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November 4, 2016

Via Electronic Filing

Ms. Barcy McNeal
Public Utilities Commission of Ohio
Administration/Docketing
180 East Broad Street, 11th Floor
Columbus, OH 43215-3793

**Re: Hog Creek Wind Farm LLC,
Case Nos. 09-277-EL-BGN and 10-654-EL-BGN**

Dear Ms. McNeal:

On March 22, 2010, the Ohio Power Siting Board ("OPBS") issued Hog Creek Wind Farm LLC ("Hog Creek") a Certificate of Environmental Compatibility and Public Need in Case No. 09-277-EL-BGN for Hog Creek I ("Hog Creek I"). On August 29, 2011, the OPSB issued a Certificate of Environmental Compatibility and Public Need in Case No. 10-654-EL-BGN for Hog Creek II ("Hog Creek II"). The orders in each of the cases established a set of conditions as part of the certificates.

Within these sets of conditions, Hog Creek I **Condition No. 40** and Hog Creek II **Condition No. 18** require that:

At least seven days before the preconstruction conference. Hog Creek shall submit to staff a copy of all NPDES permits including its approved Stormwater Pollution Prevention Plan (SWPPP) and Spill Prevention, Control and Countermeasure procedures, and its erosion and sediment control plan. Any soil issues must be addressed through proper design and adherence to the OEPA BMPs related to erosion and sedimentation control.

Attached is a copy of the SWPPP for the Hog Creek Wind Project dated October 2016. The Spill Prevention, Control and Countermeasure plan will be filed at a later date. Thus, Hog Creek is in partial compliance with Hog Creek I **Condition No. 40** and Hog Creek II **Condition No. 18**.

If you have any questions please call at the number listed above.

Sincerely,

Sally W. Bloomfield

Attachment

cc: Andrew Conway (w/Attachment)
Jonathan Pawley (w/Attachment)



STORM WATER POLLUTION PREVENTION PLAN

Hog Creek Wind Project

Hardin County, Ohio

October 2016



Prepared For:

Hog Creek Wind Project, LLC
11101 W 120th Avenue, Suite 400
Broomfield, CO 80021

Storm Water Pollution Prevention Plan (SWP3) Narrative

Hog Creek Wind Project

Hardin County, Ohio

Prepared for:

Hog Creek Wind Project, LLC
11101 W 120th Avenue, Suite 400
Broomfield, CO 80021

Prepared by:

Westwood Professional Services, Inc.
7699 Anagram Drive
Eden Prairie, MN 55344
(952) 937-5150

Project Number: 0010179.00

October 28, 2016

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- Attachment A: OHC000004 Construction General Permit
- Attachment B: Permitting Documentation (NOI, Permit Authorization, Site Notices)
- Attachment C: Soil Maps
- Attachment D: Vicinity Map, Pre and Post Drainage Maps, USGS Map, Impaired Water Maps
- Attachment E: Site Plans, Erosion and Sediment Control Plans, Details, TMDL Documentation
- Attachment F: Training Documentation
- Attachment G: Delegated Signatory Page and Inspection and Maintenance Forms, Contractor Authorization Forms
- Attachment H: Endangered Species, Cultural Resource (Information, Correspondence)

1.0 INTRODUCTION AND PURPOSE

This SWP3 is prepared in accordance with the Ohio General Permit for the Authorization for Storm Water Discharges Associated with Construction Activity under the National Pollutant Discharge Elimination System (NPDES) regulations as established by the Clean Water Act and guided by the State of Ohio Environmental Protection Agency (OHEPA). The Ohio Stormwater Runoff from Construction Activities General Permit (CGP) State Permit No. OHC000004 (Expiration date: April 20, 2018) provides the framework of requirements for compliance to discharge stormwater from a construction site. The purpose of the SWP3 is to ensure; the design, implementation, management and maintenance of BMPs in order to prevent or minimize sediment and other pollutants in stormwater discharges associated with the land disturbance activities and compliance with the terms and conditions of the state general permit.

This SWP3 is for implementation by the Owner and Operator, as listed in Section 5.1 of this SWP3, at the Hog Creek Wind Project site, with the project location as defined in Section 4.0 of this SWP3. This report shall be on the site at all times during construction.

The following are outlined in this site specific SWP3:

- Control measures for storm water pollution prevention during each phase of construction
- Control measures for storm water pollution prevention after construction
- Sources of storm water and non-storm water pollution
- Inspection and maintenance procedures

2.0 OWNER SWP3 CERTIFICATION AND SIGNATURE

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature

Title

Date

Printed Name

() -
Contact Number

3.0 SWP3 AMENDMENTS

This plan and the attachments must be amended within ten (10) days of a routine inspection results and to include additional requirements or modified requirements which take place during construction if one or more of the following occur:

1. Design, operation, or maintenance of BMPs is changed;
2. Design of the construction project is changed that could significantly affect the quality of the stormwater discharges;
3. Inspections indicate any deficiencies in the SWP3 or BMPs;
4. Department notifies the permittee in writing of deficiencies in the SWP3;
5. SWP3 is determined to be ineffective in minimizing or controlling erosion and sedimentation (e.g., there is visual evidence of excessive site erosion or excessive sediment deposits in streams or lakes);
6. Department determines violations of water quality standards may occur or have occurred;
7. When discharge to a receiving waterbody not originally identified on the NOI is anticipated or realized;
8. If contaminated soils are discovered or endangered species or cultural resources are discovered which were not originally identified in the project NOI.

3.1 SWP3 Amendment Log

The following table should be completed as necessary during construction to document changes and amendments to this document. Place the Amendment Number next to all application changes, redlines and information in the document to reference back to the changes summarized below. If an additional sheet is necessary attach the additional sheet to the SWP3.

Table 1: Amendment Log

Amend #	Date	Reason, location and brief description of change or amendment	Authorized by: (name and title)

4.0 SITE INFORMATION AND DESCRIPTION

4.1 Site Location and Vicinity Map

The Hog Creek Wind Project site is located in Hardin County, partially within the city limits of the City of Dunkirk and north of the City of Dola. The nearest intersection is County Road 30 and County Road 113. The site is bordered upon the north by County Road 9, upon the south by County Road 50, the west by Main Street and the east by North Main Street. Refer to Attachment D of this SWP3 for the full vicinity map.

Table 2: Project Location

Section	Township	Range
18	3S	9E
8-12 16-17, 20-21	3S	10E
Latitude and Longitude Points (Decimal)		
Latitude	40.790439	
Longitude	-83.701531	

4.2 Existing Conditions

The slope and terrain of the site generally consists of flat, gently rolling fields, having slopes less than 1%. The site currently has stormwater runoff flowing via overland flow and field conveyances to the west. The site area ultimately drains to Hog Creek, Eagle Creek, and Blanchard River located to the west of the site.

The site area is located in non-arid areas with an average yearly precipitation amount of: 35.1 inches.

Nonvegetative Cover

Existing impervious surfaces on site include paved roadways, residential homes, and agricultural buildings.

Vegetative Cover

Vegetative cover onsite includes forested land and agricultural crops.

Land Use

Prior to construction the site area was primarily used for agriculture. Secondary uses include residential homes.

4.3 Soil Information

The Hog Creek Wind Project site soils consist primarily of silt and clay loams. These soils belong to hydrologic soil groups B/D, C, C/D, and D. At the time of this report, there are no available groundwater analyses for the Hog Creek Wind Project site.

Table 3: Soil K Factors and Erosivity Hazards

Soil Name / Type	K Factor	Erosivity Hazard				Reason(s) for Erosivity Rating
		Slight	Moderate	Severe	Very Severe	
Blount silt loam, end moraine (0-2%)	0.37	X				
Blount silt loam, end moraine (2-4%)	0.37	X				
Blount silt loam, ground moraine (0-2%)	0.37	X				
Colwood loam	0.28	X				
Del Rey silt loam (0-3%)	0.43	X				
Glynwood silt loam, end moraine (2-6%)	0.37	X				
Glynwood silt loam, ground moraine (2-6%)	0.37	X				
Haskins silt loam (0-2%)	0.43	X				
Kendallville silt loam (2-6%)	0.37	X				
Kibbie loam (0-3%)	0.28	X				
Martinsville loam (1-4%)	0.37	X				
Milford silty clay loam	0.24	X				
Patton silty clay loam	0.28	X				
Pewamo silty clay loam (0-1%)	0.24	X				
Roundhead muck	0.49	X				

Table 4: Soil Particle Sizes

Soil Type	% Sand	% Clay	% Silt	% Site Area
Blount silt loam, end moraine (0-2%)	22.0	22.0	56.0	4.0
Blount silt loam, end moraine (2-4%)	22.0	24.0	54.0	1.3
Blount silt loam, ground moraine (0-2%)	22.0	22.0	56.0	11.4
Colwood loam	44.0	15.5	40.5	2.1
Del Rey silt loam (0-3%)	26.3	21.0	52.7	1.4
Glynwood silt loam, end moraine (2-6%)	22.0	24.0	54.0	0.7
Glynwood silt loam, ground moraine (2-6%)	22.0	24.0	54.0	0.5
Haskins silt loam (0-2%)	29.7	16.0	54.3	0.1
Kendallville silt loam (2-6%)	29.7	16.0	54.3	1.1
Kibbie loam (0-3%)	44.3	16.0	39.7	0.4
Martinsville loam (1-4%)	41.0	14.0	45.0	0.9
Milford silty clay loam	18.5	37.5	44.0	0.1
Patton silty clay loam	6.7	31.0	62.3	18.2
Pewamo silty clay loam (0-1%)	15.0	35.0	50.0	29.5
Roundhead muck	7.0	24.0	69.0	19.8

5.0 PROJECT INFORMATION

5.1 Operator(s) (Owner or General Contractor) and Site Contact Information

Table 5: Operator and Contact Information

Operator Contact Information		Site Contact Information	
Company:	Hog Creek Wind Project, LLC	Company:	Hog Creek Wind Project, LLC
Contact Name:	Brian Evans	Contact Name:	Brian Evans
Title:	Executive VP, Development	Title:	Executive VP, Development
Address:	11101 W 120 th Avenue, Suite 400, Broomfield, CO 80021	Address:	11101 W 120 th Avenue, Suite 400, Broomfield, CO 80021
Contact Phone Number:	303-439-4202	Contact Phone Number:	303-439-4202
Contact Email:	brian.evans@res-group.com	Contact Email:	brian.evans@res-group.com

The Owner or Operator Responsibilities (i.e. permittee):

The permittee responsibilities include:

- Development of a SWP3 prior to submittal of the Notice of Intent (NOI).
- Submittal of a complete and accurate NOI and submit the SWP3 if applicable to permit requirements.
- Receive an authorization from the OEPA prior to starting construction activity.
- Ensure the Authorized NOI and SWP3 plan is readily available at the construction site.
- Ensure the project specifications allow or provide development of adequate BMPs to meet requirements of permit.
- Provide indications within this SWP3 for areas of the project where they have control and ability to make modifications.
- Ensure other operators affected by modifications in project specifications are notified in a timely manner to modify their BMPs as necessary for SWP3 compliance. A copy of the SWP3 will be made available as well.
- Ensure the SWP3 indicates the name and site specific NPDES authorization number for operators where applicable.
- A knowledgeable person or persons are performing inspections and documenting the inspections and maintenance activities.

5.2 Project Type and Proposed Conditions

Non-vegetative Cover

Non-vegetative cover on the Hog Creek Wind Project site will include access roads, turbine foundations, an O&M building, a substation, and meteorological towers. Impervious cover will also include the pre-construction agricultural and residential buildings that existed on site.

Vegetative Cover

Post-construction, the Hog Creek Wind Project site will be restored to previous agricultural conditions. Vegetation will include primarily ryegrasses.

Land Use

The proposed land use for this site will include 30 wind turbines and their respective access roads, O&M building, substation, underground collection, and meteorological towers.

5.3 Project Estimates**Table 6: Project Area Estimates**

Estimated Area of Site	Estimated Total Disturbed Area	Impervious Area Pre construction	Impervious Area Post construction	% Impervious Created	Runoff Coefficient Pre Construction	Runoff Coefficient Post Construction
5,492 Acres	295.4 Acres	36.75 Acres	38.70 Acres	0.036	0.3	0.3

5.4 Construction Activity Description

Construction activity should include the installation of 30 wind turbines. Construction of the wind turbines requires, but is not limited to, the installation of a substation, meteorological towers, an operations and maintenance building, a temporary laydown, underground electrical collection, and 16-foot wide gravel access roads with temporary 50 foot wide disturbance due to temporary compacted shoulders (10 feet on each side) for truck transport of materials and crane walking paths. Minor construction activity will be necessary for some existing road and radii. The crane paths are specifically designed to follow access roads to limit disturbance of streams and other sensitive areas such as steep slopes and will be approximately 36 feet wide where located away from access roads. All temporary crane paths should be restored to preconstruction conditions after the use of the paths. The SWP3 shall be amended to show locations and disturbance areas as necessary should locations change during construction.

Project Activity Descriptions

NOTE: All sensitive areas shall be marked prior to start of earth disturbance activities. If any subsurface and/or surface drainage features are altered during construction restore to pre-construction conditions and drainage patterns. Coordinate the work with the Land Owner.

1. Access road construction activity and phasing information:
 - a. Strip and stockpile top soil along one or both sides of the road in a linear berm
 - b. Apply perimeter sediment controls and temporary stabilization of ditch (erosion control blanket or turf reinforcement mat)
 - c. Compact subgrade
 - d. Apply gravel base
 - e. Following turbine erection the soils should be decompacted
 - f. Apply topsoil for non-aggregate areas during final grade
 - g. Apply final gravel cap to road
 - h. Maintain pre-construction drainage patterns and runoff
 - i. If any subsurface and/or surface drainage features are altered during construction, restore to pre-construction condition and drainage patterns
 - j. Return disturbed areas not part of the final road to pre-construction condition.

2. Turning radius and temporary intersections construction activity and phasing information:
 - a. Strip and stockpile top soil
 - b. Install culvert as called for in plan; apply perimeter sediment controls and temporary stabilization of ditch and banks of road (erosion control blanket or turf reinforcement mat)
 - c. Fill with native material to grade
 - d. Apply gravel base
 - e. Following turbine component delivery or turbine erection, the turning radius should be removed by removing gravel and fill soils
 - f. Remove any extra culvert lengths
 - g. Reapply topsoil and final grade
 - h. Apply seed and erosion control blanket, TRM, or mulch cover for restoration to pre-construction condition
3. Turbine Area
 - a. Strip and segregate topsoil; apply topsoil in a soil berm around the down grade perimeter of the turbine pad area
 - b. Install silt fence at the perimeter as necessary and as shown on the plans
 - c. Excavate areas required for the foundation and stockpile the subsoils
 - d. Dewater accumulated ground water or stormwater via pump as necessary, dewatering bag and ensure discharged water does not contribute sedimentation to receiving waters
 - e. Provide temporary stabilization measures (mulch, erosion control blanket and turf re-enforcement mat)
 - f. Temporary cover the stockpiles with hydromulch or other temporary cover BMP for water and wind erosion protection
 - g. Construct concrete washout area or use a common concrete washout during concrete work of mud mat and foundation work
 - h. Back fill subsoils and topsoil with a rough grade
 - i. Grade crane pad turbine erection
 - j. Erect the turbine
 - k. Return disturbed areas not part of the final road to pre-construction condition.
4. Temporary Crane Walk
 - a. Plan crane walks according to unique area conditions where crane walk will occur.
 - b. Walk cranes across waterways/conveyances during dry conditions
 - c. Provide timber mat crossings for grass waterway crossings, swale crossings and other gradual conveyance crossings
 - d. Install down grade perimeter controls such as fiber logs or silt fence to protect conveyances as field conditions dictate
 - e. Provide temporary creek/waterway crossing BMPs according to details shown on plans and explained in this SWP3 narrative.
 - f. Restore all disturbed areas to pre-construction condition following crane walk activity by tilling to agricultural condition or applying necessary mulch/erosion control blanket and seeding to areas for restoration to pre-construction condition.
5. Electrical Underground
 - a. Open trench or plow collection line across fields; if drain tile is encountered locate, repair/restore as necessary.
 - b. Topsoil should be segregated from subsoils unless otherwise agreed upon by the landowner

- c. If required, dewater accumulated ground water or stormwater via pump and dewatering bag, and ensure discharged water does not contribute sedimentation to receiving waters
 - d. If open trenching or plowing through a waterway or conveyance, a perimeter control such as logs, silt fence or rock check should be used for perimeter control. Apply seed and erosion control blanket or mulch to restore grass waterway to pre-construction condition
6. Lay Down Yard
- a. Provide stable accesses to area; install culverts as necessary and according to the plan for the accesses
 - b. Install silt fence and other sediment controls as necessary and as detailed in the plan
 - c. Strip and stockpile topsoil around the up-gradient perimeter of the lay down yard for a diversion of water or downgrade perimeter of the yard for runoff control.
 - d. Apply rock base to designed thickness
 - e. Temporarily cover the stockpiles with hydromulch or wood after seeding with temporary seed mix
 - f. Provide necessary secondary containment, secure storage and maintenance activities during operation
 - g. Remove rock; decompact and reapply topsoil to the area after the lay down yard is no longer needed.
 - h. Return disturbed areas to preconstruction condition which may include applying seed and mulch cover for restoration
7. Met Tower
- a. Strip and stockpile top soil along one or both sides of the access road and tower area in a linear berm
 - b. Apply perimeter sediment controls
 - c. Compact subgrade
 - d. Apply gravel base to tower access
 - e. Following tower erection the soils should be decompacted
 - f. Apply topsoil during final grade
 - g. Apply final gravel cap to tower access
 - h. Maintain pre-construction drainage patterns and runoff
 - i. Return disturbed areas not part of the final road or tower area by applying seed and mulch cover for restoration to pre-construction condition
8. Collector Substation
- a. Provide stable accesses to area; install culverts as necessary and according to the plan for the accesses
 - b. Install silt fence and other sediment controls as necessary and as detailed in the plan
 - c. Strip and stockpile topsoil around the up-gradient perimeter for a diversion of water or downgrade perimeter of the substation for runoff control
 - d. Apply rock base to designed thickness
 - e. Temporarily cover the stockpiles with hydromulch or wood mulch after seeding with temporary seed mix
 - f. Concrete washout area needed prior to concrete work
 - g. Construction of electrical components and fencing
 - h. Return disturbed areas not part of the final gravel pad to agricultural condition or apply seed and mulch cover for restoration to preconstruction condition.

9. Operation and Maintenance Facility
 - a. Provide stable accesses to area; install culverts as necessary and according to the plan for the accesses
 - b. Install silt fence and other sediment controls as necessary and as detailed in the plan
 - c. Strip and stockpile topsoil around the up-gradient perimeter for a diversion of water or downgrade perimeter of the area for runoff control
 - d. Temporarily cover the stockpiles with hydromulch or straw mulch after seeding with temporary seed mix
 - e. Concrete washout area needed prior to concrete work
 - f. Concrete work and building construction
 - g. Apply rock base to designed thickness
 - h. Apply rock base for parking areas as designed
 - i. Provide mulch and seed or blanket and seed following final grade

5.5 Construction Activity Sequence and Estimated Dates

Table 7: Project Schedule

Activity	Start Date	End Date
Permitted Project Activity	12/01/2016	06/01/2017
Roads		
Laydown		
Crane Paths / Turbine Erection		
Excavations and Foundations		
Operations and Maintenance Building		
Substation		
Underground Collection		

5.6 Project Phasing

The Hog Creek Wind Project will be completed in one phase of grading and one phase of utilities. Sequencing of construction activity will minimize the amount of disturbance at any given time.

5.7 Stormwater Team and Project Contacts
Table 8: Stormwater Team and Project Contacts

Company*	Name or Position	Responsibility	Contact Number
		Site Development	
		Dirt Work / Grading / Turbine / Cranes / Excavation	
		Underground Electrical	
		Overhead Electrical	
		Met Towers	
		Substation	
		O&M Facility	
		Laydown / Batch Plant	
		Project Environmental Contact	
		Routine SWP3 Inspections	
Westwood Professional Services	Aaron Mlynek, CPESC	SWP3 development	952-697-5710
		Restoration	
		BMP installation	
		BMP Maintenance	

***All contractors and subcontractors identified above should sign a copy of the Certification Statement in Attachment G.**

6.0 ENDANGERED SPECIES AND HISTORICAL PROPERTIES

6.1 Endangered or Threatened Species

Previous wildlife surveys included Christmas Bird Count Data, Breeding Bird Survey Data, Natural Heritage Database Search, Diurnal Bird/Raptor Migration Survey, Avian Survey, and Northern Harrier Nesting Surveys. It was found that the proposed site poses a minimum threat to the wildlife resources of the area. See attachment section H for applicable documentation.

6.2 Historical Property Preservation

Previous historical and architectural investigations of the Hog Creek Wind Project site included the surveying of any structures older than 50 years, the completion of Ohio Historic Inventory forms, the review of properties with high levels of integrity not previously surveyed, and a literature review of previously inventoried structures with a 5 mile radius. It was concluded that no additional surveys are required for this site. See attachment section H for applicable documentation.

