's inspectors verify that construction sites remain compliant in this aspect since the City is only required to conduct a thorough storm water inspection monthly. The current NPDES permit requires operators to inspect their sites once a week and within 24 hours of any half-inch (1/2") or greater rainfall event.

4. Did the inspector reference the approved SWP3 or use it as the basis of his or her inspection?

YES

5. Did the inspector follow-up on any compliance issues found during his or her last inspection?

NO

It was observed that Jeff did not conduct the last inspection and was not familiar with compliance issues noted at that time. This is why Ohio EPA recommends the community develops a more organized method of intercommunication between inspectors such that whichever inspector is on site for that day is fully aware of previously noted deficiencies and can follow up on these compliance issues. One method would be to print out the latest inspector's daily report for the project and have it with them on site.

6. Compliance issues identified by inspector during this inspection:

- **Stabilization issues are apparent all throughout the parking lot area.**
- **Parking lot catch basins were vulnerable to sediment laden runoff from the site.**
- **Inlet protection was inadequate for the catch basin west of the helicopter pad.**
- **The concrete wash out pit depicted on the SWP3 was missing**

7. Deficiencies or NPDES violations not noted by the MS4 inspector during this inspection:

- **The inspector did not mention the inadequate rock construction entrance on the Northeast side of the site until prompted by Ohio EPA**
- **Although this was intended to be an active construction inspection, the inspector did not mention the lack of post construction BMPs for the project.**

8. Did the MS4 inspector ask the project superintendent or site foreman to accompany him or her on the inspection?

NO

Ohio EPA recommends that City staff encourages superintendents to accompany them on storm water inspections to witness compliance issues first hand rather than hearing about it later.

9. Did the MS4 inspector recap his findings upon completion of his or her inspection?

YES

Jeff described all of the deficiencies observed during the inspection and provided good recommendations for corrective actions necessary to remain compliant.

10. Is the community planning on taking any enforcement actions based on the results of today's inspection? If so, what are those actions? *(NOTE: Ask community to send you a copy of the enforcement action.)* Did the inspector provide a deadline for corrective action? If so, provide details.

NO

The inspector expressed the City's concerns through verbal communication with the project superintendent on site and gave him recommendations for completing corrective actions to remain compliant. The City will document the inspection findings and follow up of the issues observed within a week or two.

Additional Comments:

- The inspector was thorough with his inspection and took photographs of compliance issues as necessary. He was comfortable with the approved plan and not afraid by any means to approach the project superintendent to inform him of deficiencies. This demonstrates that verbal communication between inspectors and project superintendents is a common practice in the City.
- The inspector did observe nearly every compliance issue apparent on the site with the exception of the inadequate rock construction entrance.
- It is important that inspectors approach project superintendents *before* conducting his or her inspection in addition to approaching them after. This is because the inspector should be aware of any possible amendments made to the SWP3 (e.g. the Westlake HS SWP3 on site was different than the SWP3 on file), as well as verify that inspections are being completed weekly per NPDES permit requirements. In addition, it is recommended that inspectors encourage superintendents to accompany them of these inspections.

See Attached Photos



Figure 1:
Inadequate rock construction entrance needs to be reconstructed per the

detail on the SWP3 if it will continue to be used in the future.

Photos Taken By: Tim McParland
7/26/12

CONSTRUCTION FIELD REVIEW WORKSHEET

Name of MS4: City of Westlake
MS4 Permit No: 3GQ10013*BG

Name of Site: Westlake High School	
Location: 27830 Hilliard Blvd.	NPDES Permit: #3GC05330*AG
Date of Inspection: 7/30/2012	Time of Inspection: 9:30AM
Name of Inspector: Jeff Sinnema	
Others Present During Inspection:	
Tim McParland, DSW, NEDO	
Jeff Johnson, Superintendent (Turner)	
Robert Teitenberg, Sr. Project Manager (Turner)	

1. Did MS4 inspector identify himself to the project superintendent or site foreman and state the purpose of his inspection?

YES

The inspector did introduce himself to Jeff Johnson and Robert Teitenberg of Turner Resources International on site and state the purpose of his inspection; however, not until after the inspection was completed. Ohio EPA recommends that the inspector introduce his or her self to the superintendent upon arrival on site to allow the superintendent/manager the opportunity to accompany them on their inspection and witness compliance issues first hand.