7.0 RECEIVING WATERS

The table below summarizes the immediate receiving waters from the site. Where necessary the receiving waters has been designated immediate (for the first surface water receiving drainage from the site) and ultimate (for the surface water receiving runoff from site after the immediate receiving waters). The receiving waters listed are located within a mile, and receive water from the site discharge location(s).

The Hog Creek Wind Project site drains generally to the west via overland flow and field conveyances. Refer to Attachment D for drainage maps.

Table 9: Receiving Waters

Name of Receiving Waterbody	Immediate (I) or Ultimate (U)	Type (wetland, lake, stream, ditch)	Impaired? Y/N	Approved TMDL?	Drains to or Through an MS4?
Unnamed Tributary to Upper Hog Creek	I	Stream	N	N	N
Unnamed Tributary to Middle Hog Creek	I	Stream	N	N	N
Unnamed Tributary to Upper Eagle Creek	I	Stream	N	N	N
Unnamed Tributary to Outlet-Blanchard River	I	Stream	N	N	N
Unnamed Wetland	I	Wetland	N	N	N
Upper Hog Creek	I	Stream	N	N	N
Middle Hog Creek	I	Stream	N	N	N
Lower Hog Creek	U	Stream	Y	Y	N
Lower Eagle Creek	U	Stream	Y	Y	N
Upper Eagle Creek	U	Stream	Y	Y	N
Outlet-Blanchard River	U	Stream	Y	Y	N
Ripley Run-Blanchard River	U	Stream	Y	Y	N

7.1 Impaired and/or TMDL Waters

According to the OEPA website: <http://www.epa.ohio.gov/dsw/tmdl/OhioIntegratedReport.aspx#156069519-report> (accessed 10/06/2016). Blanchard River is impaired for habitat alteration, flow alteration, temperature, organic enrichment, nutrient enrichment, nitrate/nitrite, phosphorus, low dissolved oxygen, ammonia, and pathogens. Eagle Creek is impaired for habitat alteration, flow alteration, temperature, organic enrichment, nutrient enrichment, nitrate/nitrite, phosphorus, siltation, ammonia, and pathogens. Lower Hog Creek is impaired for nutrients, nutrient/eutrophication biological indicators, sedimentation/siltation, and bacteria. However, the site discharge location distances to these impaired waterbodies prevents any construction related activities from affecting these impairments.

7.2 404/401 Permit Applicability

Construction related activities will be authorized under NW12 and have proven to be consistent with state certification as long as any temporary fill is removed within three months' time and stockpiles do not remain in place more than 45 days unless stabilization. See Attachment B for permits and correspondence.

8.0 STORMWATER MANAGEMENT

8.1 Temporary Practices

There are no anticipated temporary stormwater management practices at the time of SWP3 completion due to no contiguous 10 acre drainage areas discharging to a common point or other temporary sediment traps.

Calculations

Calculations are not applicable to this project as there are no temporary stormwater management practices requiring calculations.

Table 10: Temporary Sediment Basin Calculations (Not Applicable)

Basin #	Storm Frequency	Rainfall Amount	Runoff Area	Runoff Volume	Capacity Needed
1	2 yr. / 24 hr.	in.	Acres	ac ft.	ac ft.
2	2 yr. / 24 hr.	in.	Acres	ac ft.	ac ft.
3	2 yr. / 24 hr.	in.	Acres	ac ft.	ac ft.

8.2 Permanent Practices

There are no permanent stormwater practices anticipated for the project activity at the time of this report.

Calculations

Calculations are not applicable to this project as there are no permanent stormwater management practices requiring calculations.

9.0 TEMPORARY AND PERMANENT BMPs

9.1 Soil Management and Compaction Minimization

After clearing and grubbing, the operator(s) should strip and stockpile topsoil material for reapplication on all future permanent pervious surface areas. During development, grading and utility construction the subsoils will be compacted as necessary for construction using typical excavation techniques. During final grade, reapplication of the preserved top soil should be completed by a wide-pad dozer and other equipment to minimize compaction of the top soil material. The operator(s) should restrict vehicle and equipment use to avoid soil compaction where feasible; or techniques such as ripping the soil for decompaction should be completed following topsoil placement and prior to reseeding or other restoration activity.

9.2 Natural Buffers and No Disturbance Areas

Natural Buffers

An undisturbed buffer zone should be preserved for any existing wetlands or streams on site. The use of linear sediment controls will be installed upgrade to provide sediment control and delineate the foot buffer. Refer to the site erosion and sediment control plan for the location of the buffer. The following activities are prohibited to take place within the buffer area:

- Placement of stockpiles and / or sediment basins
- Vegetation disturbance
- Placement of construction material
- Storage of gas, oils, other potential pollutant material

No Disturbance Areas

See engineering plans for applicable no disturbance limits.

9.3 Erosion Prevention Practices

The following controls are anticipated to minimize soil loss from the construction site area. The controls should help to minimize soil from being transported from water and wind as well as aide in establishment of temporary and permanent vegetation. Prior to grading and during clearing and grubbing, the areas of vegetation preservation, buffers and other areas of no disturbance should be flagged, staked or otherwise delineated.

Soil Stabilization Timing

Temporary or permanent erosion prevention practices should be initiated immediately (end of the same working day) after construction activity disturbing soil is anticipated to temporarily or permanently ceased within the timeframes listed below.

Table 11: Temporary and Permanent Stabilization Timeframes

Permanent Stabilization	
Area Requiring Permanent Stabilization	Time Frame to Apply Erosion Controls
Area(s) that will lie dormant for one year or more	Within 7 days of most recent disturbance
Area(s) within 50 feet of a surface water, at final grade	Within 2 days of reaching final grade
Any other areas at final grade	Within 7 days of reaching final grade in that area
Temporary Stabilization	
Area Requiring Permanent Stabilization	Time Frame to Apply Erosion Controls
Area(s) within 50 feet of a surface water, not at final grade, will remain idle for 14 days or more	Within 2 days of most recent disturbance
Areas(s) not within 50 feet of a surface water, not at final grade, will remain idle 14 days \geq 1 year	Within 7 days of most recent disturbance
Area(s) that will remain idle over the winter	Prior to onset of winter weather

Where vegetative stabilization techniques may cause structural instability, or are otherwise unobtainable, alternative stabilization techniques must be employed.

9.4 Records for Grading and Stabilization Activity Dates

The contractor and/or site inspectors should update the following three tables in this section as information becomes known.

Table 12: Date of Major Grading Activities

Grading Activity	Location of Activity	Dates Scheduled	
		Start Date:	End Date:
		Start Date:	End Date:
		Start Date:	End Date:
		Start Date:	End Date:
		Start Date:	End Date:

Table 13: Dates When Construction Activity Ceases

Location on Site	Dates Activity Ceased	Temporary or Permanently?	
		<input type="checkbox"/> Temporary	<input type="checkbox"/> Permanent
		<input type="checkbox"/> Temporary	<input type="checkbox"/> Permanent
		<input type="checkbox"/> Temporary	<input type="checkbox"/> Permanent
		<input type="checkbox"/> Temporary	<input type="checkbox"/> Permanent
		<input type="checkbox"/> Temporary	<input type="checkbox"/> Permanent

Table 14: Stabilization Practices, Locations and Dates

Stabilization BMPs	Location on Site	Implementation Date	Temporary or Permanent?
			<input type="checkbox"/> Temporary <input type="checkbox"/> Permanent
			<input type="checkbox"/> Temporary <input type="checkbox"/> Permanent
			<input type="checkbox"/> Temporary <input type="checkbox"/> Permanent
			<input type="checkbox"/> Temporary <input type="checkbox"/> Permanent
			<input type="checkbox"/> Temporary <input type="checkbox"/> Permanent

Table 15: Erosion Controls

Potential BMPs	Construction Phase or Activity								Application Notes
	Temp Laydown	Access Roads	Turbine Pads / Erection	UG Collection	Temp Crane Paths	Met. Towers	Collector Substation	O&M Facility	
Construction Phasing	T	T	T	T	T	T	T	T	Minimize soil disturbance, as feasible, per phase. Stake/flag areas that are to be left undisturbed .
Buffer Strips	T	T	T	T	T	T	T	T	See Section 9.2 for more information.
Erosion Control Blanket	T	T	T	T	T	T	T	T	Blanket (biodegradable netting). Install per manufacturer's recommendations.
Hydroseed	T	T	T	T	T	T	T	T	Apply at a minimum of 1,800 pounds per acre from 2 directions to prevent shadowing. Could use in lieu of mulch.
Temporary Seed Mix	T	T	T	T	T	T	T	T	Application Rate = See mix.
Permanent Seed Mix	P	P	P	P	P	P	P	P	Application Rate = See mix.

Prepare soil prior to seeding. Broadcast and rake seed into soil prior to mulch or blanket.

T= Temporary BMPs which will be removed following construction completion and final stabilization.

P= Permanent BMPs which will provide vegetative, nonvegetative stabilization or will not be removed following completion of construction.

Temporary Seed Mixes

Seeding Dates	Species	Lb./1000 ft ²	Lb/Acre
March 1 to August 15	Oats	3	128 (4 Bushel)
	Tall Fescue	1	40
	Annual Ryegrass	1	40
	Perennial Ryegrass	1	40
	Tall Fescue	1	40
	Annual Ryegrass	1	40
	Annual Ryegrass	1.25	55
	Perennial Ryegrass	3.25	142
	Creeping Red Fescue	0.4	17
	Kentucky Bluegrass	0.4	17
August 16th to November	Oats	3	128 (3 bushel)
	Tall Fescue	1	40
	Annual Ryegrass	1	40
	Rye	3	112 (2 bushel)
	Tall Fescue	1	40
	Annual Ryegrass	1	40
	Wheat	3	120 (2 bushel)
	Tall Fescue	1	40
	Annual Ryegrass	1	40
	Perennial Rye	1	40
	Tall Fescue	1	40
	Annual Ryegrass	1	40
	Annual Ryegrass	1.25	40
	Perennial Ryegrass	3.25	40
	Creeping Red Fescue	0.4	40
	Kentucky Bluegrass	0.4	40
November 1 to Feb. 29	Use mulch only or dormant seeding		

Permanent Seed Mixes

Seed Mix	Seeding Rate		Notes:
	Lbs./acre	Lbs./1,000 Sq. Feet	
General Use			
Creeping Red Fescue	20-40	1/2-1	For close mowing & for waterways with <2.0 ft/sec velocity
Domestic Ryegrass	10-20	1/4-1/2	
Kentucky Bluegrass	20-40	1/2-1	
Tall Fescue	40-50	1-1 1/4	
Turf-type (dwarf) Fescue	90	2 1/4	
Steep Banks or Cut Slopes			
Tall Fescue	40-50	1-1 1/4	
Crown Vetch	10-20	1/4-1/2	Do not seed later than August
Tall Fescue	20-30	1/2-3/4	
Flat Pea	20-25	1/2-3/4	Do not seed later than August
Tall Fescue	20-30	1/2-3/4	
Road Ditches and Swales			
Tall Fescue	40-50	1-1 1/4	
Turf-type (Dwarf) Fescue	90	2 1/4	
Kentucky Bluegrass	5	0.1	
Lawns			
Kentucky Bluegrass	100-120	2	
Perennial Ryegrass		2	
Kentucky Bluegrass	100-120	2	For shaded areas
Creeping Red Fescue		1-1/2	

9.5 Sediment Control Practices

The following controls are anticipated to minimize sediment discharge, capture sediment in suspension and minimize sedimentation offsite.

Table 16: Sediment Controls

Potential BMPs	Construction Phase or Activity								Application Notes
	Temp Laydown	Access Roads	Turbine Pads / Erection	UG Collection	Temp Crane Paths	Met. Towers	Collector Substation	O&M Facility	
Silt fence	T	T	T	T	T	T	T	T	Machine sliced install w/ wood posts at 6' spacing. Install perimeter sf prior to grading
Fiber rolls	T	T	T	T	T	T	T	T	Install on contour, minimum of 6" roll, wood or straw fiber. Secure with 2" posts every 2' on center.
Topsoil Berms	T	T	T	T	T	T	T	T	Side slopes of 3:1 with at least 1' height. Use temporary erosion control to stabilize berm..
Stockpiles	T	T	T	T	T	T	T	T	Stockpile location to be determined in the field. No fill should be placed in the ditches, surface waters, or wetlands.

T= Temporary BMPs which will be removed following construction completion and final stabilization.

P= Permanent BMPs which will provide vegetative, nonvegetative stabilization or will not be removed following completion of construction.

9.6 Run-on and Runoff Controls

The following controls are anticipated to minimize scour, transport water across or down steep slopes or critical areas, divert clean water, and / or provide temporary conveyances to maintain drainage.

Table 17: Run-on and Runoff Controls

Potential BMPs	Construction Phase or Activity								Application Notes
	Temp Laydown	Access Roads	Turbine Pads / Erection	UG Collection	Temp Crane Paths	Met. Towers	Collector Substation	O&M Facility	
Ditch Check	T	T	T	T	T	T	T	T	Ditch checks to be installed as needed.

T= Temporary BMPs which will be removed following construction completion and final stabilization.

P= Permanent BMPs which will provide vegetative, nonvegetative stabilization or will not be removed following completion of construction.

9.7 Tracking Controls

The following controls are anticipated to minimize or prevent sediment track-out from construction site exits to paved surfaces or to retrieve material tracked onto paved surfaces to minimize or prevent the material from being washed into surface waters or storm water inlets.

Table 18: Tracking Controls

Potential BMPs	Construction Phase or Activity								Application Notes
	Temp Laydown	Access Roads	Turbine Pads / Erection	UG Collection	Temp Crane Paths	Met. Towers	Collector Substation	O&M Facility	
Rock Pad	T	T	T	T	T	T	T	T	See detail in plans. Install at all site exits prior to grading. Maintain for duration of project.
Street Scraping	T	T	T	T	T	T	T	T	Scrape large clumps/amounts of material with soft tracked or wheeled equipment prior to sweeping.
Street Sweeping	T	T	T	T	T	T	T	T	Sweep paved surfaces within 24 hours of discovery.

T= Temporary BMPs which will be removed following construction completion and final stabilization.

P= Permanent BMPs which will provide vegetative, nonvegetative stabilization or will not be removed following completion of construction.

9.8 Dewatering and Basin Draining Practices

Dewatering of turbid water (water that is visibly cloudy or brown in color) should be discharged via pump and hose or overland flow (via temporary ditch or grade cuts) to a temporary sediment basin for pretreatment. The use of riprap apron (energy dissipation) should be used for the discharge location. If riprap is not used, an alternative form of energy dissipation should be used to prevent scour and re-suspension of soil at the discharge point of the hose. If discharge to a temporary sediment basin is not feasible, the use of dewatering dumpsters, dewatering bags or other prefabricated product should be used.

The use of rock checks, erosion control blanket and sumps or traps shall be considered for overland flow dewatering. After the use of BMPs, the water could be discharged through a vegetated buffer and energy dissipation. The discharge of water from the site should be visibly clear in appearance.

The discharge of accumulated water should not:

- Contain oil, grease, a sheen, odor, or concrete washout (use an oil-water separator or suitable filtration device if material is found);
- Adversely impact adjacent properties with water or sediment;
- Adversely impact waters of the state;
- Cause erosion of slopes and channels;
- Cause nuisance conditions ;
- Contribute to inundation of wetlands which negatively impact the wetlands.

10.0 POLLUTION PREVENTION MANAGEMENT

Potential pollutant sources including construction and waste materials that are used or stored at the site are described below. Upon proper implementation of the BMP's potential pollutant sources are not reasonably expected to affect the storm water discharges from the site. Construction materials and chemicals used or stored on-site should be kept in small quantities whenever possible. Materials shall only be stored in non-sensitive areas and not in close proximity to watercourses, wetlands or floodplains.

A spill prevention, control and countermeasure plan (SPCC) may be needed if materials or tanks present on site contain more than, or have the ability to contain more than, 1,320 gallons of petroleum products. When not in use, petroleum products should be stored in sealed containers and out of contact with the elements to prevent direct contact with stormwater. Inadvertent spills should be cleaned up immediately upon discovery and the materials should be disposed of in accordance with local, state and federal requirements. Contractors should have spill kits available on site for rapid deployment to contain and cleanup spills.

Table 19: Potential Pollutants List

Potential Pollutant	Location	Control Measure*
Antifreeze	Vehicle/Equipment	S.C./Drip pan
Diesel Fuel	Vehicle/Equipment/Fuel Tank	S.C./Drip pan
Gasoline	Vehicle/Equipment/Fuel Tank	S.C./Drip pan
Hydraulic Oils/Fluids	Vehicle/Equipment	S.C./Drip pan
Grease	Vehicle/Equipment	S.C./Drip pan
Sanitary Waste Restrooms	Portable	Service Provider To Secure Units From Tipping
Trash And Construction Debris	Various	Dumpster
Paints	Contractor	S.C. and secure/covered storage.
Glue/Adhesives/Curing Compounds	Contractor	S.C. and secure/covered storage.
Soil Amendments	Various	S.C. and secure/covered storage.
Landscaping Materials Fertilizer	Various	S.C. and secure/covered storage.
Concrete Mortar	Mobile Mixer	S.C./Washout Area and secure/covered storage
Concrete	Trucks/Washout	Washout Area/S.C.
Bentonite	Directional Boring/Utility Contractor	S.C./Sump area
Sediment	Exposed soils: Disturbed Areas	Sediment, Erosion, Tracking, and Runoff Controls

*S.C. refers to secure secondary containment unit or area.

10.1 Storage, Handling and Disposal of Construction Materials

Storage and Handling

- All products shall be kept in their original container, with original labels still attached, unless the container is not re-sealable.
- Hazardous materials shall be returned to the hazardous material storage area at the end of each day.
- An effort should be made to store only enough products to do the required job.
- The contractor shall provide tanks or barrels to collect liquid byproducts that pose a pollution hazard.
- The pollutants shall be removed from the site on a weekly basis and disposed of in accordance with federal, state and local regulations.
- All spills shall be cleaned up immediately after discovery, in accordance with the manufacture's recommended methods.
- Hazardous materials shall be properly stored to prevent vandalism or unauthorized access.
- Containment units shall be installed in accordance with federal, state, and local regulations.
- No hazardous material shall be stored within 200 feet of an identified special or critical area.
- If building materials, chemicals, or general refuse is being used, stored, disposed of, or otherwise managed inappropriately, the contractor shall correct such defects within 24 hours of detection or notification.

Disposal (Dumpsters)

- Locate dumpsters away from watercourses, streams, creeks and other surface waters or conveyances.
- Site inspector shall regularly observe for and report excess litter and solid waste and request pickup and retrieval of wastes.
- Wastes, litter, debris shall be deposited into dumpsters in a central location and / or in various satellite locations where work is active.
- Dumpsters should be supplied by and regularly maintained, emptied and removed by a waste management company.

10.2 Fueling and Maintenance of Equipment and Vehicles; Spill Response

- Routine maintenance of vehicles shall occur in staging areas only if necessary.
- Maintenance of equipment and vehicles should be avoided and done off site where feasible.
- If fueling is done by mobile tank and dispenser, the transfer of fuel should be done under close supervision and there should be drip pans and spill containment and cleanup materials readily available.
- If fueling is done via temporary tank: the tank should be stored within a bermed area and away from surface waters.
- Spill kits with absorbent materials shall be available on site for use in cleaning up small spills.
- In the event of a spill or discharge of hazardous material of reportable quantity, contact the Ohio Environmental Protection Agency at 1-800-282-9378 and the National Response Center within 24 hours of the spill at 800-424-8802. For more information reference the following website: <http://epa.ohio.gov/derr/ersis/er/er.aspx> and the online reporting tool for the NRC at:

<http://www.nrc.uscg.mil/>. If the table below does not cover your situation, reference the 40 CFR 117 and 40 CFR 302 regulations.

Table 20: Reportable Spill Quantities

Material	Where Discharged	Reportable Spill Quantities
Petroleum Material	Land	25 Gallons
Petroleum Material	Water	Enough to create a shine
Other Material that will cause pollution if discharged to waters	Water	Any amount

10.3 Vehicle and Equipment Washing

If necessary, the contractor shall develop a designated wash area with basin containment to prevent the untreated water from discharging from the site to surface waters. BMPs include: temporary basins, inspecting the vehicles and equipment for leaks prior to washing and prohibiting washing activity until discovered leaks are repaired and maintenance is completed of the equipment or vehicle. The area shall be noted on the site plan. The water shall be contained and pumped from the site into a truck for proper disposal at a waste water facility. No engine degreasing shall be done on site.

10.4 Concrete Washout and Other Washout

The direct discharge of concrete truck washout water to surface waters in the state, including storm sewers and other stormwater treatment facilities shall not occur. The following categories provide potential BMPs for the operator(s) to implement to avoid washout waters from impacting receiving waters.

Mobile Concrete or Mortar Mixers

The following BMPs should be considered with the use of mortar or concrete mixers:

- Store bags of concrete and mortar in dry storage.
- Position mixers 100 feet from the nearest watercourse or conveyance.
- If mixers must be positioned closer than 100 feet from a conveyance and temporary berm shall be installed to prevent runoff from the mixer from flowing into the conveyance.
- Use tarp or plastic sheeting as a liner to prevent concrete or mortar from contacting the soil.
- Use buckets to contain washout / rinse water when cleaning the mobile mixer.
- Dump buckets of washout water in a designated concrete washout area.

Concrete Washout

The following BMPs and considerations should be implemented for concrete washout areas:

- Washout water from the tools, equipment and the chutes of concrete trucks, mobile mixers or other containers with concrete material must be contained and not allowed to be discharged into waters of the state or drain onto adjacent properties.
- The washout area should be a defined area with signage notifying the contractors of the location and use.
- The washout area should be a sufficient size to contain the expected washout material. 10'x10'x3' area should suffice for most activities.
- Multiple washout areas may be needed. Locations of the washouts should be noted on the construction plans by the contractor.

- When noting the location of the concrete washout areas, include the date of install, date of last maintenance and date of removal.
- The use of thick poly sheeting should be used to prevent contamination of the soil and prevent infiltration of the washout material.

Once the material is hardened it can be disposed of in a dumpster. If the material is water or not hardened, the material should be vacuumed and hauled off site to be properly disposed of or recycled at a facility. Some sites will not need the separate washout area if a truck chute washout is available from the concrete supplier.

Truck Chute Washout

Where available, all trucks with self-contained washout and water recycle systems must be used for every truck chute, tool and equipment rinse and washout. The truck should be positioned in a flat area away from inlets and surface waters where feasible. The washout of trucks during rain events should be minimized.

10.5 Portable Sanitary Facilities

All temporary portable sanitary facilities should be managed and maintained with at least the following items considered:

- Locate facilities away from watercourses, streams, creeks and other surface waters or conveyances.
- Facilities should be placed updrift from perimeter sediment controls and not on paved or other impervious surfaces.
- Secure facilities to the soil with stakes or tether to other non-movable structure to prevent tipping from wind or other factors. If staking or tethering is not feasible; position facilities in a secure location to prevent tipping or from being knocked over by equipment, people or wind.
- Schedule routine and regular cleanout and maintenance of facility from a reliable company.

10.6 Potential Non-stormwater Pollutant Sources and BMPs

Non-storm water discharges shall be eliminated or reduced to the extent feasible, with the exception of those necessary for the completion of certain construction activities. A list of allowable non-stormwater discharges include the items below.

Table 21: Non-stormwater Discharges and Potential BMPs

Type of Allowable Non-Stormwater Discharge	Likely to be Present at Site?
Fire hydrant flushings	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Potable water including uncontaminated water line flushings	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Discharges from Emergency fire-fighting activities	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Street or building rinsing (no cleansers, detergents, solvents or additives)	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Waters used to wash vehicles and/or equipment	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Uncontaminated, non-turbid discharges of ground water or spring water	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Discharges from emergency fire-fighting activities	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Water used to control dust	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Uncontaminated air conditioning or compressor condensate	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Landscape irrigation and water to establish vegetation	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Foundation or footing drains (no contamination with solvents or contaminated groundwater)	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Construction dewatering water (Uncontaminated)	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

These authorized non-storm water discharges should be conducted in accordance with the requirements of the Construction General Permit (CGP), and every effort should be made to minimize non-storm water runoff from these site activities.

The operators are responsible to implement the following BMPs and management for non-stormwater discharges.

Potable Water Including Water Line Flushing: The flushing of well water for potable water supply during the installation may be necessary. The water should be flushed via hose or pipe and include energy dissipation at the discharge point to limit scour and erosion. The water shall be discharged via vegetated swale or other non-erosive means to a conveyance for discharge off site.

Waters Used to Wash Vehicles, Buildings, Structures and Pavement (without detergents): Should washing be necessary to remove soil, mud, dirt and / or dust will likely be needed, the washing of components consists of using high powered sprayers with water could be used to clean off accumulated soil and earth materials. The washing should take place within a defined area. Existing BMPs and infiltration will likely control associated water and runoff due to the washing activity. If existing BMPs are overloaded or not functional maintenance or additional perimeter controls (such as silt fence) may be needed at the discretion of the inspector.

Water used for Dust Control: This is not anticipated to be a contamination / pollution issue. During the dry times when dust control is needed the minimal amount of water is anticipated to be absorbed into the soil. If any runoff does occur, the standard BMP's (such as silt fence, mulch and erosion control blanket, inlet controls and stormwater traps) should adequately control the runoff from reaching off site surface waters.

Uncontaminated Excavation Dewatering: Clean water should be discharged to a vegetated area, ditches or other conveyance via hose. Energy dissipation should be applied to the discharge location to minimize scour. Alternatively, uncontaminated water could be discharged to receiving waters as allowed by local permits and regulations or as long as positive drainage is provided, the water could be discharged into the surrounding areas and allowed to infiltrate or drain along existing drainage patterns provided that the water does not cause flooding, prolonged or damaging inundation, or vegetation damage.

Pavement wash waters (no spills or leaks or detergent use):

The use of pavement wash waters should not contribute to sediment discharge, transport or contain runoff contaminated by leaks or spills of hazardous materials. Wash water should be used sparingly and minimize amount used which would result in runoff occurring. Should runoff occur, the typical sediment and erosion control BMPs should be employed to prevent the water from leaving the site as feasible.

Foundation or Footing Drains (no contamination with solvents or contaminated groundwater)

See SWP3 section 9.8 for BMPs and dewatering methods.

Construction dewatering water (Uncontaminated)

See SWP3 section 9.8 for BMPs and dewatering methods.

11.0 INSPECTION, MAINTENANCE AND CORRECTIVE ACTIONS

Construction activity and all support activities must be inspected (using the inspection form found in Attachment G or an alternative form) within the parameters of the schedules below. The inspector shall be a qualified person knowledgeable with the requirements of this SWP3 and the OEPA NPDES General Permit OHC000004 as well as familiar with the construction site. This person is delegated by the owner and listed in Section 5.7 and could be the qualified person or their delegate.

Scope of inspections* should include:

- Date and time of inspections
- Inspector name
- Observations of disturbed areas and findings of the observations
- Locations of corrective actions needed and where BMPs need maintenance
- Locations where BMPs have failed or proved inadequate for their location
- Locations where additional BMPs are needed
- Locations where vehicles are exiting the site for evidence of offsite tracking
- Waste and storage areas
- Corrective actions taken (date / time / who)
- Date and amount of rainfall**
- Observed discharges
- Locations of discharges of sediment or other pollutants
- Describe discharge with color, odor, floating, settled, solids, foam, oil sheen)
- Photograph discharges
- Amendments from inspections need to be completed within 7 days (see SWP3 section 3.1)
- Signature of the inspector

*All inspections should be documented within 24 hours after completing the field inspection and available in paper or electronic form on site. If the inspection does not have incidents of non-compliance the report should contain a certification that the site is in compliance with the SWP3 and CGP.

**Rainfall amounts should be taken from an onsite rain gauge. If a rain gauge is not feasible, the rainfall data should be observed from the following website:

<http://forecast.weather.gov/MapClick.php?lat=40.789219253000454&lon=-83.64325973699965#.WBN3Xy0rLmE>

11.1 Inspection Schedule**Table 22: Inspection Schedule**

If the site is:	Then an inspection is needed:	Notes and Information
Active	Once every 7 calendar days and within 24 hours of a rainfall equal to or exceeding 0.5".	A rain gauge should be used or rain data should be taken from the link listed above.
Temporarily stabilized but active in other areas	Once per month for the temporary stabilized areas with no construction activity occurring and once every 7 days for the active areas.	Stabilized areas include areas which are mulched / seeded, erosion control blanket and seed or hydromulch and seed is applied.
Final stabilized areas with other areas active or temporarily stabilized	Inspections can cease for the final stabilized areas with no construction activity occurring and once every 7 days for the active areas and once per month for temporary stabilized areas.	Final stabilization includes grass establishment or non-vegetative erosion control which is perennial and permanent. The area of "final stabilization" must be noted in section 9.4 above.
Frozen Site Conditions	During frozen conditions where no construction activity is occurring the inspections can cease.	The start and end date of frozen conditions must be noted in section 9.4 above or in inspection reports to define the period where inspections were not conducted.

11.2 Maintenance Schedule**Table 23: Maintenance Schedule**

BMP	Observed Condition for Maintenance	Maintenance Interval
All non-functional BMPs	Sediment overtopping, under water, scoured ends, undermined, destroyed, non-functional as designed, intentionally removed, and ran over by vehicles.	Maintenance or replacement should be done within 3 calendar days after discovery or notification, or as soon as field conditions allow prior to the next anticipated storm event.
Perimeter Sediment Control (silt fence, fiber logs, berms, etc.)	½ full of sediment, flattened to ½ height,	Removal/cleanout of accumulated sediment and deltas to be completed within 3 days or prior to next rainfall; whichever is soonest.
Inlet protection BMPs, conveyances, surface waters	Sediment deposition, sediment deltas and accumulation of sediment material.	Removal/cleanout of accumulated sediment and deltas to be completed within 3 days or prior to next rainfall; whichever is soonest. Stabilize as needed if soils are exposed during removal/cleanout.
Temp sedimentation basins and traps; permanent sediment basins	Sediment deposition and accumulation to ½ of the storage volume.	Cleanout, remove accumulated sediment material within 10 days of observation, or as field conditions allow access prior to the next anticipated storm event.
Site exit locations, rock exit pads, other anti-tracking practices	Accumulated sediment in rock or other anti-tracking BMP, tracking of sediment from the site onto paved surfaces	Top dress rock, maintain rock exit or other anti-tracking controls: to be completed within 3 days or prior to next rainfall; whichever is soonest Scrap paved surfaces, sweep paved surfaces by end of the same working day after discovery or notification and prior to the next anticipated rain event as necessary.
Paved surfaces; adjacent streets	Tracked sediment and soil material from the site hauling or access	Sweep within by end of the same working day after discovery or notification, or as soon as field conditions allow; additional and/or more frequent sweeping may be needed to maintain public safety or prevent washing from forecasted rains.

12.0 FINAL STABILIZATION

Final stabilization is achieved for the project when permanent erosion control BMPs are applied and functioning on the site. The permanent erosion control BMPs may be a combination of vegetative and non-vegetative cover types. Additional requirements to achieving final stabilization include:

- All soil disturbing activity is completed
- Permanent stormwater treatment system (if required) is constructed and accumulated sediment has been removed from construction activity.
- All temporary, synthetic BMPs have been removed from the site.
- In agricultural areas (as applicable), the construction activity area has been restored to the preconstruction agricultural use.
- The vegetative cover for the site is at a density, with a uniform (without large bare areas) perennial cover of 70% of the preconstruction conditions.

13.0 NOTICE OF TERMINATION

Authorization to discharge under the NPDES permit is terminated at midnight on the day the NOT is postmarked for delivery to the OEPA or upon confirmation of receipt from the OEPA on the day the NOT is submitted. The project permit may be terminated in one of the following scenarios:

1. All construction activity is complete for portions of the site that are the responsibility of the operator / permittee, temporary synthetic BMPs are removed, accumulated sediment from construction is removed, and final stabilization is completed with vegetative and / or non-vegetative cover. The Notice of Termination form from the OEPA should be completed within 45 days of meeting the conditions above. OR;
2. Another operator has assumed control over all areas of the site that have not been finally stabilized. OR;
3. Where the project obtained permit coverage but never started construction activity due to cancellation or other reasons. Documentation should be sent to the OEPA with the NOT form and is subject to OEPA approval.

14.0 RECORD RETENTION

14.1 During construction

This report, amendments and attachments, inspections, and maintenance records should be kept on site during normal business hours. The records should be kept by the operator listed on the permit application. The records should be in a mailbox, in a vehicle or in an on-site office trailer.

14.2 Post Construction / Notice of Termination (NOT)

The site operator must retain all the following records for a period of at least three years after the submittal of the NOT.

- The final SWP3 with all field notes / amendments;
- All reports and actions required by the NPDES permit, including a copy of the construction site notice;
- All data used to complete the NOI;
- Inspection and maintenance records;
- All forms and clearance letters or correspondence from COE, ODNR or other agencies.
- A copy of the NOT submitted to the OEPA.

Attachment A

OHC000004 Construction General Permit

OHIO E.P.A.

APR 11 2013

ENTERED DIRECTOR'S JOURNAL

Issuance Date: April 11, 2013

Effective Date: April 21, 2013

Expiration Date: April 20, 2018

OHIO ENVIRONMENTAL PROTECTION AGENCY

**GENERAL PERMIT AUTHORIZATION FOR STORM WATER DISCHARGES ASSOCIATED
WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT
DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the federal Water Pollution Control Act, as amended (33 U.S.C. Section 1251 et. seq. hereafter referred to as "the Act") and the Ohio Water Pollution Control Act [Ohio Revised Code ("ORC") Chapter 6111], dischargers of storm water from sites where construction activity is being conducted, as defined in Part I.B of this permit, are authorized by the Ohio Environmental Protection Agency, hereafter referred to as "Ohio EPA," to discharge from the outfalls at the sites and to the receiving surface waters of the state identified in their Notice of Intent ("NOI") application form on file with Ohio EPA in accordance with the conditions specified in Parts I through VII of this permit.

It has been determined that a lowering of water quality of various waters of the state associated with granting coverage under this permit is necessary to accommodate important social and economic development in the state of Ohio. In accordance with OAC 3745-1-05, this decision was reached only after examining a series of technical alternatives, reviewing social and economic issues related to the degradation, and considering all public and intergovernmental comments received concerning the proposal.

This permit is conditioned upon payment of applicable fees, submittal of a complete NOI application form and written approval of coverage from the director of Ohio EPA in accordance with Ohio Administrative Code ("OAC") Rule 3745-38-02.



Scott J. Nally
Director

**I certify this to be a true and accurate copy of the
official documents as filed in the records of the Ohio
Environmental Protection Agency.**

By: Jonh Kasser Date: 4-11-13

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PART I. COVERAGE UNDER THIS PERMIT

A. Permit Area.

This permit covers the entire State of Ohio.

B. Eligibility.

1. Construction activities covered. Except for storm water discharges identified under Part I.B.2, this permit may cover all new and existing discharges composed entirely of 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.

For the purposes of this permit, construction activities include any clearing, grading, excavating, grubbing and/or filling activities that disturb the threshold acreage described in the next paragraph. Discharges from trench dewatering are also covered by this permit as long as the dewatering activity is carried out in accordance with the practices outlined in Part III.G.2.g.iv of this permit.

Construction activities disturbing one or more acres of total land, or will disturb less than one acre of land but are part of a larger common plan of development or sale that will ultimately disturb one or more acres of land will be eligible for coverage under this permit. The threshold acreage includes the entire area disturbed in the larger common plan of development or sale.

This permit also authorizes storm water discharges from support activities (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) provided:

- a. The support activity is directly related to a construction site that is required to have NPDES permit coverage for discharges of storm water associated with construction activity;
 - b. The support activity is not a commercial operation serving multiple unrelated construction projects and does not operate beyond the completion of the construction activity at the site it supports;
 - c. Appropriate controls and measures are identified in a storm water pollution prevention plan (SWP3) covering the discharges from the support activity; and
 - d. The support activity is on or contiguous with the property defined in the NOI (offsite borrow pits and soil disposal areas, which serve only one project, do not have to be contiguous with the construction site).
2. Limitations on coverage. The following storm water discharges associated with construction activity are not covered by this permit:
 - a. 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. Industrial post-construction storm water discharges may need to be covered by an NPDES permit;

- b. Storm water discharges associated with construction activity that the director has shown to be or may reasonably expect to be contributing to a violation of a water quality standard; and
 - c. Storm water discharges authorized by an individual NPDES permit or another NPDES general permit;
3. Waivers. After March 10, 2003, sites whose larger common plan of development or sale have at least one, but less than five acres of land disturbance, which would otherwise require permit coverage for storm water discharges associated with construction activities, may request that the director waive their permit requirement. Entities wishing to request such a waiver must certify in writing that the construction activity meets one of the two waiver conditions:
- a. Rainfall Erosivity Waiver. For a construction site to qualify for the rainfall erosivity waiver, the cumulative rainfall erosivity over the project duration must be five or less and the site must be stabilized with a least a 70 percent vegetative cover or other permanent, non-erosive cover. The rainfall erosivity must be calculated according to the method in U.S. EPA Fact Sheet 3.1 Construction Rainfall Erosivity Waiver dated January 2001 and be found at: http://epa.ohio.gov/portals/35/permits/USEPAfact3-1_s.pdf. If it is determined that a construction activity will take place during a time period where the rainfall erosivity factor is less than five, a written waiver certification must be submitted to Ohio EPA at least 21 days before construction activity is scheduled to begin. If the construction activity will extend beyond the dates specified in the waiver certification, the operator must either: (a) recalculate the waiver using the original start date with the new ending date (if the R factor is still less than five, a new waiver certification must be submitted) or (b) submit an NOI application form and fee for coverage under this general permit at least seven days prior to the end of the waiver period; or
 - b. TMDL (Total Maximum Daily Load) Waiver. Storm water controls are not needed based on a TMDL approved or established by U.S. EPA that addresses the pollutant(s) of concern or, for non-impaired waters that do not require TMDLs, and equivalent analysis that determines allocations for small construction sites for the pollutant(s) of concern or that determines that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. The pollutant(s) of concern include sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. The operator must certify to the director of Ohio EPA that the construction activity will take place, and storm water discharges will occur, within the drainage area addressed by the TMDL or equivalent analysis. A written waiver certification must be submitted to Ohio EPA at least 21 days before the construction activity is scheduled to begin.

4. Prohibition on non-storm water discharges. All discharges covered by this permit must be composed entirely of storm water with the exception of the following: discharges from firefighting activities; fire hydrant flushings; potable water sources including waterline flushings; irrigation drainage; lawn watering; 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; air conditioning condensate; springs; uncontaminated ground water from trench or well point dewatering and foundation or footing drains where flows are not contaminated with process materials such as solvents. Dewatering activities must be done in compliance with Part II.C and Part III.G.2.g.iv of this permit. Discharges of material other than storm water or the authorized non-storm water discharges listed above must comply with an individual NPDES permit or an alternative NPDES general permit issued for the discharge.

Except for flows from firefighting activities, sources of non-storm water listed above that are combined with storm water discharges associated with construction activity must be identified in the SWP3. The SWP3 must identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

5. Spills and unintended releases (Releases in excess of Reportable Quantities). This permit does not relieve the permittee of the reporting requirements of Title 40 of the Code of Federal Regulations ("CFR") Part 117 and 40 CFR Part 302. In the event of a spill or other unintended release, the discharge of hazardous substances in the storm water discharge(s) from a construction site must be minimized in accordance with the applicable storm water pollution prevention plan for the construction activity and in no case, during any 24-hour period, may the discharge(s) contain a hazardous substance equal to or in excess of reportable quantities.

40 CFR Part 117 sets forth a determination of the reportable quantity for each substance designated as hazardous in 40 CFR Part 116. The regulation applies to quantities of designated substances equal to or greater than the reportable quantities, when discharged to surface waters of the state. 40 CFR Part 302 designates under section 102(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, those substances in the statutes referred to in section 101(14), identifies reportable quantities for these substances and sets forth the notification requirements for releases of these substances. This regulation also sets forth reportable quantities for hazardous substances designated under section 311(b)(2)(A) of the Clean Water Act (CWA).

C. Requiring an individual NPDES permit or an alternative NPDES general permit.

1. The director may require an alternative permit. The director may require any operator eligible for this permit to apply for and obtain either an individual NPDES permit or coverage under an alternative NPDES general permit in accordance with OAC Rule 3745-38-04. Any interested person may petition the director to take action under this paragraph.

The director will send written notification that an alternative NPDES permit is required. This notice shall include a brief statement of the reasons for this decision, an application

form and a statement setting a deadline for the operator to file the application. If an operator fails to submit an application in a timely manner as required by the director under this paragraph, then coverage, if in effect, under this permit is automatically terminated at the end of the day specified for application submittal.

2. Operators may request an individual NPDES permit. Any owner or operator eligible for this permit may request to be excluded from the coverage of this permit by applying for an individual permit. The owner or operator shall submit an individual application with reasons supporting the request to the director in accordance with the requirements of 40 CFR 122.26. If the reasons adequately support the request, the director shall grant it by issuing an individual NPDES permit.
3. When an individual NPDES permit is issued to an owner or operator otherwise subject to this permit or the owner or operator is approved for coverage under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit or the date of approval for coverage under the alternative general permit, whichever the case may be.