2. Did the MS4 inspector ask if any amendments have been made to the SWP3 since his or her last inspection?

NO

The Westlake High School project is a prime example of why it is very important to approach the superintendent/manager upon arrival on site and explore the possibility of amendments being made to the SWP3 since their last inspection was conducted.

****Please refer to the "Additional Comments" section of this field review on Page 32****

3. Did the MS4 inspector review the site inspection reports required of the developer once every 7 days and within 24 hours of a 0.5-inch or greater rainfall?

NO

Ohio EPA recommends that the City's inspectors verify that construction sites remain compliant in this aspect since the City is only required to conduct a thorough storm water inspection monthly. The current NPDES permit requires operators to inspect their sites once a week and within 24 hours of any half-inch (1/2") or greater rainfall event.

4. Did the inspector reference the approved SWP3 or use it as the basis of his or her inspection?

YES

However, the SWP3 referenced during this inspection had since been amended (unbeknownst to the inspector until after the inspection was already completed).

****Please refer to the "Additional Comments" section of this field review on Page 32****

5. Did the inspector follow-up on any compliance issues found during his or her last inspection?

NO

It was observed that Jeff was not familiar with the last inspection or the compliance issues noted at that time. This is why Ohio EPA recommends the community develops a more organized method of intercommunication between inspectors such that whichever inspector is on site for that day is fully aware of previously noted deficiencies and can follow up on these compliance issues. One method would be to print out the latest inspector's daily report for the project and have it with them on site.

6. Compliance issues identified by inspector during this inspection:

- **Inadequate inlet protection was observed near Hilliard Blvd.**
- **Existing catch basins vulnerable to sediment laden runoff were observed near the preexisting High School.**
- **Dumpsters were missing protective cover.**
- **The silt fence was inadequate near the sediment basin.**
- **Silt fencing in various areas throughout the site was repaired incorrectly.**

7. Deficiencies or NPDES violations not noted by the MS4 inspector during this inspection:

- **The rock construction entrance was very muddy and requires fresh stone.**
- **Better housekeeping measures are necessary near the mortar mixing station.**

8. Did the MS4 inspector ask the project superintendent or site foreman to accompany him or her on the inspection?

NO

Ohio EPA recommends that City staff encourages superintendents to accompany them on storm water inspections to witness compliance issues first hand rather than hearing about it later.

9. Did the MS4 inspector recap his findings upon completion of his or her inspection?

YES

Jeff described all of the deficiencies observed during the inspection and provided good recommendations for corrective actions necessary to remain compliant.

10. Is the community planning on taking any enforcement actions based on the results of today's inspection? If so, what are those actions? (NOTE: Ask community to send you a copy of the enforcement action.) Did the inspector provide a deadline for corrective action? If so, provide details.

NO

The inspector expressed the City's concerns through verbal communication with the project superintendent on site and gave him recommendations for completing corrective actions to remain compliant. The City will document the inspection findings and follow up of the issues observed within a week or two.

Additional Comments:

- The inspector was thorough with his inspection and took photographs of compliance issues as necessary.
- While on site, it was observed that the SWP3 plan used as the basis of the inspector's inspection had since been amended and thus did not accurately depict what should be seen in the field. Because of this, certain deficiencies noted by the inspector may not have been applicable; while on the other hand BMPs that appeared to be appropriate may have essentially been incorrect. *It is important that inspectors approach project superintendents before conducting his or her inspection in addition to approaching them after to ensure that the most recent version of the SWP3 is used as the basis of their inspection.*

See Attached Photos



Figure 1:
The rock construction entrance is very muddy, leading to offsite tracking of sediment from vehicles leaving the site. Fresh stone is required.

Figure 2: Better housekeeping measures are necessary to prevent mortar mix from contaminating storm water runoff.

Photos Taken By: Tim McParland
7/30/12

CONSTRUCTION FIELD REVIEW WORKSHEET

Name of MS4: City of Westlake
MS4 Permit No: 3GQ10013*BG

Name of Site: The Parks Subdivision	
Location: 4100 Bradley Road	NPDES Permit: #3GC04790*AG
Date of Inspection: 7/30/2012	Time of Inspection: 11:15AM
Name of Inspector: Jeff Sinnema	
Others Present During Inspection: Tim McParland, DSW, NEDO Junior (unsure of last name), Foreman for Excavating Company	

1. Did MS4 inspector identify himself to the project superintendent or site foreman and state the purpose of his inspection?