D. Permit requirements when portions of a site are sold

If an operator obtains a permit for a development, and then the operator (permittee) sells off lots or parcels within that development, permit coverage must be continued on those lots until a Notice of Termination (NOT) in accordance with Part IV.B is submitted. For developments which require the use of centralized sediment and erosion controls (i.e., controls that address storm water runoff from one or more lots) for which the current permittee intends to terminate responsibilities under this permit for a lot after sale of the lot to a new owner and such termination will either prevent or impair the implementation of the controls and therefore jeopardize compliance with the terms and conditions of this permit, the permittee will be required to maintain responsibility for the implementation of those controls. For developments where this is not the case, it is the permittee's responsibility to temporarily stabilize all lots sold to individual lot owners unless an exception is approved in accordance with Part III.G.4. In cases where permit responsibilities for individual lot(s) will be terminated after sale of the lot, the permittee shall inform the individual lot owner of the obligations under this permit and ensure that the Individual Lot NOI application is submitted to Ohio EPA.

E. Authorization

1. Obtaining authorization to discharge. Operators that discharge storm water associated with construction activity must submit an NOI application form in accordance with the requirements of Part I.F of this permit to obtain authorization to discharge under this general permit. As required under OAC Rule 3745-38-06(E), the director, in response to the NOI submission, will notify the applicant in writing that he/she has or has not been granted general permit coverage to discharge storm water associated with construction activity under the terms and conditions of this permit or that the applicant must apply for an individual NPDES permit or coverage under an alternate general NPDES permit as described in Part I.C.1.
2. No release from other requirements. No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations. Other permit requirements commonly associated with construction activities

include, but are not limited to, section 401 water quality certifications, isolated wetland permits, permits to install sanitary sewers or other devices that discharge or convey polluted water, permits to install drinking water lines, single lot sanitary system permits and disturbance of land which was used to operate a solid or hazardous waste facility (i.e., coverage under this NPDES general permit does not satisfy the requirements of OAC Rule 3745-27-13 or ORC Section 3734.02(H)). The issuance of this permit is subject to resolution of an antidegradation review. This permit does not relieve the permittee of other responsibilities associated with construction activities such as contacting the Ohio Department of Natural Resources, Division of Water, to ensure proper well installation and abandonment of wells.

F. Notice of Intent Requirements

1. Deadlines for notification.
 - a. Initial coverage: Operators who intend to obtain initial coverage for a storm water discharge associated with construction activity under this general permit must submit a complete and accurate NOI application form and appropriate fee at least 21 days prior to the commencement of construction activity. If more than one operator, as defined in Part VII of this general permit, will be engaged at a site, each operator shall seek coverage under this general permit. Coverage under this permit is not effective until an approval letter granting coverage from the director of Ohio EPA is received by the applicant. Where one operator has already submitted an NOI prior to other operator(s) being identified, the additional operator shall request modification of coverage to become a co-permittee. In such instances, the co-permittees shall be covered under the same facility permit number. No additional permit fee is required.
 - b. Individual lot transfer of coverage: Operators must each submit an individual lot notice of intent (Individual Lot NOI) application form (no fee required) to Ohio EPA at least seven days prior to the date that they intend to accept responsibility for permit requirements for their portion of the original permitted development from the previous permittee. The original permittee may submit an Individual Lot NOT at the time the Individual Lot NOI is submitted. Transfer of permit coverage is not granted until an approval letter from the director of Ohio EPA is received by the applicant.
2. Failure to notify. Operators who fail to notify the director of their intent to be covered and who discharge pollutants to surface waters of the state without an NPDES permit are in violation of ORC Chapter 6111. In such instances, Ohio EPA may bring an enforcement action for any discharges of storm water associated with construction activity.
3. Where to submit an NOI. Operators seeking coverage under this permit must submit a signed NOI form, provided by Ohio EPA, to the address found in the associated instructions.
4. Additional notification. NOIs and SWP3s are considered public documents and shall be made available to the public in accordance with Part III.C.2. The permittee shall make NOIs and SWP3s available upon request of the director of Ohio EPA, local agencies approving sediment and erosion control plans, grading plans or storm water management plans, local governmental officials, or operators of municipal separate storm sewer systems (MS4s) receiving drainage from the permitted site. Each operator

that discharges to an NPDES permitted MS4 shall provide a copy of its Ohio EPA NOI submission to the MS4 in accordance with the MS4's requirements, if applicable.

5. Re-notification. Existing permittees having coverage under the previous generations of this general permit (OHC000003, OHC000002 and OHR100000) shall have continuing coverage under OHC000004 with the submittal of a timely renewal application. Existing permittees will receive a renewal application and instructions for how to continue coverage under OHC000004. Within 90 days of receiving a renewal application from Ohio EPA, existing permittees shall submit the completed renewal application expressing their intent for continued coverage. In accordance with Ohio Administrative Code (OAC) 3745-38-02(E)(2)(a)(i), a renewal application fee will only apply to existing permittees having general permit coverage for 5 or more years as of the effective date of this general permit. Permit coverage will be terminated if Ohio EPA does not receive the renewal application within this 90 day period.

Part II. NON-NUMERIC EFFLUENT LIMITATIONS

You shall comply with the following non-numeric effluent limitations for discharges from your site and/or from construction support activities. Part III of this permit contains the specific design criteria to meet the objectives of the following non-numeric effluent limitations.

- A. **Erosion and Sediment Controls.** You shall design, install and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, such controls shall be designed, installed and maintained to:
 1. Control storm water volume and velocity within the site to minimize soil erosion;
 2. Control storm water discharges, including both peak flowrates and total storm water volume, to minimize erosion at outlets and to minimize downstream channel and streambank erosion;
 3. Minimize the amount of soil exposed during construction activity;
 4. Minimize the disturbance of steep slopes;
 5. Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls shall address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting storm water runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site;
 6. If feasible, provide and maintain a 50-foot undisturbed natural buffer around surface waters of the state, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration. If it is infeasible to provide and maintain an undisturbed 50-foot natural buffer, you shall comply with the stabilization requirements found in Part II.B for areas within 50 feet of a surface water; and
 7. Minimize soil compaction and, unless infeasible, preserve topsoil.

- B. Soil Stabilization.** Stabilization of disturbed areas shall, at a minimum, be initiated in accordance with the time frames specified in the following tables.

Table 1: Permanent Stabilization

Area requiring permanent stabilization	Time frame to apply erosion controls
Any areas that will lie dormant for one year or more	Within seven days of the most recent disturbance
Any areas within 50 feet of a surface water of the state and at final grade	Within two days of reaching final grade
Any other areas at final grade	Within seven days of reaching final grade within that area

Table 2: Temporary Stabilization

Area requiring temporary stabilization	Time frame to apply erosion controls
Any disturbed areas within 50 feet of a surface water of the state and not at final grade	Within two days of the most recent disturbance if the area will remain idle for more than 14 days
For all construction activities, any disturbed areas that will be dormant for more than 14 days but less than one year, and not within 50 feet of a surface water of the state	Within seven days of the most recent disturbance within the area For residential subdivisions, disturbed areas must be stabilized at least seven days prior to transfer of permit coverage for the individual lot(s).
Disturbed areas that will be idle over winter	Prior to the onset of winter weather

Where vegetative stabilization techniques may cause structural instability or are otherwise unobtainable, alternative stabilization techniques must be employed.
Permanent and temporary stabilization are defined in Part VII.

- C. Dewatering.** Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited unless managed by appropriate controls.
- D. Pollution Prevention Measures.** Design, install, implement and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented and maintained to:
1. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters shall be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;

2. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to storm water; and
3. Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

E. Prohibited Discharges. The following discharges are prohibited:

1. Wastewater from washout of concrete, unless managed by an appropriate control;
2. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
3. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
4. Soaps or solvents used in vehicle and equipment washing.

F. Surface Outlets. When discharging from sediment basins utilize outlet structures that withdraw water from the surface, unless infeasible. (Note: Ohio EPA believes that the circumstances in which it is infeasible to design outlet structures in this manner are rare. Exceptions may include time periods with extended cold weather during winter months. If you have determined that it is infeasible to meet this requirement, you shall provide documentation in your SWP3 to support your determination.)

PART III. STORM WATER POLLUTION PREVENTION PLAN (SWP3)

A. Storm Water Pollution Prevention Plans.

A SWP3 shall be developed for each site covered by this permit. For a multi-phase construction project, a separate NOI shall be submitted when a separate SWP3 will be prepared for subsequent phases. SWP3s shall be prepared in accordance with sound engineering and/or conservation practices by a professional experienced in the design and implementation of standard erosion and sediment controls and storm water management practices addressing all phases of construction. The SWP3 shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges associated with construction activities. The SWP3 shall be a comprehensive, stand-alone document, which is not complete unless it contains the information required by Part III.G of this permit. In addition, the SWP3 shall describe and ensure the implementation of best management practices (BMPs) that reduce the pollutants in storm water discharges during construction and pollutants associated with post-construction activities to ensure compliance with ORC Section 6111.04, OAC Chapter 3745-1 and the terms and conditions of this permit.

B. Timing

A SWP3 shall be completed prior to the timely submittal of 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 at the time of NOI submission. If a waiver has been granted, the

SWP3 must be completed prior to the initiation of construction activities. The SWP3 must be implemented upon initiation of construction activities.

If you wish to continue coverage from the previous generations of this permit (OHR100000, OHC000002 and OHC000003) you shall review and update your SWP3 to ensure that this permit's requirements are addressed within 180 days after the effective date of this permit. If it is infeasible for you to comply with a specific requirement in this permit because (1) the provision was not part of the permit you were previously covered under (OHR100000, OHC000002 and OHC000003), and (2) because you are prevented from compliance due to the nature or location of earth disturbances that commenced prior to the effective date of this permit, you shall include documentation within your SWP3 of the reasons why it is infeasible for you to meet the specific requirement. (Note: 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.)

C. SWP3 Signature and Review.

1. Plan Signature and Retention On-Site. The SWP3 shall include the certification in Part V.H, be signed in accordance with Part V.G., and be retained on site during working hours.
2. Plan Availability
 - a. On-site: The plan shall be made available immediately upon request of the director or his authorized representative and MS4 operators or their authorized representative during working hours. A copy of the NOI and letter granting permit coverage under this general permit also shall be made available at the site.
 - b. By written request: The permittee must provide the most recent copy of the SWP3 within 10 days upon written request by any of the following:
 - i. The director or the director's authorized representative;
 - ii. A local agency approving sediment and erosion plans, grading plans or storm water management plans; or
 - iii. In the case of a storm water discharge associated with construction activity which discharges through a municipal separate storm sewer system with an NPDES permit, to the operator of the system.
 - c. To the public: All NOIs, general permit approval for coverage letters, and SWP3s are considered reports that shall be available to the public in accordance with the Ohio Public Records law. The permittee shall make documents available to the public upon request or provide a copy at public expense, at cost, in a timely manner. However, the permittee may claim to Ohio EPA any portion of an SWP3 as confidential in accordance with Ohio law.

3. Plan Revision. The director or authorized representative may notify the permittee at any time that the SWP3 does not meet one or more of the minimum requirements of this part. Within 10 days after such notification from the director or authorized representative (or as otherwise provided in the notification), the permittee shall make the required changes to the SWP3 and, if requested, shall submit to Ohio EPA the revised SWP3 or a written certification that the requested changes have been made.

D. Amendments

The permittee shall amend the SWP3 whenever there is a change in design, construction, operation or maintenance, which has a significant effect on the potential for the discharge of pollutants to surface waters of the state or if the SWP3 proves to be ineffective in achieving the general objectives of controlling pollutants in storm water discharges associated with construction activity. Amendments to the SWP3 may be reviewed by Ohio EPA in the same manner as Part III.C.

E. Duty to inform contractors and subcontractors

The permittee shall inform all contractors and subcontractors not otherwise defined as “operators” in Part VII of this general permit who will be involved in the implementation of the SWP3 of the terms and conditions of this general permit. The permittee shall maintain a written document containing the signatures of all contractors and subcontractors involved in the implementation of the SWP3 as proof acknowledging that they reviewed and understand the conditions and responsibilities of the SWP3. The written document shall be created and signatures shall be obtained prior to commencement of work on the construction site.

F. Total Maximum Daily Load (TMDL) allocations

If a TMDL is approved for any waterbody into which the permittee’s site discharges and requires specific BMPs for construction sites, the director may require the permittee to revise his/her SWP3.

G. SWP3 Requirements

Operations that discharge storm water from construction activities are subject to the following requirements and the SWP3 shall include the following items:

1. Site description. Each SWP3 shall provide:
 - a. A description of the nature and type of the construction activity (e.g., low density residential, shopping mall, highway, etc.);
 - b. Total area of the site and the area of the site that is expected to be disturbed (i.e., grubbing, clearing, excavation, filling or grading, including off-site borrow areas);
 - c. An estimate of the impervious area and percent imperviousness created by the construction activity;

- d. A calculation of the runoff coefficients for both the pre-construction and post-construction site conditions;
- e. Existing data describing the soil and, if available, the quality of any discharge from the site;
- f. A description of prior land uses at the site;
- g. An implementation schedule which describes the sequence of major construction operations (i.e., designation of vegetative preservation areas, grubbing, excavating, grading, utilities and infrastructure installation) and the implementation of erosion, sediment and storm water management practices or facilities to be employed during each operation of the sequence;
- h. The name and/or location of the immediate receiving stream or surface water(s) and the first subsequent named receiving water(s) and the areal extent and description of wetlands or other special aquatic sites at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project. For discharges to an MS4, the point of discharge to the MS4 and the location where the MS4 ultimately discharges to a stream or surface water of the state shall be indicated;
- i. For subdivided developments where the SWP3 does not call for a centralized sediment control capable of controlling multiple individual lots, a detail drawing of a typical individual lot showing standard individual lot erosion and sediment control practices.

This does not remove the responsibility to designate specific erosion and sediment control practices in the SWP3 for critical areas such as steep slopes, stream banks, drainage ways and riparian zones;
- j. Location and description of any storm water discharges associated with dedicated asphalt and dedicated concrete plants covered by this permit and the best management practices to address pollutants in these storm water discharges;
- k. A copy of the permit requirements (attaching a copy of this permit is acceptable);
- l. A cover page or title identifying the name and location of the site, the name and contact information of all construction site operators, the name and contact information for the person responsible for authorizing and amending the SWP3, preparation date, and the estimated dates that construction will start and be complete;
- m. A log documenting grading and stabilization activities as well as amendments to the SWP3, which occur after construction activities commence; and
- n. Site map showing:

- i. Limits of earth-disturbing activity of the site including associated off-site borrow or spoil areas that are not addressed by a separate NOI and associated SWP3;
 - ii. Soils types for all areas of the site, including locations of unstable or highly erodible soils;
 - iii. 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;
 - iv. Surface water locations including springs, wetlands, streams, lakes, water wells, etc., on or within 200 feet of the site, including the boundaries of wetlands or stream channels and first subsequent named receiving water(s) the permittee intends to fill or relocate for which the permittee is seeking approval from the Army Corps of Engineers and/or Ohio EPA;
 - v. Existing and planned locations of buildings, roads, parking facilities and utilities;
 - vi. The location of all erosion and sediment control practices, including the location of areas likely to require temporary stabilization during the course of site development;
 - vii. Sediment and storm water management basins noting their sediment settling volume and contributing drainage area. Ohio EPA recommends the use of data sheets (see ODNR's Rainwater and Land Development manual for examples) to provide 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;
 - viii. The location of permanent storm water management practices to be used to control pollutants in storm water after construction operations have been completed;
 - ix. Areas designated for the storage or disposal of solid, sanitary and toxic wastes, including dumpster areas, areas designated for cement truck washout, and vehicle fueling;
 - x. The location of designated construction entrances where the vehicles will access the construction site; and
 - xi. The location of any in-stream activities including stream crossings.
2. Controls. In accordance with Part II.A, the SWP3 shall contain a description of the controls appropriate for each construction operation covered by this permit and the operator(s) shall implement such controls. The SWP3 shall clearly describe for each

major construction activity identified in Part III.G.1.g: (a) appropriate control measures and the general timing (or sequence) during the construction process that the measures will be implemented; and (b) which contractor is responsible for implementation (e.g., contractor A will clear land and install perimeter controls and contractor B will maintain perimeter controls until final stabilization). The SWP3 shall identify the subcontractors engaged in activities that could impact storm water runoff. The SWP3 shall contain signatures from all of the identified subcontractors indicating that they have been informed and understand their roles and responsibilities in complying with the SWP3. Ohio EPA recommends that the primary site operator review the SWP3 with the primary contractor prior to commencement of construction activities and keep a SWP3 training log to demonstrate that this review has occurred.

Ohio EPA recommends that the erosion, sediment, and storm water management practices used to satisfy the conditions of this permit should meet the standards and specifications in the most current edition of Ohio's Rainwater and Land Development (see definitions) manual or other standards acceptable to Ohio EPA. The controls shall include the following minimum components:

- a. 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. For all construction activities immediately adjacent to surface waters of the state, the permittee shall comply with the buffer non-numeric effluent limitation in Part II.A.6, as measured from the ordinary high water mark of the surface water.
- b. Erosion Control Practices. The SWP3 shall make use of erosion controls that are capable of providing cover over disturbed soils unless an exception is approved in accordance with Part III.G.4. A description of control practices designed to restabilize disturbed areas after grading or construction shall be included in the SWP3. The SWP3 shall provide specifications for stabilization of all disturbed areas of the site and provide guidance as to which method of stabilization will be employed for any time of the year. Such practices may include: temporary seeding, permanent seeding, mulching, matting, sod stabilization, vegetative buffer strips, phasing of construction operations, use of construction entrances and the use of alternative ground cover.
 - i. **Stabilization.** Disturbed areas shall be stabilized in accordance with Table 1 (Permanent Stabilization) and Table 2 (Temporary Stabilization) in Part II.B of this permit.
 - ii. **Permanent stabilization of conveyance channels.** Operators shall undertake special measures to stabilize channels and outfalls and prevent erosive flows. Measures may include seeding, dormant seeding (as defined in the most current edition of the Rainwater and Land Development manual), mulching, erosion control matting, sodding, riprap, natural channel design with bioengineering techniques or rock check dams.

- c. Runoff Control Practices. The SWP3 shall incorporate measures which control the flow of runoff from disturbed areas so as to prevent erosion from occurring. Such practices may include rock check dams, pipe slope drains, diversions to direct flow away from exposed soils and protective grading practices. These practices shall divert runoff away from disturbed areas and steep slopes where practicable. Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel to provide non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected.
- d. Sediment Control Practices. The plan shall include a description of structural practices that shall store runoff allowing sediments to settle and/or divert flows away from exposed soils or otherwise limit runoff from exposed areas. Structural practices shall be used to control erosion and trap sediment from a site remaining disturbed for more than 14 days. Such practices may include, among others: sediment settling ponds, silt fences, earth diversion dikes or channels which direct runoff to a sediment settling pond and storm drain inlet protection. All sediment control practices must be capable of ponding runoff in order to be considered functional. Earth diversion dikes or channels alone are not considered a sediment control practice unless those are used in conjunction with a sediment settling pond.

The SWP3 shall contain detail drawings for all structural practices.

- i. **Timing.** Sediment control structures shall be functional throughout the course of earth disturbing activity. Sediment basins and perimeter sediment barriers shall be implemented prior to grading and within seven days from the start of grubbing. They shall continue to function until the up slope development area is restabilized. As construction progresses and the topography is altered, appropriate controls shall be constructed or existing controls altered to address the changing drainage patterns.
- ii. **Sediment settling ponds.** A sediment settling pond is required for any one of the following conditions:
- Concentrated storm water runoff (e.g., storm sewer or ditch);
 - Runoff from drainage areas, which exceed the design capacity of silt fence or other sediment barriers;
 - Runoff from drainage areas that exceed the design capacity of inlet protection; or
 - Runoff from common drainage locations with 10 or more acres of disturbed land.

The permittee may request approval from Ohio EPA to use alternative controls if the permittee can demonstrate the alternative controls are equivalent in effectiveness to a sediment settling pond.

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 sediment settling pond volume consists of both a dewatering zone and a sediment storage zone. The volume of the dewatering zone shall

be a minimum of 1800 cubic feet (ft³) per acre of drainage (67 yd³/acre) with a minimum 48-hour drain time for sediment basins serving a drainage area over 5 acres. The volume of the sediment storage zone shall be calculated by one of the following methods:

Method 1: The volume of the sediment storage zone shall be 1000 ft³ per disturbed acre within the watershed of the basin. OR

Method 2: The volume of the sediment storage zone shall be the volume necessary to store the sediment as calculated with RUSLE or a similar generally accepted erosion prediction model.