YES

The inspector did introduce himself to the foreman on site and state the purpose of his inspection; however, not until after the inspection was completed. Ohio EPA recommends that the inspector introduce his or her self to the superintendent upon arrival on site to allow the superintendent/foreman the opportunity to accompany them on their inspection and witness compliance issues first hand.

2. Did the MS4 inspector ask if any amendments have been made to the SWP3 since his or her last inspection?

NO

Another reason Ohio EPA recommends approaching the project superintendent upon arrival on site is to explore the possibility of amendments being made to the SWP3 since their last inspection was conducted.

3. Did the MS4 inspector review the site inspection reports required of the developer once every 7 days and within 24 hours of a 0.5-inch or greater rainfall?

NO

Ohio EPA recommends that the City's inspectors verify that construction sites remain compliant in this aspect since the City is only required to conduct a thorough storm water inspection monthly. The current NPDES permit requires operators to inspect their sites once a week and within 24 hours of any half-inch (1/2") or greater rainfall event.

4. Did the inspector reference the approved SWP3 or use it as the basis of his or her inspection?

YES

5. Did the inspector follow-up on any compliance issues found during his or her last inspection?

YES

A preexisting yard drain was vulnerable to sediment laden runoff of the emergency access drive off Lincoln St. Inlet protection had since been provided but was not designed per the specifications in the SWP3.

6. Compliance issues identified by inspector during this inspection:

- **One of the fuel tanks on site was missing secondary containment (e.g. protective dyke) and a spill kit.**
- **The inlet protection provided for the yard drain off of Lincoln Street was not installed per the specifications in the SWP3.**
- **Geotextile frame inlet protections have been constructed properly but were not trenched and backfilled to prevent runoff from seeping underneath.**
- **Areas which appear to have remained idle for greater than twenty one (21) days need to be stabilized.**
- **The silt fence along the rear property line of the homes along Lincoln Street needs to be repaired.**

7. Deficiencies or NPDES violations not noted by the MS4 inspector during this inspection:

- **The temporary dewatering structures in the sediment basins were constructed per outdated design methods.**
****Please refer to the attached specifications for current standards****
- **The inspector did not mention the necessity of stabilizing the slopes along the stream until prompted by Ohio EPA.**

8. Did the MS4 inspector ask the project superintendent or site foreman to accompany him or her on the inspection?

NO

Ohio EPA recommends that City staff encourages superintendents to accompany them on storm water inspections to witness compliance issues first hand rather than hearing about it later.

9. Did the MS4 inspector recap his findings upon completion of his or her inspection?

YES

Jeff described all of the deficiencies observed during the inspection and provided good recommendations for corrective actions necessary to remain compliant.

10. Is the community planning on taking any enforcement actions based on the results of today's inspection? If so, what are those actions? (*NOTE: Ask community to send you a copy of the enforcement action.*) Did the inspector provide a deadline for corrective action? If so, provide details.

NO

The inspector expressed the City's concerns through verbal communication with the project superintendent on site and gave him recommendations for completing corrective actions to remain compliant. The City will document the inspection findings and follow up of the issues observed within a week or two.

Additional Comments:

- **The inspector was thorough with his inspection and took photographs of compliance issues as necessary.**
- **This inspection indicates a *third* incidence of inlet protection not installed as described in the SWP3. *Ohio EPA recommends that the City creates a formalized written escalation plan to ensure that corrective action is completed in a timely fashion and that consequences will result from repeated incidences of non-compliance. The City has already established the mechanisms available for enforcement purposes (e.g. fines, stop work orders, etc.); however it is unclear as to when each mechanism should be used and the order in which these mechanisms can escalate after repeated incidences of similar compliance issues occur.***

See Attached Photos



Figure 1:
The temporary dewatering structure is constructed using an outdated design. Please refer to the attached drawings for current design standards.



Figure 2: The banks along the stream need to be stabilized immediately.

Photos Taken By: Tim McParland
7/30/12

POST-CONSTRUCTION INSPECTION WORKSHEET

NOTE: Use two of the post-construction sites you performed a file review on. This will speed up the inspection process since you will already have familiarity with the plan.