The accumulated sediment shall be removed from the sediment storage zone once it's full. When determining the total contributing drainage area, off-site areas and areas which remain undisturbed by construction activity shall be included unless runoff from these areas is diverted away from the sediment settling pond and is not co-mingled with sediment-laden runoff. The depth of the dewatering zone shall be less than or equal to five feet. The configuration between inlets and the outlet of the basin shall provide at least two units of length for each one unit of width (> 2:1 length:width ratio); however, a length to width ratio of 4:1 is recommended. When designing sediment settling ponds, the permittee shall consider public safety, especially as it relates to children, as a design factor for the sediment basin and alternative sediment controls shall be used where site limitations would preclude a safe design. The use of a combination of sediment and erosion control measures in order to achieve maximum pollutant removal is encouraged.

- iii. **Silt Fence and Diversions.** Sheet flow runoff from denuded areas shall be intercepted by silt fence or diversions to protect adjacent properties and water resources from sediment transported via sheet flow. Where intended to provide sediment control, silt fence shall be placed on a level contour downslope of the disturbed area. This permit does not preclude the use of other sediment barriers designed to control sheet flow runoff. The relationship between the maximum drainage area to silt fence for a particular slope range is shown in the following table:

Silt Fence Maximum Drainage Area Based on Slope

Maximum drainage area (in acres) to 100 linear feet of silt fence	Range of slope for a particular drainage area (in percent)
0.5	< 2%
0.25	≥ 2% but < 20%
0.125	≥ 20% but < 50%

Placing silt fence in a parallel series does not extend the size of the drainage area. Storm water diversion practices shall be used to keep runoff away from disturbed areas and steep slopes where practicable. Such devices, which include swales, dikes or berms, may receive storm water runoff from areas up to 10 acres.

- iv. **Inlet Protection.** Other erosion and sediment control practices shall minimize sediment laden water entering active storm drain systems, unless the storm drain system drains to a sediment settling pond. All inlets receiving runoff from drainage areas of one or more acres will require a sediment settling pond.
- v. **Surface Waters of the State Protection.** If construction activities disturb areas adjacent to surface waters of the state, structural practices shall be designed and implemented on site to protect all adjacent surface waters of the state from the impacts of sediment runoff. No structural sediment controls (e.g., the installation of silt fence or a sediment settling pond) shall be used in a surface water of the state. For all construction activities immediately adjacent to surface waters of the state, the permittee shall comply with the buffer non-numeric effluent limitation in Part II.A.6, as measured from the ordinary high water mark of the surface water. Where impacts within this buffer area are unavoidable, due to the nature of the construction (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 area are minimized.
- vi. **Modifying Controls.** If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the permittee shall replace or modify the control for site conditions.
- e. **Post-Construction Storm Water Management Requirements.** 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. Post-construction BMPs cannot be installed within a surface water of the state (e.g., wetland or stream) unless it's authorized by a CWA 401 water quality certification, CWA 404 permit, or Ohio EPA non-jurisdictional wetland/stream program approval. Note: localities may have more stringent post-construction requirements.

Detail drawings and maintenance plans shall be provided for all post-construction BMPs. Maintenance plans shall be provided by the permittee to the post-construction operator of the site (including homeowner associations) upon completion of construction activities (prior to termination of permit coverage). For sites located within a community with 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. Maintenance plans shall ensure that pollutants collected within structural post-construction practices, be disposed of in accordance with local, state, and federal regulations. To ensure that storm water management systems function as they were designed and constructed, the post-construction operation and maintenance plan shall be a stand-alone

document, which contains: (1) a designated entity for storm water inspection and maintenance responsibilities; (2) the routine and non-routine maintenance tasks to be undertaken; (3) a schedule for inspection and maintenance; (4) any necessary legally binding maintenance easements and agreements; and (5) a map showing all access and maintenance easements. Permittees are not responsible under this permit for operation and maintenance of post-construction practices once coverage under this permit is terminated.

Post-construction storm water BMPs that discharge pollutants from point sources once construction is completed, may in themselves, need authorization under a separate NPDES permit (one example is storm water discharges from regulated industrial sites).

Construction activities that do not include the installation of any impervious surface (e.g., soccer fields), abandoned mine land reclamation activities regulated by the Ohio Department of Natural Resources, stream and wetland restoration activities, and wetland mitigation activities are not required to comply with the conditions of Part III.G.2.e of this permit. Linear construction projects, (e.g., pipeline or utility line installation), which do not result in the installation of additional impervious surface, are not required to comply with the conditions of Part III.G.2.e of this permit. However, linear construction projects shall be designed to minimize the number of stream crossings and the width of disturbance and achieve final stabilization of the disturbed area as defined in Part VII.J.1.

Large Construction Activities. For all large construction activities (involving the disturbance of five or more acres of land or will disturb less than five acres, but is a part of a larger common plan of development or sale which will disturb five or more acres of land), the post construction BMP(s) chosen shall 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 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 (WQ_v) and ensure compliance with Ohio's Water Quality Standards in OAC Chapter 3745-1. The WQ_v shall be equivalent to the volume of runoff from a 0.75-inch rainfall and shall be determined according to the following equation:

$$WQ_v = C * P * A / 12$$

where:

WQ_v = 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

Table 1
Runoff Coefficients Based on the Type of Land Use

Land Use	Runoff Coefficient
Industrial & Commercial	0.8
High Density Residential (>8 dwellings/acre)	0.5
Medium Density Residential (4 to 8 dwellings/acre)	0.4
Low Density Residential (<4 dwellings/acre)	0.3
Open Space and Recreational Areas	0.2

Where the land use will be mixed, the runoff coefficient should be calculated using a weighted average. For example, if 60% of the contributing drainage area to the storm water treatment structure is Low Density Residential, 30% is High Density Residential, and 10% is Open Space, the runoff coefficient is calculated as follows $(0.6)(0.3) + (0.3)(0.5) + (0.1)(0.2) = 0.35$.

An additional volume equal to 20 percent of the WQ_v shall be incorporated into the BMP for sediment storage. Ohio EPA recommends that BMPs be designed according to the methodology included in the most current edition of the Rainwater and Land Development manual or in another design manual acceptable for use by Ohio EPA.

The BMPs listed in Table 2 below shall be considered standard BMPs approved for general use. However communities with a regulated MS4 may limit the use of some of these BMPs. BMPs shall be designed such that the drain time is long enough to provide treatment, but short enough to provide storage for successive rainfall events and avoid the creation of nuisance conditions. The outlet structure for the post-construction BMP shall not discharge more than the first half of the WQ_v or extended detention volume (EDv) in less than one-third of the drain time. The EDv is the volume of storm water runoff that must be detained by a structural post-construction BMP. The EDv is equal to 75 percent of the WQ_v for wet extended detention basins, but is equal to the WQ_v for all other BMPs listed in Table 2.

Table 2
Structural Post-Construction BMPs & Associated
Drain (Drawdown) Times

Best Management Practice	Drain Time of WQv
Infiltration Basin or Trench ¹	48 hours
Permeable Pavement – Infiltration ¹	48 hours
Permeable Pavement – Extended Detention	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

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 within 24 hours so that there is no standing water. Shorter drawdown 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.

The permittee may request approval from Ohio EPA to use alternative structural post-construction BMPs if the permittee can demonstrate that the alternative BMPs are equivalent in effectiveness to those listed in Table 2 above.

Construction activities shall be exempt from this condition if it can be demonstrated that the WQ_v is provided within an existing structural post-construction BMP that is part of a larger common plan of development or if structural post-construction BMPs are addressed in a regional or local storm water management plan. A municipally operated regional storm water BMP can be used as a post-construction BMP provided that the BMP can detain the WQv from its entire drainage area and release it over a 24 hour period.

Transportation Projects. The construction of new roads and roadway improvement projects by public entities (i.e., the state, counties, townships, cities, or villages) may implement post-construction BMPs in compliance with the current version (as of the effective date of this permit) of the Ohio Department of Transportation's "Location and Design Manual, Volume Two Drainage Design" that has been accepted by Ohio EPA as an alternative to the conditions of this permit.

Offsite Mitigation of Post-Construction. Ohio EPA may authorize the offsite mitigation of the post-construction requirements of Part III.G.2.e of this permit on a case by case basis provided the permittee clearly demonstrates the BMPs listed in Table 2 are not feasible and the following criteria is met: (1) a maintenance agreement or policy is established to ensure operations and treatment in perpetuity; (2) the offsite location discharges to the same HUC-14 watershed unit; and (3) the mitigation ratio of the WQv is 1.5 to 1 or the WQv at the point of retrofit, whichever is greater. Requests for offsite mitigation must be received prior to receipt of the NOI applications.

Redevelopment Projects Sites that have been previously developed where no post-construction BMPs were installed shall either ensure a 20 percent net reduction of the site impervious area, provide for treatment of at least 20 percent of the WQv, or a combination of the two. A one-for-one credit towards the 20 percent net reduction of impervious area can be obtained through the use of green roofs. Where projects are a combination of new development and redevelopment, the total WQv that must be treated shall be calculated by a weighted average based on acreage, with the new development at 100 percent WQv and redevelopment at 20 percent WQv.

Non-Structural Post-Construction BMPs The size of the structural post-construction can be reduced by incorporating non-structural post-construction BMPs into the design. Practices such as preserving open space will reduce the runoff coefficient and, thus, the WQv. Ohio EPA encourages the implementation of riparian and wetland setbacks. Practices which reduce storm water runoff include green roofs, rain barrels, conservation development, smart growth, low-impact development, and other site design techniques. For examples, see the Ohio Lake Erie Commission's Balanced Growth Program at <http://balancedgrowth.ohio.gov/>.

In order to promote the implementation of such practices, the Director may consider the use of non-structural practices to demonstrate compliance with Part III.G.2.e of this permit for areas of the site not draining into a common drainage system of the site, i.e., sheet flow from perimeter areas such as the rear yards of residential lots, for low density development scenarios, or where the permittee can demonstrate that the intent of pollutant removal and stream protection, as required in Part III.G.2.e of this permit is being addressed through non-structural post-construction BMPs based upon review and approval by Ohio EPA.

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

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:

- i. The entire WQv is recharged to groundwater;
- ii. The larger common plan of development or sale will create less than one acre of impervious surface;
- iii. The project is a redevelopment project within an ultra-urban setting (i.e., a downtown area or on a site where 100 percent of the project area is already impervious surface and the storm water discharge is directed into an existing storm sewer system); or
- iv. The storm water drainage system of the development discharges directly into a large river (fourth order or greater) or to a lake and where the development area is less than 5 percent of the watershed area upstream of the development site, unless a TMDL identified water quality problems into the receiving surface waters of the state.

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 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.

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.

- f. Surface Water Protection. If the project site contains any streams, rivers, lakes, wetlands or other surface waters, certain construction activities at the site may be regulated under the CWA and/or state isolated wetland permit requirements. Sections 404 and 401 of the Act regulate the discharge of dredged or fill material into surface waters and the impacts of such activities on water quality, respectively. Construction activities in surface waters which may be subject to CWA regulation and/or state isolated wetland permit requirements include, but are not limited to: sewer line crossings, grading, backfilling or culverting streams, filling wetlands, road and utility line construction, bridge installation and installation of flow control structures. If the project contains streams, rivers, lakes or wetlands or possible wetlands, the permittee shall contact the appropriate U.S. Army Corps of Engineers District Office. (CAUTION: Any area of seasonally wet hydric soil is a potential wetland - please consult the Soil Survey and list of hydric soils for your County, available at your county's Soil and Water Conservation District. If you have any questions about Section 401 water quality certification, please contact the Ohio Environmental Protection Agency, Section 401 Coordinator.)

U.S. Army Corps of Engineers (Section 404 regulation):

- Huntington, WV District (304) 399-5210 (Muskingum River, Hocking River, Scioto River, Little Miami River, and Great Miami River Basins)
- Buffalo, NY District (716) 879-4330 (Lake Erie Basin)
- Pittsburgh, PA District (412) 395-7155 (Mahoning River Basin)
- Louisville, KY District (502) 315-6686 (Ohio River)

Ohio EPA 401/404 and non-jurisdictional stream/wetland coordinator can be contacted at (614) 644-2001 (all of Ohio)

Concentrated storm water runoff from BMPs to natural wetlands shall be converted to diffuse flow before the runoff enters the wetlands. The flow should be released such that no erosion occurs downslope. Level spreaders may need to be placed in series, particularly on steep sloped sites, to ensure non-erosive velocities. Other structural BMPs may be used between storm water features and natural wetlands, in order to protect the natural hydrology, hydroperiod, and wetland flora. If the applicant proposes to discharge to natural wetlands, a hydrologic analysis shall be performed. The applicant shall attempt to match the pre-development hydroperiods and hydrodynamics that support the wetland. The applicant shall assess whether their construction activity will adversely impact the hydrologic flora and fauna of the wetland. Practices such as vegetative buffers, infiltration basins, conservation of forest cover, and the preservation of intermittent streams, depressions, and drainage corridors may be used to maintain wetland hydrology.

- g. Other controls.

- i. **Non-Sediment Pollutant Controls.** In accordance with Part II.E, no solid (other than sediment) or liquid waste, including building materials, shall be discharged in storm water runoff. The permittee must implement all necessary BMPs to prevent the discharge of non-sediment pollutants to the drainage system of the site or surface waters of the state. Under

no circumstance shall wastewater from the washout of concrete trucks, stucco, paint, form release oils, curing compounds, and other construction materials be discharged directly into a drainage channel, storm sewer or surface waters of the state. Also, no pollutants from vehicle fuel, oils, or other vehicle fluids can be discharged to surface waters of the state. No exposure of storm water to waste materials is recommended. The SWP3 must include methods to minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, and sanitary waste to precipitation, storm water runoff, and snow melt. In accordance with Part II.D.3, the SWP3 shall include measures to prevent and respond to chemical spills and leaks. You may also reference the existence of other plans (i.e., Spill Prevention Control and Countermeasure (SPCC) plans, spill control programs, Safety Response Plans, etc.) provided that such plan addresses conditions of this permit condition and a copy of such plan is maintained on site.

- ii. **Off-site traffic.** Off-site vehicle tracking of sediments and dust generation shall be minimized. In accordance with Part II.D.1, the SWP3 shall include methods to minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. No detergents may be used to wash vehicles. Wash waters shall be treated in a sediment basin or alternative control that provides equivalent treatment prior to discharge.
- iii. **Compliance with other requirements.** The SWP3 shall be consistent with applicable State and/or local waste disposal, sanitary sewer or septic system regulations, including provisions prohibiting waste disposal by open burning and shall provide for the proper disposal of contaminated soils to the extent these are located within the permitted area.
- iv. **Trench and ground water control.** In accordance with Part II.C, there shall be no turbid discharges to surface waters of the state resulting from dewatering activities. If trench or ground water contains sediment, it shall pass through a sediment settling pond or other equally effective sediment control device, prior to being discharged from the construction site. Alternatively, sediment may be removed by settling in place or by dewatering into a sump pit, filter bag or comparable practice. Ground water which does not contain sediment or other pollutants is not required to be treated prior to discharge. However, care must be taken when discharging ground water to ensure that it does not become pollutant-laden by traversing over disturbed soils or other pollutant sources.
- v. **Contaminated Sediment.** Where construction activities are to occur on sites with contamination from previous activities, operators shall be aware that concentrations of materials that meet other criteria (is not considered a Hazardous Waste, meeting VAP standards, etc.) may still result in storm water discharges in excess of Ohio Water Quality Standards. Such discharges are not authorized by this permit. Appropriate BMPs include, but are not limited to:

- The use of berms, trenches, and pits to collect contaminated runoff and prevent discharges;
- Pumping runoff into a sanitary sewer (with prior approval of the sanitary sewer operator) or into a container for transport to an appropriate treatment/disposal facility; and
- Covering areas of contamination with tarps or other methods that prevent storm water from coming into contact with the material.

Operators should consult with Ohio EPA Division of Surface Water prior to seeking permit coverage.

- h. Maintenance. All temporary and permanent control practices shall be maintained and repaired as needed to ensure continued performance of their intended function. All sediment control practices must be maintained in a functional condition until all up slope areas they control are permanently stabilized. The SWP3 shall be designed to minimize maintenance requirements. The applicant shall provide a description of maintenance procedures needed to ensure the continued performance of control practices.
- i. Inspections. At a minimum, procedures in an SWP3 shall provide that all controls on the site are inspected at least once every seven calendar days and within 24 hours after any storm event greater than one-half inch of rain per 24 hour period. The inspection frequency may be reduced to at least once every month if the entire site is temporarily stabilized or runoff is unlikely due to weather conditions (e.g., site is covered with snow, ice, or the ground is frozen). A waiver of inspection requirements is available until one month before thawing conditions are expected to result in a discharge if all of the following conditions are met: the project is located in an area where frozen conditions are anticipated to continue for extended periods of time (i.e., more than one month); land disturbance activities have been suspended; and the beginning and ending dates of the waiver period are documented in the SWP3. Once a definable area is finally stabilized, the area may be marked on the SWP3 and no further inspection requirements apply to that portion of the site. The permittee shall assign "qualified inspection personnel" to conduct these inspections to ensure that the control practices are functional and to evaluate whether the SWP3 is adequate and properly implemented in accordance with the schedule proposed in Part III.G.1.g of this permit or whether additional control measures are required.

Following each inspection, a checklist must be completed and signed by the qualified inspection personnel representative. At a minimum, the inspection report shall include:

- i. the inspection date;
- ii. names, titles, and qualifications of personnel making the inspection;
- iii. weather information for the period since the last inspection (or since commencement of construction activity if the first inspection) including a best estimate of the beginning of each storm event, duration of each storm event, approximate amount of rainfall for each storm event (in inches), and whether any discharges occurred;
- iv. weather information and a description of any discharges occurring at the time of the inspection;

- v. location(s) of discharges of sediment or other pollutants from the site;
- vi. location(s) of BMPs that need to be maintained;
- vii. location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location;
- viii. location(s) where additional BMPs are needed that did not exist at the time of inspection; and
- ix. corrective action required including any changes to the SWP3 necessary and implementation dates.

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of or the potential for pollutants entering the drainage system. Erosion and sediment control measures identified in the SWP3 shall be observed to ensure that those are operating correctly. Discharge locations shall be inspected to ascertain whether erosion and sediment control measures are effective in preventing significant impacts to the receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off-site vehicle tracking.

The permittee shall maintain for three years following the submittal of a notice of termination form, a record summarizing the results of the inspection, names(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the SWP3 and a certification as to whether the facility is in compliance with the SWP3 and the permit and identify any incidents of non-compliance. The record and certification shall be signed in accordance with Part V.G. of this permit.

- i. **When practices require repair or maintenance.** If the inspection reveals that a control practice is in need of repair or maintenance, with the exception of a sediment settling pond, it shall be repaired or maintained within 3 days of the inspection. Sediment settling ponds shall be repaired or maintained within 10 days of the inspection.
- ii. **When practices fail to provide their intended function.** If the inspection reveals that a control practice fails to perform its intended function and that another, more appropriate control practice is required, the SWP3 shall be amended and the new control practice shall be installed within 10 days of the inspection.
- iii. **When practices depicted on the SWP3 are not installed.** If the inspection reveals that a control practice has not been implemented in accordance with the schedule contained in Part III.G.1.g of this permit, the control practice shall be implemented within 10 days from the date of the inspection. If the inspection reveals that the planned control practice is not needed, the record shall contain a statement of explanation as to why the control practice is not needed.

- 3. Approved State or local plans. All dischargers regulated under this general permit must comply, except those exempted under state law, with the lawful requirements of municipalities, counties and other local agencies regarding discharges of storm water from construction activities. All erosion and sediment control plans and storm water

management plans approved by local officials shall be retained with the SWP3 prepared in accordance with this permit. Applicable requirements for erosion and sediment control and storm water management approved by local officials are, upon submittal of a NOI form, incorporated by reference and enforceable under this permit even if they are not specifically included in an SWP3 required under this permit. When the project is located within the jurisdiction of a regulated municipal separate storm sewer system (MS4), the permittee shall certify that the SWP3 complies with the requirements of the storm water management program of the MS4 operator.

4. Exceptions. If specific site conditions prohibit the implementation of any of the erosion and sediment control practices contained in this permit or site specific conditions are such that implementation of any erosion and sediment control practices contained in this permit will result in no environmental benefit, then the permittee shall provide justification for rejecting each practice based on site conditions. Exceptions from implementing the erosion and sediment control standards contained in this permit will be approved or denied on a case-by-case basis.

The permittee may request approval from Ohio EPA to use alternative methods to satisfy conditions in this permit if the permittee can demonstrate that the alternative methods are sufficient to protect the overall integrity of receiving streams and the watershed. Alternative methods will be approved or denied on a case-by-case basis.

PART IV. NOTICE OF TERMINATION REQUIREMENTS

A. Failure to notify.

The terms and conditions of this permit shall remain in effect until a signed Notice of Termination (NOT) form is submitted. Failure to submit an NOT constitutes a violation of this permit and may affect the ability of the permittee to obtain general permit coverage in the future.