Name of MS4: City of Westlake	
MS4 Permit No: 3GQ10013*BG	

Name of Site: Tri-C West Corporate College	
Location: 25475 Center Ridge Road	NPDES Permit: #3GC00157*AG
Date of Inspection: 7/30/2012	Time of Inspection: 2:00PM
Name of Inspector: Jeff Sinnema	
Post-Construction BMPs on this Site (list by drainage area)	
<p style="margin-left: 40px;">DA #1: Parking Lot Island Bioretention Cells</p> <p style="margin-left: 40px;">DA #2: Wet Extended Detention Basin</p>	

1. Has the MS4 conducted an as-built inspection of the post-construction BMPs on this site?
NO

The City of Westlake did not inspect the storm water structures as part of their final inspection of this project. This inspection revealed that the bioretention cells in the parking lot islands are not installed as detailed on the SWP3. Failure to conduct as-built inspections of post-construction BMPs constructed within the community is a direct violation of NPDES Permit #OHC000002 for small MS4s.

2. Using the approved post-construction plan on file with the MS4, verify that the planned BMPs have been installed. If a post-construction BMP has not been installed, what does the MS4 intend to do about it?

The BMPs have been installed; however it was observed that the bioretention cells were not constructed per the approved plan. They lacked a minimum six-inch (6") ponding depth necessary to function as intended. The City must require Cuyahoga Community College to reconstruct these BMPs according to the approved plan and develop a long term maintenance plan to ensure proper function of the BMPs throughout their lifetime.

3. For post-construction BMPs properly installed, did the inspector use the approved long-term maintenance plan as his basis for inspection?

NO

A long-term maintenance plan does not exist. The inspector did however reference the approved plan and verified the detention basin was installed correctly, including the outlet structure.

4. Long-term maintenance issues noted by the MS4 inspector during this inspection.
NOTE: If maintenance issues are found, ask the MS4 to provide you with a copy of their notification to the responsible party.

- **The bioretention cells need to be reconstructed per the approved plan.**
- **Eroded areas within the cells need to be filled in.**
- **Some areas along the banks of the detention basin require more seeding.**

5. Did the MS4 inspector demonstrate knowledge of post-construction BMP function and essential long-term maintenance issues?

YES

The inspector is quite familiar with post-construction requirements. The City needs to finalize their post-construction requirements and standards such that BMPs can be inspected annually and ensure proper function throughout their lifetime.

POST-CONSTRUCTION INSPECTION WORKSHEET

NOTE: Use two of the post-construction sites you performed a file review on. This will speed up the inspection process since you will already have familiarity with the plan.

Name of MS4: City of Westlake
MS4 Permit No: 3GQ10013*BG

Name of Site: Nordson Corporation	
Location: 28601 Clemens Road	NPDES Permit #3GC04663*AG
Date of Inspection: 7/30/2012	Time of Inspection: 2:40PM
Name of Inspector: Jeff Sinnema	
Post-Construction BMPs on this Site (list by drainage area)	
<p>DA #1: Enhanced Swales Along the Driveway</p> <p>DA #2: Unilock Eco-Optiloc Permeable Pavers</p> <p>DA #3: Unilock Turfstone Permeable Pavers</p>	

1. Has the MS4 conducted an as-built inspection of the post-construction BMPs on this site?

NO

The City of Westlake did not inspect the storm water structures as part of their final inspection of this project. However, as-built drawings were submitted by a licensed P.E. although not required. Failure to conduct as-built inspections of post-construction BMPs constructed within the community is a direct violation of NPDES Permit #OHC000002 for small MS4s.

2. Using the approved post-construction plan on file with the MS4, verify that the planned BMPs have been installed. If a post-construction BMP has not been installed, what does the MS4 intend to do about it?

All post-construction BMPs have been installed and appear to function as intended.

3. For post-construction BMPs properly installed, did the inspector use the approved long-term maintenance plan as his basis for inspection?

NO

A long-term maintenance plan does not exist. The inspector did however reference the approved plan during this inspection.

4. Long-term maintenance issues noted by the MS4 inspector during this inspection.
NOTE: If maintenance issues are found, ask the MS4 to provide you with a copy of their notification to the responsible party.
- **Permeable paver grid for the “turfstone” fire access lane has buckled and needs to be replaced.**
 - **The enhanced swales appear to have accumulated sediment and need to be cleaned out.**
5. Did the MS4 inspector demonstrate knowledge of post-construction BMP function and essential long-term maintenance issues?

YES

The inspector is quite familiar with post-construction requirements. The City needs to finalize their post-construction requirements and standards such that BMPs can be inspected annually and ensure proper function throughout their lifetime.

Additional Comments:

- **After discussing the situation with co-workers, the orange discoloration of the enhanced swales is likely due to a natural reaction of bacteria that oxidizes with any iron deposits within the soil or is conveyed in runoff. This process is natural and neither the City nor Nordson Corporation will have to address this issue.**