B. When to submit an NOT.

1. Permittees wishing to terminate coverage under this permit shall submit an NOT form in accordance with Part V.G. of this permit. Compliance with this permit is required until an NOT form is submitted. The permittee's authorization to discharge under this permit terminates at midnight of the day the NOT form is submitted. Prior to submitting the NOT form, the permittee shall conduct a site inspection in accordance with Part III.G.2.i of this permit and have a maintenance agreement in place to ensure all post-construction BMPs will be maintained in perpetuity.
2. All permittees shall submit an NOT form within 45 days of completing all permit requirements. Enforcement actions may be taken if a permittee submits an NOT form without meeting one or more of the following conditions:
 - a. Final stabilization (see definition in Part VII) has been achieved on all portions of the site for which the permittee is responsible (including, if applicable, returning agricultural land to its pre-construction agricultural use);
 - b. Another operator(s) has assumed control over all areas of the site that have not been finally stabilized;

- c. For residential construction only, temporary stabilization has been completed and the lot, which includes a home, has been transferred to the homeowner. (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.); or
- d. An exception has been granted under Part III.G.4.

C. How to submit an NOT.

Permittees shall use Ohio EPA's approved NOT form. The form shall be completed and mailed according to the instructions and signed in accordance with Part V.G of this permit.

PART V. STANDARD PERMIT CONDITIONS.

A. Duty to comply.

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of ORC Chapter 6111 and is grounds for enforcement action.

Ohio law imposes penalties and fines for persons who knowingly make false statements or knowingly swear or affirm the truth of a false statement previously made.

B. Continuation of an expired general permit.

An expired general permit continues in force and effect until a new general permit is issued.

C. Need to halt or reduce activity not a defense.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to mitigate.

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. Duty to provide information.

The permittee shall furnish to the director, within 10 days of written request, any information which the director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the director upon request copies of records required to be kept by this permit.

F. Other information.

When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the NOI, SWP3, NOT or in any other report to the director, he or she shall promptly submit such facts or information.

G. Signatory requirements.

All NOIs, NOTs, SWP3s, reports, certifications or information either submitted to the director or that this permit requires to be maintained by the permittee, shall be signed.

1. These items shall be signed as follows:
 - a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - i. A president, secretary, treasurer or vice-president of the corporation in charge of a principal business function or any other person who performs similar policy or decision-making functions for the corporation; or
 - ii. The manager of one or more manufacturing, production or operating facilities, provided, the manager is authorized to make management decisions that govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - b. For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or
 - c. 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).
2. All reports required by the permits and other information requested by the director shall be signed by a person described in Part V.G.1 of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Part V.G.1 of this permit and submitted to the director;

- b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator of a well or well field, superintendent, position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - c. The written authorization is submitted to the director.
3. Changes to authorization. If an authorization under Part V.G.2 of this permit is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part V.G.2 of this permit must be submitted to the director prior to or together with any reports, information or applications to be signed by an authorized representative.

H. Certification.

Any person signing documents under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

I. Oil and hazardous substance liability.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under section 311 of the CWA or 40 CFR Part 112. 40 CFR Part 112 establishes procedures, methods and equipment and other requirements for equipment to prevent the discharge of oil from non-transportation-related onshore and offshore facilities into or upon the navigable surface waters of the state or adjoining shorelines.

J. Property rights.

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

K. Severability.

The provisions of this permit are severable and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

L. Transfers.

Ohio NPDES general permit coverage is transferable. Ohio EPA must be notified in writing sixty days prior to any proposed transfer of coverage under an Ohio NPDES general permit. The transferee must inform Ohio EPA it will assume the responsibilities of the original permittee transferor.

M. Environmental laws.

No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.

N. Proper operation and maintenance.

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of SWP3s. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions of the permit.

O. Inspection and entry.

The permittee shall allow the director or an authorized representative of Ohio EPA, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment); and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

P. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

Q. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

R. Bypass

The provisions of 40 CFR Section 122.41(m), relating to "Bypass," are specifically incorporated herein by reference in their entirety. For definition of "Bypass," see Part VII.C.

S. Upset

The provisions of 40 CFR Section 122.41(n), relating to "Upset," are specifically incorporated herein by reference in their entirety. For definition of "Upset," see Part VII.GG.

T. Monitoring and Records

The provisions of 40 CFR Section 122.41(j), relating to "Monitoring and Records," are specifically incorporated herein by reference in their entirety.

U. Reporting Requirements

The provisions of 40 CFR Section 122.41(l), relating to "Reporting Requirements," are specifically incorporated herein by reference in their entirety.

PART VI. REOPENER CLAUSE

If there is evidence indicating potential or realized impacts on water quality due to any storm water discharge associated with construction activity covered by this permit, the permittee of such discharge may be required to obtain coverage under an individual permit or an alternative general permit in accordance with Part I.C of this permit or the permit may be modified to include different limitations and/or requirements.

Permit modification or revocation will be conducted according to ORC Chapter 6111.

PART VII. DEFINITIONS

- A. "Act" means Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483, Pub. L. 97-117 and Pub. L. 100-4, 33 U.S.C. 1251 et. seq.
- B. "Best management practices (BMPs)" means schedules of activities, prohibitions of practices, maintenance procedures and other management practices (both structural and non-structural) to prevent or reduce the pollution of surface waters of the state. BMP's also include treatment requirements, operating procedures and practices to control plant and/or construction site runoff, spillage or leaks, sludge or waste disposal or drainage from raw material storage.
- C. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
- D. "Commencement of construction" means the initial disturbance of soils associated with clearing, grubbing, grading, placement of fill, or excavating activities or other construction activities.

- E. “Concentrated storm water runoff” means any storm water runoff which flows through a drainage pipe, ditch, diversion or other discrete conveyance channel.
- F. “Director” means the director of the Ohio Environmental Protection Agency.
- G. “Discharge” means the addition of any pollutant to the surface waters of the state from a point source.
- H. “Disturbance” means any clearing, grading, excavating, filling, or other alteration of land surface where natural or man-made cover is destroyed in a manner that exposes the underlying soils.
- I. “Drainage watershed” means for purposes of this permit the total contributing drainage area to a BMP, i.e., the “watershed” directed to the practice. This would also include any off-site drainage.
- J. “Final stabilization” means that either:
 - 1. All soil disturbing activities at the site are complete and a uniform perennial vegetative cover (e.g., evenly distributed, without large bare areas) with a density of at least 70 percent cover for the area has been established on all unpaved areas and areas not covered by permanent structures or equivalent stabilization measures (such as the use of mulches, rip-rap, gabions or geotextiles) have been employed. In addition, all temporary erosion and sediment control practices are removed and disposed of and all trapped sediment is permanently stabilized to prevent further erosion; or
 - 2. For individual lots in residential construction by either:
 - a. The homebuilder completing final stabilization as specified above or
 - b. The homebuilder establishing temporary stabilization including perimeter controls for an individual lot prior to occupation of the home by the homeowner and informing the homeowner of the need for and benefits of, final stabilization. (Homeowners typically have an incentive to put in the landscaping functionally equivalent to final stabilization as quick as possible to keep mud out of their homes and off sidewalks and driveways.); or
 - 3. For construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land), final stabilization may be accomplished by returning the disturbed land to its pre-construction agricultural use. Areas disturbed that were previously used for agricultural activities, such as buffer strips immediately adjacent to surface waters of the state and which are not being returned to their pre-construction agricultural use, must meet the final stabilization criteria in (1) or (2) above.
- K. “Individual Lot NOI” means a Notice of Intent for an individual lot to be covered by this permit (see Part I of this permit).

- L. "Larger common plan of development or sale"- means a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan.
- M. "MS4" means municipal separate storm sewer system which means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels or storm drains) that are:
1. Owned or operated by the federal government, state, municipality, township, county, district(s) or other public body (created by or pursuant to state or federal law) including special district under state law such as a sewer district, flood control district or drainage districts or similar entity or a designated and approved management agency under section 208 of the act that discharges into surface waters of the state; and
 2. Designed or used for collecting or conveying solely storm water,
 3. Which is not a combined sewer and
 4. Which is not a part of a publicly owned treatment works.
- N. "National Pollutant Discharge Elimination System (NPDES)" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits and enforcing pretreatment requirements, under sections 307, 402, 318 and 405 of the CWA. The term includes an "approved program."
- O. "NOI" means notice of intent to be covered by this permit.
- P. "NOT" means notice of termination.
- Q. "Operator" means any party associated with a construction project that meets either of the following two criteria:
1. The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or
 2. The party has day-to-day operational control of those activities at a project which are necessary to ensure compliance with an SWP3 for the site or other permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the SWP3 or comply with other permit conditions).
- As set forth in Part I.F.1, there can be more than one operator at a site and under these circumstances, the operators shall be co-permittees.
- R. "Ordinary high water mark" means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.
- S. "Owner or operator" means the owner or operator of any "facility or activity" subject to regulation under the NPDES program.

- T. “Permanent stabilization” means the establishment of permanent vegetation, decorative landscape mulching, matting, sod, rip rap and landscaping techniques to provide permanent erosion control on areas where construction operations are complete or where no further disturbance is expected for at least one year.
- U. “Percent imperviousness” means the impervious area created divided by the total area of the project site.
- V. “Point source” means any discernible, confined and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or the floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.
- W. “Qualified inspection personnel” means a person knowledgeable in the principles and practice of erosion and sediment controls, who possesses the skills to assess all conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activity.
- X. “Rainwater and Land Development” is a manual describing construction and post-construction best management practices and associated specifications. A copy of the manual may be obtained by contacting the Ohio Department of Natural Resources, Division of Soil & Water Conservation.
- Y. “Riparian area” means the transition area between flowing water and terrestrial (land) ecosystems composed of trees, shrubs and surrounding vegetation which serve to stabilize erodible soil, improve both surface and ground water quality, increase stream shading and enhance wildlife habitat.
- Z. “Runoff coefficient” means the fraction of total rainfall that will appear at the conveyance as runoff.
- AA. “Sediment settling pond” means a sediment trap, sediment basin or permanent basin that has been temporarily modified for sediment control, as described in the latest edition of the Rainwater and Land Development manual.
- BB. “State isolated wetland permit requirements” means the requirements set forth in Sections 6111.02 through 6111.029 of the ORC.
- CC. “Storm water” means storm water runoff, snow melt and surface runoff and drainage.
- DD. “Steep slopes” means slopes that are 15 percent or greater in grade. Where a local government or industry technical manual has defined what is to be considered a “steep slope,” this permit’s definition automatically adopts that definition.
- EE. “Surface waters of the state” or “water bodies” means all streams, lakes, reservoirs, ponds, marshes, wetlands or other waterways which are situated wholly or partially within the boundaries of the state, except those private waters which do not combine or effect a junction with natural surface or underground waters. Waters defined as

sewerage systems, treatment works or disposal systems in Section 6111.01 of the ORC are not included.

- FF. "SWP3" means storm water pollution prevention plan.
- GG. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- HH. "Temporary stabilization" means the establishment of temporary vegetation, mulching, geotextiles, sod, preservation of existing vegetation and other techniques capable of quickly establishing cover over disturbed areas to provide erosion control between construction operations.
- II. "Water Quality Volume (WQ_v)" means the volume of storm water runoff which must be captured and treated prior to discharge from the developed site after construction is complete. WQ_v is based on the expected runoff generated by the mean storm precipitation volume from post-construction site conditions at which rapidly diminishing returns in the number of runoff events captured begins to occur.

Attachment B

Permitting Documentation (NOI, Permit Card, Permit Letters, Blank NOT)



Division of Surface Water - Notice of Intent (NOI) For Coverage Under Ohio Environmental Protection Agency General NPDES Permit

(Read accompanying instructions carefully before completing this form.)

Submission of this NOI constitutes notice that the party identified in Section I of this form intends to be authorized to discharge into state surface waters under Ohio EPA's NPDES general permit program. Becoming a permittee obligates a discharger to comply with the terms and conditions of the permit. Complete all required information as indicated by the instructions. Do not use correction fluid on this form. Forms transmitted by fax will not be accepted. A check for the proper amount must accompany this form and be made payable to "Treasurer, State of Ohio." (See the fee table in Attachment C of the NOI instructions for the appropriate processing fee.)

I. Applicant Information/Mailing Address

Company (Applicant) Name: [Click here to enter text.](#)

Mailing (Applicant) Address: [Click here to enter text.](#)

City: [Click here to enter text.](#)

State: [Click here to enter text.](#)

Zip Code: [Click here.](#)

Contact Person: [Click here to enter text.](#)

Phone: [Click here to enter text.](#)

Fax: [Click here.](#)

Contact E-mail Address: [Click here to enter text.](#)

II. Facility/Site Location Information

Facility Name: [Click here to enter text.](#)

Facility Address/Location: [Click here to enter text.](#)

City: [Click here to enter text.](#)

State: [Ohio](#)

Zip Code: [Click here.](#)

County(ies): [Click here to enter text.](#)

Township(s): [Click here to enter text.](#)

Facility Contact Person: [Click here to enter text.](#)

Phone: [Click here to enter text.](#)

Fax: [Click here.](#)

Facility Contact E-mail Address: [Click here to enter text.](#)

(For Construction & Coal, must complete lat/long & attach map) Latitude: [Click here to enter text.](#)

Longitude: [Click here to enter text.](#)

Receiving Stream or MS4: [Click here to enter text.](#)

III. General Permit Information

General Permit Number: [Choose an item.](#)

Initial Coverage: ☐ Renewal Coverage: ☐

Type of Activity: [Choose an item.](#)

SIC Code(s): [Click here to enter text.](#)

Existing NPDES Permit Number:

ODNR Coal Mining Application Number:

If Household Sewage Treatment System, is system for: ☐ new home construction or ☐ replacement of failed

Outfall:	Design Flow (MGD):	Associated Permit Effluent Table:	Latitude:	Longitude:
#.	Flow.	Choose an item.	Click here.	Click here.

Are These Permits Required? PTI [Choose item.](#)

Individual 401 Water Quality Certification [Choose item.](#)

Isolated Wetland [Choose item.](#)

USACE Nationwide Permit [Choose item.](#)

Individual NPDES [Choose item.](#)

Proposed Project Start Date: [Click here to enter a date.](#)

Estimated Completion Date: [Click here to enter a date.](#)

Total Land Disturbance (Acres):

MS4 Drainage Area (Sq. Miles):

IV. Payment Information

Check #: [Click here to enter text.](#)

Check Amount: [Click here to enter text.](#)

Date of Check: [Click here to enter a date.](#)

For Ohio EPA Use Only

Check ID (OFA): _____ ORG #: _____

Rev ID: _____ DOC #: _____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Applicant Name: [Click here to enter text.](#)

Title: [Click here to enter text.](#)

Applicant Signature:

Date: [Click here to enter a date.](#)



Division of Surface Water

Co-Permittee Notice of Intent (NOI) for Coverage Under Ohio EPA Construction Storm Water General Permit

Submission of this NOI constitutes notice that the party identified in Section I of this form intends to be authorized by Ohio's NPDES general permit for storm water associated with construction activity. Becoming a permittee obligates a discharger to comply with the terms and conditions of the permit. **NOTE: All necessary information must be provided on this form. Read the accompanying instructions carefully before completing the form. Do not use correction fluid on this form. Forms transmitted by fax will not be accepted. There is no fee associated with submitting this form.**

I. Applicant Information/Mailing Address

Company (Applicant) Name: Click here to enter text - Required.

Mailing (Applicant) Address: Click here to enter text - Required.

City: Click here to enter text - Required.

State: Click here to enter text - Required.

Zip Code: Click here to enter text - Required.

Contact Person: Click here to enter text - Required.

Phone: Click here to enter text - Required.

Fax: Click here to enter text.

Contact E-mail Address: Click here to enter text.

II. Facility/Site Location Information

Existing Ohio EPA Facility Permit Number: Click here to enter text - Required.

Initial Permittee Name: Click here to enter text - Required.

Facility/Site Name: Click here to enter text - Required.

City: Click here to enter text - Required.

State: Ohio

Zip Code: Click here to enter text - Required.

County(ies): Click here to enter text - Required.

Township: Click here to enter text - Required.

Facility Contact Person: Click here to enter text - Required.

Phone: Click here to enter text - Required.

Fax: Click here to enter text.

Facility Contact E-mail Address: Click here to enter text.

III. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of the fine and imprisonment for knowing violations.

Applicant Name (printed or typed):

Title:

Signature:

Date:



Notice of Termination (NOT) of Coverage Under Ohio Environmental Protection Agency General NPDES Permit Division of Surface Water

(Read accompanying instructions carefully before completing this form.)

Submission of this NOT constitutes notice that the party identified in Section II of this form is no longer authorized to discharge into state waters under the NPDES general permit program. NOTE: All necessary information must be provided on this form. Do not use correction fluid on this form. Forms transmitted by fax will not be accepted. There is no fee associated with submitting this form.

I. Permit Information:

NPDES General Permit Number: OH

Facility General Permit Number:

II. Owner/Applicant Information/Mailing Address

Company (Applicant) Name:

Mailing (Applicant) Address:

City: State: Ohio Zip Code: -

Contact Person: Phone: () - Fax: () -

Contact Email:

III. Facility/Site Location Information

Facility Name:

Facility Address/Location:

City: State: Ohio Zip Code: -

County: Township(s): Section:

Facility Contact Person: Phone: () - Fax: () -

Facility Contact Email:

IV. Reason for Termination

Transfer of Ownership ☐ Cease to Discharge ☐ Facility Closed ☐

Project Completed ☐ Obtained Individual Permit ☐

V. Certifications

Standard Certification:

I certify under penalty of law that all discharges authorized by the NPDES general permit have been eliminated or that I am no longer the operator of the facility. I understand that by submitting this NOT, I am no longer authorized to discharge under this general permit and that discharging pollutants to waters of the state without an NPDES permit is unlawful under ORC 6111.

Name (typed): Title:

Signature: Date:

Industrial Storm Water and Coal Mining Activity Certification Only:

I certify under penalty of law that all discharges associated with the identified facility that are authorized by the above referenced NPDES general permit have been eliminated, that I am no longer the operator of the facility, or in the case of a coal mine that the SMCRA bond has been released by ODNR-Division of Reclamation. I understand that by submitting this NOT, I am no longer authorized to discharge storm water associated with industrial activity under this general permit, and that discharging pollutants in storm water associated with industrial activity to waters of the state is unlawful under ORC 6111 where the discharge is not authorized by an NPDES permit.

Name (typed): Title:

Signature: Date:

Storm Water Construction Activity Certification Only:

I certify under penalty of law that all elements of the storm water pollution prevention plan have been completed, the disturbed soil at the identified facility have been stabilized and temporary erosion and sediment control measures have been removed at the appropriate time, or that all storm water discharges associated with construction activity from the identified facility that are authorized by the above referenced NPDES general permit have otherwise been eliminated. I understand that, by submitting this NOT, I am no longer authorized to discharge storm water associated with construction activity by the general permit, and that discharging pollutants in storm water associated with construction activity to waters of the state is unlawful under ORC 6111 where the discharge is not authorized by an NPDES permit.

Name (typed): Title:

Signature: Date:



National Pollutant Discharge Elimination System General Permit Coverage Transfer Application Form

Division of Surface Water

Instructions: Submit the completed form below with the original signatures of the previous and new owners or those responsible for the permit. Send to the following address: Ohio EPA, Division of Surface Water, P.O. Box 1049, Columbus, Ohio 43216-1049. A letter will be sent to the transferee and a copy of the letter will be sent to the transferor after the application is reviewed.

A. Existing Permit Holder Information (Transferor)

1. Facility Permit Number: _____

2. General Permit Number: OH _____

3. Corporate (Parent Company) Name: _____

4. Contact: _____

5. Division Name: _____

6. Facility Name: _____

7. Mailing Address After Transfer: _____

B. Proposed Permit Holder Information (Transferee)

1. Corporate (Parent Company) Name (New): _____

2. Phone Number: () - _____

3. Division Name: _____

4. Facility Name: _____

5. Mailing Address for all permit-related correspondence: _____

6. Facility Mailing Address (if different): _____

7. Individual authorized to sign applications and Transfer Agreement pursuant to OAC 3745-33-03(F) (principal executive officer, vice president or higher for a corporation; a general partner of a partnership; the proprietor of a proprietorship; principal executive officer, ranking elected official or duly authorized employee of a public entity): _____

Authorized Individual

8. **Authorization:** Pursuant to 40 CFR Part 122.22(b), the individual or position identified in this space is duly authorized by the individual in Item 7 to sign all reports required by permit and other information that may be required by the Director:

Name/Title/Position

9. Operator of Facility

Name: _____

Address: _____

10. Contact Person for Facility Information or Inspections

Name: _____

Phone: () - _____

11. Describe any material modifications to production or facilities, subsequent to the transfer, which may alter the volume or characteristics of this discharge (including change of SIC code): (Attach additional pages as necessary)

Agreement to Transfer Permit

_____ as the holder of an NPDES permit which stipulates
(Transferor)
responsibility, coverage and liability for operations involving discharges of wastewater from the facility located at
_____ hereby applies for approval of the Director to transfer the permit
(Facility Location)
responsibility, coverage and liability to _____
(Transferee)
_____ agrees to continue to assume the responsibility for compliance
(Transferor)
with all terms, limitations and conditions and any coverage or liability thereunder for a period ending on
_____ as the proposed new permittee, hereby
(Date) (Transferee)
agrees to assume the responsibility for compliance with the entirety of the coverage, responsibility and liability of the
NPDES permit commencing at _____
(Date)

In witness whereof, the parties have executed this Agreement on _____, it is so agreed.
(Date)

Transferor:
(Company Name)

Transferee:
(Company Name)

By: (Company
Representative Signature)

By: (Company
Representative Signature)

Title: _____

Title: _____

12. By signing this form, I (transferee), certify and acknowledge that I have read and fully understood terms and conditions of General Permit Number: OH

I certify under penalty of law that the information submitted is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Transferee Signature: _____

Title: _____

Date: _____

Irwin, Adam

From: Ben Smith [Ben.Smith@epa.state.oh.us]
Sent: Monday, February 14, 2011 11:26 AM
To: Mike Sponsler
Cc: Almady, Joseph
Subject: Re: FW: juwi Wind, LLC, Hog Creek Wind Farm (formerly named Hardin County North Wind Farm)

Mr. Sponsler,

In regard to questions 1 and 2 below.

1. If the previous project HHEI's are for the same streams that are going to be impacted for the project then those same HHEI's could be used for this project. If the streams are different we will need to see new HHEI evaluations. As far as wetlands go a delineation of any wetlands in areas that will be impacted must be completed and submitted to Ohio EPA for verification. If wood lots are being avoided and the stream crossings are by directional bore then there is a good chance there will not be wetland impacts in these areas. The actual stream/wetland crossings that require fill (access roads) will need to be evaluated with HHEI and ORAM and verified by Ohio EPA.

2. Condition 3 would apply if the crossing were actually going to be fill placed in the stream (excavated and buried lines). If the lines are going to be directionally board under the stream then there would be no discharge of fill and these line crossing would not be counted for condition 3.

If the impacts meet the special limitations and conditions specified in your e-mail below then Ohio EPA has pre-certified this activity being authorized under the NWP.

I hope this answers your questions.

Ben Smith

>>> Mike Sponsler <msponsler@bheenvironmental.com> 1/27/2011 2:02 PM >>>
Hi Ben,

I am following up on changes to a project on which BHE corresponded with you about 1.5 years ago. Some background follows: USACE conducted a site visit of the subject project area about a year and half ago. Dane Vandewater of our company, BHE Environmental, then followed up with an email to you (see attached email titled, " FW: HHEI verification - Hardin County, Ohio (BHE 1865.0040). " Your follow up reply is also attached. I am now taking the lead on this issue. We recently corresponded with USACE about an addition of a second phase to the project; my email to them with their reply is attached.

I have some follow up with you about the project based on recent discussion with our client.

The current status of the project follows: Our client, juwi Wind, LLC (formerly JW Great Lakes Wind) is adding a second phase to the Hog Creek Wind Farm (formerly Hardin County North Wind Farm). Hog Creek I is not yet under construction even though the Ohio Power Siting Board permit has been issued.

With regard to wetlands, USACE has indicated no PCN is required (see attached email from Paul Wetzel). The current project schedule has the construction of both phases at the same time

in early 2012. The second phase, Hog Creek Wind Farm II, has similar wetland features compared to the first as it is located on ditched farmland see (see photos and maps in attached email from me to P. Wetzel). juwi has a possibility of only one additional ditch crossing proposed in this new area.

I have some questions to assure our client complies with OEPA requirements.

1. Can you verify that the determinations on Hog Creek I would also be applicable to Hog Creek II?, i.e. wetlands to be affected would not be considered "Superior High Quality Waters, etc."

2. Juwi intends to comply with Ohio's conditions as set forth below, but we have a question with regard to item 3 below. Buried cables between the turbines will cross under several ditches. Does condition 3 apply to these ditches?

Ohio State Certification Special Limitations and Conditions:

1. Buried utility lines shall be installed at a 90 degree angle to the stream bank to the maximum extent practicable. When a 90 degree angle is not possible, the length of any buried utility line within any single waterbody shall not exceed twice the width of that waterbody at the location of the crossing.
2. The Certification shall not authorize the physical disturbance of more than 500 linear feet of forested wetland soils (containing woody vegetation 6 meters or taller).
3. Buried utility line stream crossings shall not exceed a total of three per stream mile per stream.
4. The total width of any excavation, grading, or mechanized clearing of vegetation and soil shall not exceed 25 feet on either side of a utility line, or a total width of 50 feet on both sides of a utility line.
5. All hydric soils up to 12 inches in depth within wetlands shall be stockpiled and replaced as the topmost backfill layer.
6. This Certification shall not authorize the stockpiling of side cast dredged material in excess of 3 months. Dredged side cast material that will be stockpiled in excess of 45 days shall be stabilized in accordance with the conditions of the Construction General Storm Water Permit.
7. Applicants who intend to use chemicals regulated by the Ohio Department of Agriculture in any waters of the State (including wetlands) shall comply with all Ohio Department of Agriculture requirements regarding the use and application of the chemicals.
8. New buried utility lines crossing more than 1,500 feet (cumulative for the entire project) of surface waters (wetlands, and ephemeral, intermittent, and perennial streams) or with impacts located in three or more Ohio EPA 8-digit hydrologic units as defined in Ohio Administrative Code 3745-1-54(F) are not authorized.

3. During construction our client is planning to cross the ditches at several locations with a large crane which will involve temporary crossings, i.e. the fill will be removed soon after the crane passes over the ditch. It appears these activities would be authorized under NW12 and are consistent with the state certification provided any temporary fill is removed within 3 months and any stockpiles in place longer than 45 days are stabilized. Please verify that this interpretation is correct.

4. Would you like to conduct a site inspection? A juwi representative and me would be happy to meet you on site if you would like to inspect the project area.

Thank you in advance for you advice.

Mike

[cid:image001.gif@01CBBE19.ED153140]

BHE Environmental, Inc.

Mike Sponsler

Technical Director

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Ohio Environmental Protection Agency
Unless otherwise provided by law,
this communication and any response to it
constitutes a public record.

Irwin, Adam

From: Wetzel, Paul F LRB [Paul.F.Wetzel@usace.army.mil]
Sent: Friday, January 21, 2011 11:31 AM
To: Mike Sponsler
Cc: Almady, Joseph
Subject: RE: JW - Hardin North (BHE 1865.004) (HOG Crossings)
Attachments: OH NWP12.doc; Application Sample Drawings.pdf; Application Drawing Requirements.doc; Application Drawing Requirements.doc; Copy of eng4345a.pdf; Preliminary JD form.doc

Mike,

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Certain types of excavation activities are defined as discharges of dredged or fill material when they occur in waters of the United States. For instance, land clearing using mechanized equipment, ditching, channelization and other types of excavation when performed in such waters, including wetlands, would likely be regulated under Section 404 of the Clean Water Act.

I am responding to the items in your email below with the following comments:

#1 - I concur.

#2 - For linear projects, the single and complete project (i.e., single and complete crossing) will apply to each crossing of a separate water of the United States (i.e., single waterbody) at that location. Therefore a single and complete project is each ditch crossing authorized under NWP 12.

#3 - Temporary crossings that involve the placement of fill in a regulated ditch would be authorized under NWP 12.

#4 - Directional bore under ditches with upland staging is not a regulated activity since there is no discharge of fill in the waterway. In addition to this, the placement of mats in the waterway to facilitate crossing would not require a permit either, since this is a structure not a fill. Spanning a ditch with a structure top of bank to top of bank in order to facilitate a vehicle crossing would not involve a fill and is not regulated either.

#5 - There is no need to conduct another site visit since the additional ditch crossings are pretty much identical to the ones I already observed.

Preconstruction notification requirements are as follows (taken from the current NWP 12):

" Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. (See general condition 27.) (Sections 10 and 404)"

"Nationwide Permit 12 Specific Regional Conditions:

a. Pre-Construction Notification: The permittee must notify the District Engineer in accordance with the "Pre-Construction Notification" Nationwide Permit General Condition for the following activities:

- * All work in waters of the U.S., including special aquatic sites, associated with utility line substations;
- * All stream work (perennial, intermittent, and ephemeral) associated with foundations for overhead utility line towers, poles, and anchors;
- * Impacts greater than 1/10 acre in waters of the US, including wetlands, associated with access roads;
- * All work associated with temporary construction, access, and dewatering activities in Section 10 waters, perennial streams, and wetlands. The PCN must include a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions.
- * All impacts to forested wetlands; and
- * All impacts to shrub/scrub wetlands."

Also, impacts to endangered species or the presence of a historic property would trigger a PCN requirement. However, it is my understanding that there are no ESA or historic property resources within the project area for each crossing.

It doesn't appear that any of the ditch crossings would trigger a PCN requirement.

I have attached a copy of NWP 12 as well as an "application package" for your information and future use. If you have any questions, please feel free to contact me.

Paul Wetzel
Biologist
U.S. Army Corps of Engineers, Buffalo District
Oak Harbor Field Office
240 Lake Street, Unit D
Oak Harbor, Ohio 43449
(419) 898-3491
Fax (419) 898-4292

-----Original Message-----

From: Mike Sponsler [mailto:msponsler@bheenvironmental.com]
Sent: Wednesday, January 19, 2011 11:54 AM
To: Wetzel, Paul F LRB
Cc: 'Almady, Joseph'
Subject: RE: JW - Hardin North (BHE 1865.004) (HOG Crossings)

Hi Paul,

I am following up to confirm our phone call this morning regarding the Hog Creek Wind farm project.

My understanding is as follows:

1. Hog Creek II will be under the same interpretation as Hog Creek I because site conditions are the same or similar.
 2. Each crossing is a separate authorization.
 3. Temporary crossing for the crane do not require a PCN provided the temporary fill is removed quickly after the crane crosses.
 4. Cables placed under streams that do not involve any fill in the stream do not require authorization.
 5. You do not need to make an additional site visit.
- Please confirm that my understanding is correct.

Thank you Paul
Mike

-----Original Message-----

From: Mike Sponsler
Sent: Monday, January 03, 2011 10:50 AM
To: 'Wetzel, Paul F LRB'
Cc: 'Almady, Joseph'
Subject: RE: JW - Hardin North (BHE 1865.004) (HOG Crossings)

Hi Paul,
You saw all of the Hog Creek I area. Hog Creek II is very similar. The only ditch crossings in Hog Creek II will be cables...no access roads will cross ditches in Hog Creek II. So I am not sure a site visit is necessary; however if you wish to make another visit to answer our questions, I can be available. The questions are below: Thanks
Mike

1. Can you confirm that Hog Creek II will be under the same interpretation as Hog Creek I i.e. NWP 12, with no PCN?
2. Is each permanent ditch crossing considered a separate authorization?
3. It is assumed the temporary crane crossings of these ditches are under NW12 conditions. Can you confirm?

-----Original Message-----

From: Wetzel, Paul F LRB [mailto:Paul.F.Wetzel@usace.army.mil]
Sent: Thursday, December 30, 2010 11:52 AM
To: Mike Sponsler
Subject: RE: JW - Hardin North (BHE 1865.004) (HOG Crossings)

Mike,

When I reviewed the initial phase we viewed all the crossings and discussed NWP 12 requirements. Did I see these yet or are they additional stream crossings? Would you be available some time during the week of Jan. 17? I am open the 18-20 if you wish to have a preappl. meeting on site. Thanks!

Happy New Year!

Paul Wetzel
Biologist
U.S. Army Corps of Engineers, Buffalo District Oak Harbor Field Office 240
Lake Street, Unit D Oak Harbor, Ohio 43449
(419) 898-3491
Fax (419) 898-4292

-----Original Message-----

From: Mike Sponsler [mailto:msponsler@bheenvironmental.com]
Sent: Tuesday, December 21, 2010 3:26 PM
To: Wetzel, Paul F LRB
Subject: JW - Hardin North (BHE 1865.004) (HOG Crossings)

Hi Paul,
After a site visit a year and half ago, you sent out an email to Dane Vandewater of our company, BHE Environmental, (see below). I am now taking

the lead on this issue and have some follow up based on recent discussion with our client. Below is some background to jog your memory about the project.

1. Our client, juwi Wind, LLC (formerly JW Great Lakes Wind) is adding a second phase to the Hog Creek Wind Farm (formerly Hardin County North Wind Farm). Hog Creek I is still not under construction. At the time you indicated no PCN is required (see below). The current project schedule has the construction of both phases at the same time in early 2012. The second phase, Hog Creek Wind Farm II, has similar wetland features compared to the first as it located on ditched farmland see (photos and maps). They have a possibility of only one additional ditch crossing proposed in this new area. juwi will address Hog Creek II in a second authorization. Can you confirm that Hog Creek II will be under the same interpretation as Hog Creek I, i.e. NWP 12, with no PCN?

2. Also in the email that Dane sent after the site visit, he asked confirmation on the following assumption: " It was assumed that the NWP 12 would be the NWP to authorize each individual road crossing. I am requesting confirmation of this determination by the USACE for these proposed crossings." It appears as though it was agreed each individual road crossing will be authorized separately under the NWP 12. Am I interpreting this correctly?

3. Finally, an item has come up which was not discussed on the field visit you made with Dane as we just became aware of it last week. During construction our client is planning to cross the ditches at several locations with a large crane which will involve temporary crossings, i.e. the fill will be removed after the crane passes over the ditch. It appears these activities would be authorized under NW12 based on the following permit condition language,

"This NWP also authorizes temporary structures, fills, and work necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate." AND

"12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate."

My questions are summarized below:

1. Can you confirm that Hog Creek II will be under the same interpretation as Hog Creek I i.e. NWP 12, with no PCN?
2. Is each permanent ditch crossing considered a separate authorization?
3. It is assumed the temporary crane crossings of these ditches are under NW12 conditions. Can you confirm?

I'll be glad to discuss with you, but I thought some background info to refresh your memory may be helpful before I call. Thanks Mike Sponsler
Technical Director 5300 East Main St., Ste 101 Columbus, Ohio 43213

Office: 614.856.4680 ext. 4681

Direct Line: 856-4681

Fax: 614.856.4685

Cellular: 614.743.9977

Email: msponsler@bheenvironmental.com

Web Address: www.bheenvironmental.com

-----Original Message-----

From: Wetzel, Paul F LRB [<mailto:Paul.F.Wetzel@usace.army.mil>]

Sent: Wednesday, July 15, 2009 2:55 PM

To: Dane Vandewater

Cc: Mike Sponsler

Subject: RE: JW - Hardin North (BHE 1865.004)

Hi Dane,

Under Section 404 of the Clean Water Act (CWA), the U.S. Army Corps of Engineers regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Certain types of excavation activities are defined as discharges of dredged or fill material when they occur in waters of the United States. For instance, land clearing using mechanized equipment, ditching, channelization and other types of excavation when performed in such waters, including wetlands, would likely be regulated under Section 404 of the Clean Water Act.

The ditches/tributaries that will be impacted are considered relatively permanent waterways subject to regulation under Section 404 CWA. Directional boring will not require a permit since there is no discharge of fill into a water of the US involved in this process. Culverting the RPW will require a permit, but this would be authorized under nationwide permit (NWP) 12 and there is no preconstruction notification (PCN) required, i.e. you do not need to submit an application to the Corps prior to commencing with work. I have attached a copy of NWP 12 for your information.

I am assuming that that the wetlands associated with the ditches are ORAM category 1 wetlands and the streams are not considered to be water bodies meeting the criteria set forth in Part 1A-2 (a thru c) of the NWP 401 water quality certification (Superior High Quality Waters, etc). This must be confirmed by the Ohio EPA prior to commencing with work. Work in category 3 wetlands or high quality resource waters as described in the 401 WQC would require an individual 401 WQC from OEPA. I copied Ben Smith from OEPA on this email for your convenience.

If you would like a formal verification letter sent to you must submit an

application. Otherwise, no further coordination with the Corps is required. If you have any questions, please feel free to contact me.

Thanks!

Paul Wetzel
Biologist

U.S. Army Corps of Engineers, Buffalo District Oak Harbor Field Office 240
Lake Street, Unit D Oak Harbor, Ohio 43449
(419) 898-3491
Fax (419) 898-4292

-----Original Message-----

From: Dane Vandewater [mailto:dvandewater@bheenvironmental.com]
Sent: Tuesday, July 14, 2009 9:24 AM
To: Wetzel, Paul F LRB
Cc: Mike Sponsler
Subject: JW - Hardin North (BHE 1865.004)

Paul,

Thank you for your time at the Hardin County site visit last week.

I wanted to confirm our discussion at the Hardin County North project site for JW. During the site visit and our review of several of the ditch/stream/linear wetland areas it was determined that these areas would be considered regulated by the USACE. Due to the status of these areas as "jurisdictional" to the USACE, any impacts to these areas would be authorized by the use of the Nationwide Permits (NWP). It was indicated by JW that the impacts would likely be isolated to three to four road crossings. Cabling will be directionally drilled beneath the channels or brought up and over the ditches on transmission poles located outside the ditches, and therefore are non-jurisdictional. It was assumed that the NWP 12 would be the NWP to authorize each individual road crossing. I am requesting confirmation of this determination by the USACE for these proposed crossings.

Upon receipt of a typical plan and profile view of the road crossings, BHE will provide these to the USACE on JW's behalf along with a brief project discussion to request an NWP verification for the road crossings. We hope to have this information within the next few weeks. If the USACE determines, upon receipt of the NWP, that an NWP 12 will authorize the activities without a PCN due to the lack of temporary fill, JW will be authorized to proceed without notification to the USACE. Please confirm that our understanding is correct. If it is not, please advise what steps should be taken so that we can include the appropriate information in the initial submission to the USACE.

Thanks again for your time to visit the site. Your attention to this project is greatly appreciated.

-Dane

BHE Environmental, Inc.
Dane G. Vandewater
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Direct: 513.326.1163
Fax: 513.326.1550
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Website: www.bheenvironmental.com <blocked::http://www.bheenvironmental.com/>

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From: [Endres, Peter](#)
To: [Almady, Joseph](#)
Subject: FW: JW - Hardin North (BHE 1865.004)
Date: Thursday, June 23, 2011 5:21:45 PM
Attachments: [OH NWP12.doc](#)

Peter K. Endres
Manager, New Projects • juwi Wind, LLC • mobile +1.216.538.5420

-----Original Message-----

From: Mike Sponsler [<mailto:msponsler@bheenvironmental.com>]
Sent: Wednesday, July 15, 2009 4:25 PM
To: Endres, Peter
Cc: Dane Vandewater
Subject: FW: JW - Hardin North (BHE 1865.004)

Hi Pete,
Good news. No PCN required. He wants us to confirm classification with OEPA, which is in the works (as you know from yesterdays email). When you submit the NW application it will indicate no endangered species issues and a copy of the cultural resources literature review stating no records of historic sites and then they will make their call on those issues.
Mike

-----Original Message-----

From: Wetzel, Paul F LRB [<mailto:Paul.F.Wetzel@usace.army.mil>]
Sent: Wednesday, July 15, 2009 2:55 PM
To: Dane Vandewater
Cc: Mike Sponsler
Subject: RE: JW - Hardin North (BHE 1865.004)

Hi Dane,

Under Section 404 of the Clean Water Act (CWA), the U.S. Army Corps of Engineers regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Certain types of excavation activities are defined as discharges of dredged or fill material when they occur in waters of the United States. For instance, land clearing using mechanized equipment, ditching, channelization and other types of excavation when performed in such waters, including wetlands, would likely be regulated under Section 404 of the Clean Water Act.

The ditches/tributaries that will be impacted are considered relatively permanent waterways subject to regulation under Section 404 CWA. Directional boring will not require a permit since there is no discharge of fill into a water of the US involved in this process. Culverting the RPW will require a permit, but this would be authorized under nationwide permit (NWP) 12 and there is no preconstruction notification (PCN) required, i.e. you do not need to submit an application to the Corps prior to commencing with work. I have attached a copy of NWP 12 for your information.

I am assuming that that the wetlands associated with the ditches are ORAM category 1 wetlands and the streams are not considered to be water bodies meeting the criteria set forth in Part 1A-2 (a thru c) of the NWP 401 water quality certification (Superior High Quality Waters, etc). This must be confirmed by the Ohio EPA prior to commencing with work. Work in category 3 wetlands or high quality resource waters as described in the 401 WQC would require an individual 401 WQC from OEPA. I copied Ben Smith from OEPA on this email for your convenience.

If you would like a formal verification letter sent to you must submit an application. Otherwise, no further coordination with the Corps is required.
If you have any questions, please feel free to contact me.

Thanks!

Paul Wetzel

Biologist

U.S. Army Corps of Engineers, Buffalo District Oak Harbor Field Office 240 Lake Street, Unit D Oak Harbor, Ohio 43449

(419) 898-3491

Fax (419) 898-4292

-----Original Message-----

From: Dane Vandewater [<mailto:dvandewater@bheenvironmental.com>]

Sent: Tuesday, July 14, 2009 9:24 AM

To: Wetzel, Paul F LRB

Cc: Mike Sponsler

Subject: JW - Hardin North (BHE 1865.004)

Paul,

Thank you for your time at the Hardin County site visit last week.

I wanted to confirm our discussion at the Hardin County North project site for JW. During the site visit and our review of several of the ditch/stream/linear wetland areas it was determined that these areas would be considered regulated by the USACE. Due to the status of these areas as "jurisdictional" to the USACE, any impacts to these areas would be authorized by the use of the Nationwide Permits (NWP). It was indicated by JW that the impacts would likely be isolated to three to four road crossings. Cabling will be directionally drilled beneath the channels or brought up and over the ditches on transmission poles located outside the ditches, and therefore are non-jurisdictional. It was assumed that the NWP 12 would be the NWP to authorize each individual road crossing. I am requesting confirmation of this determination by the USACE for these proposed crossings.

Upon receipt of a typical plan and profile view of the road crossings, BHE will provide these to the USACE on JW's behalf along with a brief project discussion to request an NWP verification for the road crossings. We hope to have this information within the next few weeks. If the USACE determines, upon receipt of the NWP, that an NWP 12 will authorize the activities without a PCN due to the lack of temporary fill, JW will be authorized to proceed without notification to the USACE. Please confirm that our understanding is correct. If it is not, please advise what steps should be taken so that we can include the appropriate information in the initial submission to the USACE.

Thanks again for your time to visit the site. Your attention to this project is greatly appreciated.

-Dane

BHE Environmental, Inc.

Dane G. Vandewater

Wetland Scientist & Project Manager

11733 Chesterdale Road

Cincinnati, OH 45246

Office: 513.326.1500

Direct: 513.326.1163

Fax: 513.326.1550

Mobile: 513.324.1927

Email: dvandewater@bheenvironmental.com

<blocked::<mailto:dvandewater@bheenvironmental.com>>

Website: www.bheenvironmental.com <blocked::<http://www.bheenvironmental.com/>>

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From: [Ben Smith](#)
To: [Dane Vandewater](#); Paul.F.Wetzel@lrb01.usace.army.mil
Cc: [Mike Sponsler](#)
Subject: RE: HHEI verification - Hardin County, Ohio
Date: Monday, September 14, 2009 12:40:51 PM

Paul and Dane

I have completed my review of the information submitted to me for the JW Great Lakes Wind Project. I can agree with the ORAM Catagorizations for the in-stream/fringing wetlands #1 and #3 that were provided to me. In addition, it appears from review of the stream information provided, that the streams have been impacted by agricultural use. Fitzhugh Ditch is the east west running stream (Ditch/Stream 2 ???) that will be impacted in 3 locations this ditch is designated as a Warmwater Habitat Stream in OAC Rule 3745-1-11 page 14. The north south ditch (Ditch/Stream 3 ???) that will be impacted in one location does not appear to be a designated stream.

Please let me know if you have any other questions.

Ben Smith
Ohio EPA
401/IWP Section

>>> Dane Vandewater <dvandewater@bheenvironmental.com> 9/10/2009 3:43 PM >>>
Ben,

Have you had any opportunity to review the attached documents from the email on July 28, 2009? You had discussed visiting the site to verify the HHEI/ORAM forms the last time we spoke in August; have you had the opportunity to perform the site visit and confirm/verify the HHEI/ORAM scoring of the wetlands/drainage ways? Please contact me if you have any questions/comments about the HHEI/ORAM score. I would like to have the opportunity to update our client in the near future so if you could respond by September 15th it would be greatly appreciated.

Thanks
-Dane

BHE Environmental, Inc.
Dane G. Vandewater
Direct: 513.326.1163
Email: dvandewater@bheenvironmental.com<blocked::<mailto:dvandewater@bheenvironmental.com>>

From: Dane Vandewater
Sent: Tuesday, July 28, 2009 11:32 PM
To: 'ben.smith@epa.state.oh.us'
Subject: HHEI verification - Hardin County, Ohio

Ben,

Attached is photos and the HHEI forms and photos of the streams/ditches located within the project area that may be impacted as part of a project. There is limited hydrophytes within portions of the streams/ditches so the "wetland" criteria is very marginal. I have completed ORAMs and Typical delineation sheets for 2 of these streams/ditches. Typically these ditches are maintained on a regular basis so upon the counties maintenance activity it's likely there would no longer be any hydrophytes within the channel.

Basically the reason for you to provide your feedback/verification on the quality of the streams/ditches located within the project area. The USACE has indicated if these semi-permanent waters are not considered "Superior High Quality Waters, etc" that would allow for impacts to these streams/ditches to be authorized through the NWP's. Please let me know if you would like hard copies of the attachments

and I can forward you the information later this week but please use the attachments as a reference for the type of "waters" located within the project area.

If you have any questions please contact me with any comments or questions.

Thanks
-Dane

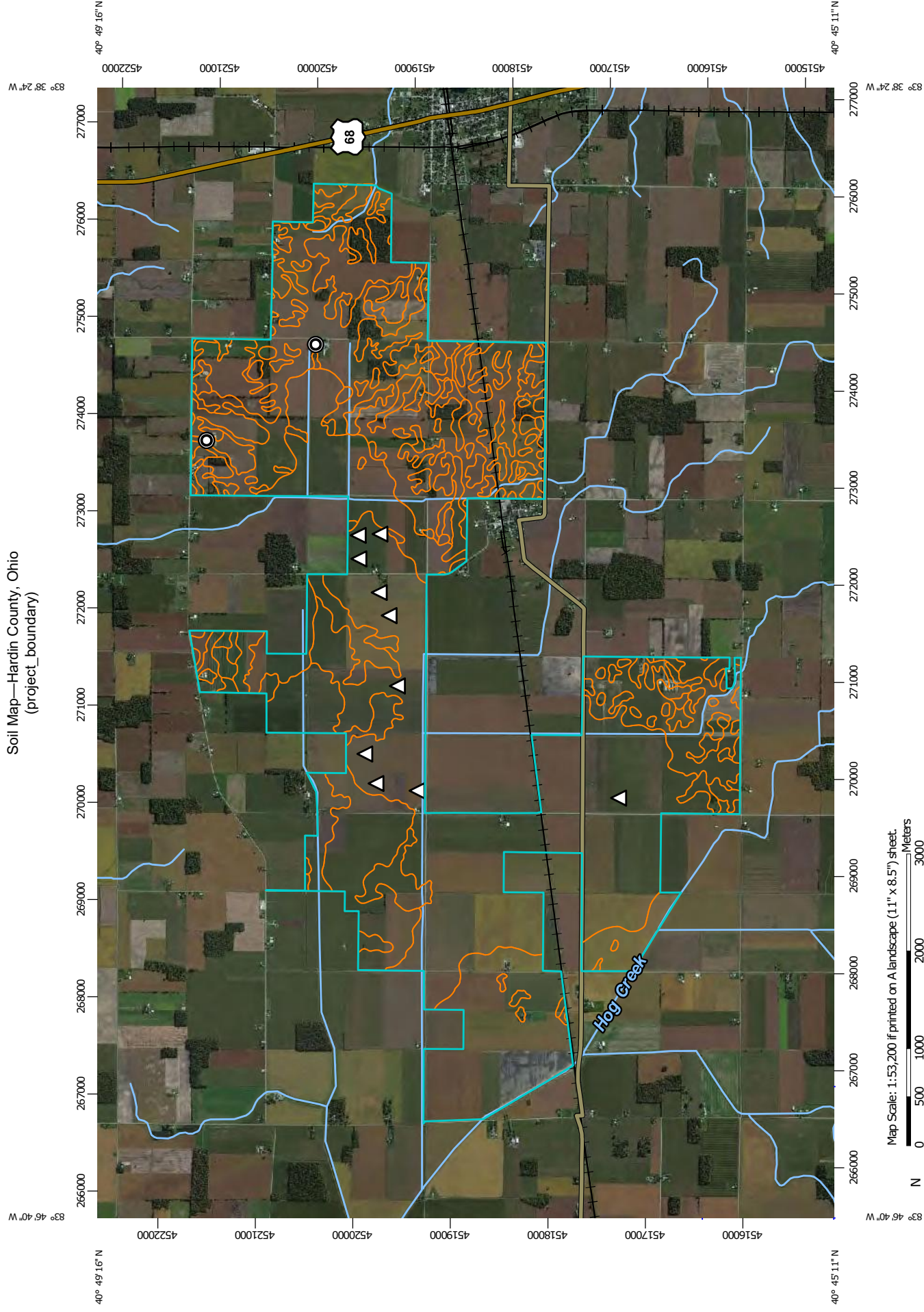
BHE Environmental, Inc.
Dane G. Vandewater
Project Manager & Wetland Scientist
11733 Chesterdale Road
Cincinnati, OH 45246
Office: 513.326.1500
Direct: 513.326.1163
Fax: 513.326.1550
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Attachment C

Soil Maps

Soil Map—Hardin County, Ohio (project_boundary)







































Map Scale: 1:53,200 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)		Area of Interest (AOI)		Spoil Area
Soils		Soil Map Unit Polygons		Stony Spot
		Soil Map Unit Lines		Very Stony Spot
		Soil Map Unit Points		Wet Spot
Special Point Features				Other
		Blowout		Special Line Features
		Borrow Pit	Water Features	
		Clay Spot		Streams and Canals
		Closed Depression	Transportation	
		Gravel Pit		Rails
		Gravelly Spot		Interstate Highways
		Landfill		US Routes
		Lava Flow		Major Roads
		Marsh or swamp		Local Roads
		Mine or Quarry	Background	
		Miscellaneous Water		Aerial Photography
		Perennial Water		
		Rock Outcrop		
		Saline Spot		
		Sandy Spot		
		Severely Eroded Spot		
		Sinkhole		
		Slide or Slip		
		Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800. Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hardin County, Ohio
Survey Area Data: Version 13, Sep 26, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

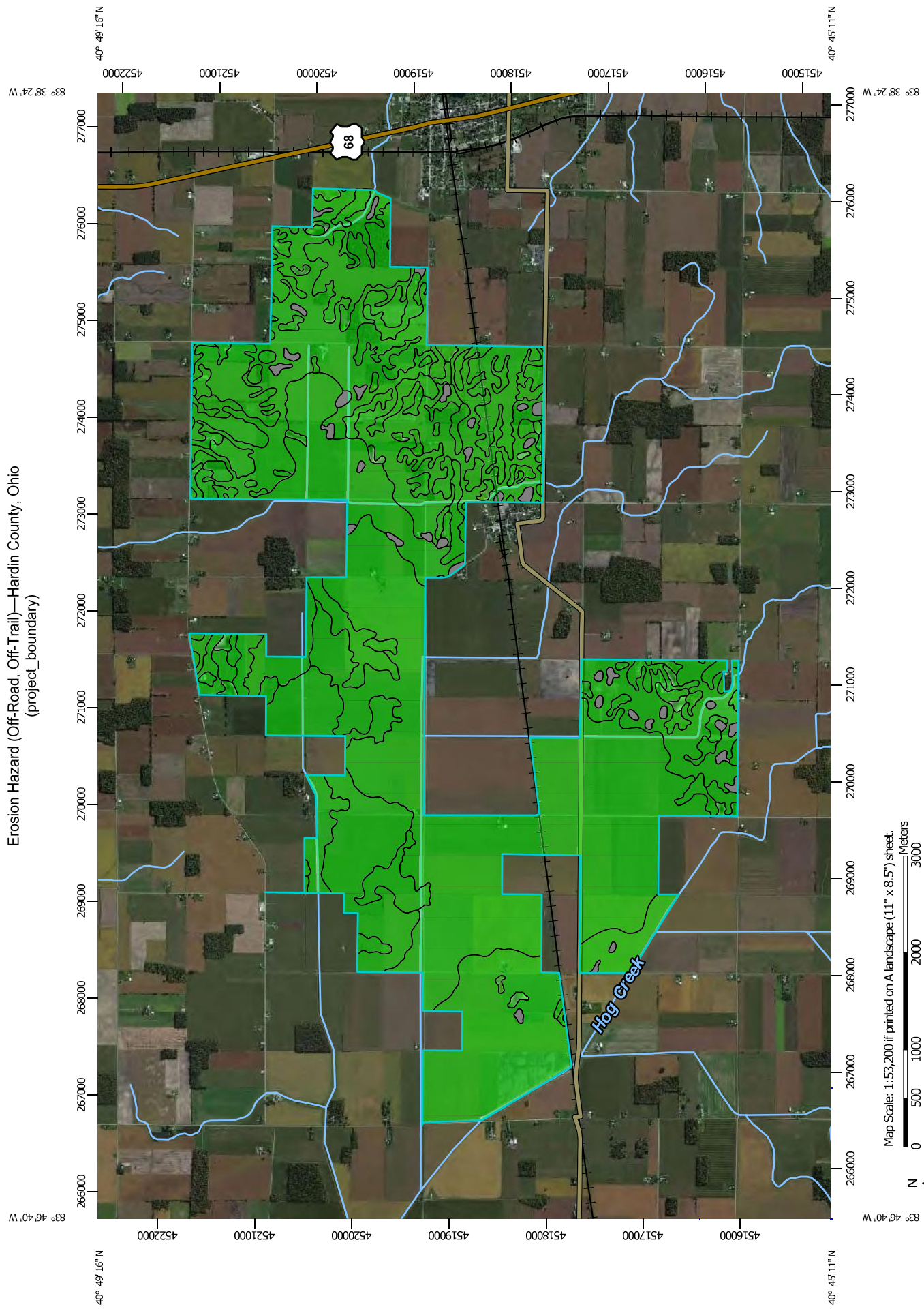
Date(s) aerial images were photographed: Oct 4, 2011—Oct 6, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

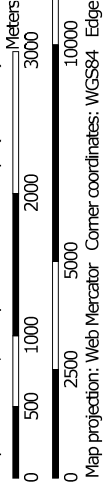
Map Unit Legend

Hardin County, Ohio (OH065)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ble1A1	Blount silt loam, end moraine, 0 to 2 percent slopes	217.4	4.0%
Ble1B1	Blount silt loam, end moraine, 2 to 4 percent slopes	71.3	1.3%
Blg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	628.0	11.4%
Blg1B1	Blount silt loam, ground moraine, 2 to 4 percent slopes	114.7	2.1%
Co	Colwood loam	77.7	1.4%
DeA	Del Rey silt loam, 0 to 3 percent slopes	38.6	0.7%
Gwe1B1	Glynwood silt loam, end moraine, 2 to 6 percent slopes	26.3	0.5%
Gwg1B1	Glynwood silt loam, ground moraine, 2 to 6 percent slopes	6.4	0.1%
Gwg5C2	Glynwood clay loam, ground moraine, 6 to 12 percent slopes, eroded	2.3	0.0%
HkA	Haskins silt loam, 0 to 2 percent slopes	57.7	1.1%
KaB	Kendallville silt loam, 2 to 6 percent slopes	19.5	0.4%
KbA	Kibbie loam, 0 to 3 percent slopes	48.2	0.9%
MaB	Martinsville loam, 1 to 4 percent slopes	7.3	0.1%
Mf	Milford silty clay loam	997.7	18.2%
Pa	Patton silty clay loam	1,621.4	29.5%
PkA	Pewamo silty clay loam, 0 to 1 percent slopes	1,086.2	19.8%
Ro	Roundhead muck	467.8	8.5%
Totals for Area of Interest		5,488.6	100.0%

Erosion Hazard (Off-Road, Off-Trail)—Hardin County, Ohio (project_boundary)



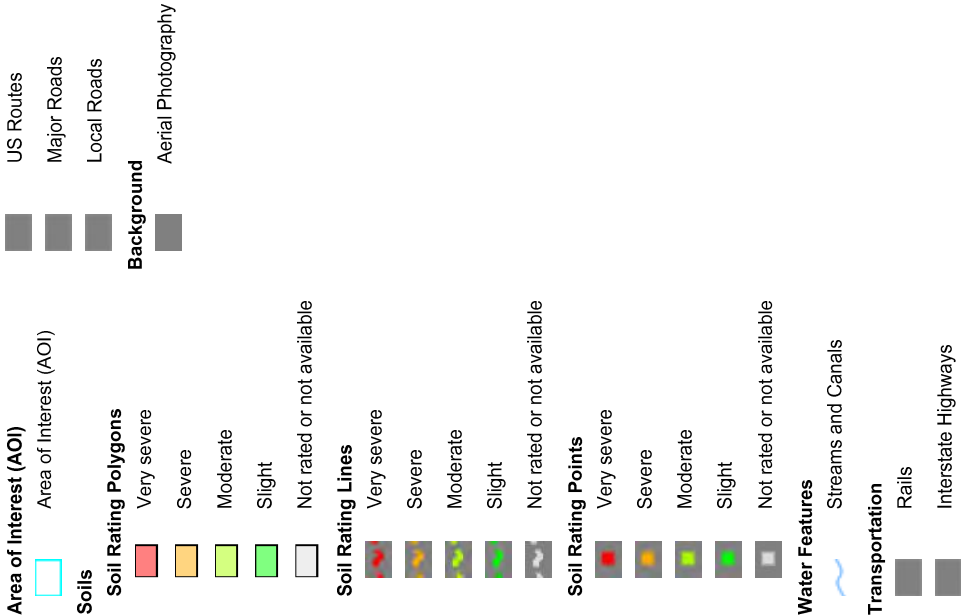
Map Scale: 1:53,200 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84



MAP LEGEND



MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800. Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hardin County, Ohio
Survey Area Data: Version 13, Sep 26, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 4, 2011—Oct 6, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Erosion Hazard (Off-Road, Off-Trail)

Erosion Hazard (Off-Road, Off-Trail)— Summary by Map Unit — Hardin County, Ohio (OH065)						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Ble1A1	Blount silt loam, end moraine, 0 to 2 percent slopes	Slight	Blount, end moraine (85%)		217.4	4.0%
			Glynwood, end moraine (9%)			
			Pewamo, end moraine (6%)			
Ble1B1	Blount silt loam, end moraine, 2 to 4 percent slopes	Slight	Blount, end moraine (85%)		71.3	1.3%
			Glynwood, end moraine (9%)			
			Pewamo, end moraine (6%)			
Blg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	Slight	Blount, ground moraine (85%)		628.0	11.4%
			Pewamo, ground moraine (9%)			
			Glynwood, ground moraine (6%)			
Blg1B1	Blount silt loam, ground moraine, 2 to 4 percent slopes	Slight	Blount, ground moraine (85%)		114.7	2.1%
			Pewamo, ground moraine (9%)			
			Glynwood, ground moraine (6%)			
Co	Colwood loam	Slight	Colwood (85%)		77.7	1.4%
DeA	Del Rey silt loam, 0 to 3 percent slopes	Slight	Del Rey (90%)		38.6	0.7%
Gwe1B1	Glynwood silt loam, end moraine, 2 to 6 percent slopes	Slight	Glynwood, end moraine (85%)		26.3	0.5%
			Blount, end moraine (9%)			
			Pewamo (6%)			
Gwg1B1	Glynwood silt loam, ground moraine, 2 to 6 percent slopes	Slight	Glynwood, ground moraine (85%)		6.4	0.1%
			Blount, ground moraine (9%)			
			Pewamo (6%)			

Erosion Hazard (Off-Road, Off-Trail)— Summary by Map Unit — Hardin County, Ohio (OH065)						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Gwg5C2	Glynwood clay loam, ground moraine, 6 to 12 percent slopes, eroded	Slight	Glynwood (85%)		2.3	0.0%
			Blount (8%)			
			Pewamo (7%)			
HkA	Haskins silt loam, 0 to 2 percent slopes	Slight	Haskins (85%)		57.7	1.1%
KaB	Kendallville silt loam, 2 to 6 percent slopes	Slight	Kendallville (85%)		19.5	0.4%
KbA	Kibbie loam, 0 to 3 percent slopes	Slight	Kibbie (85%)		48.2	0.9%
MaB	Martinsville loam, 1 to 4 percent slopes	Slight	Martinsville (90%)		7.3	0.1%
Mf	Milford silty clay loam	Slight	Milford (90%)		997.7	18.2%
Pa	Patton silty clay loam	Slight	Patton (90%)		1,621.4	29.5%
PkA	Pewamo silty clay loam, 0 to 1 percent slopes	Slight	Pewamo (85%)		1,086.2	19.8%
			Blount (9%)			
			Minster (6%)			
Ro	Roundhead muck	Slight	Roundhead (90%)		467.8	8.5%
Totals for Area of Interest					5,488.6	100.0%

Erosion Hazard (Off-Road, Off-Trail)— Summary by Rating Value		
Rating	Acres in AOI	Percent of AOI
Slight	5,488.6	100.0%
Totals for Area of Interest	5,488.6	100.0%

Description

The ratings in this interpretation indicate the hazard of soil loss from off-road and off-trail areas after disturbance activities that expose the soil surface. The ratings are based on slope and soil erosion factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.

The ratings are both verbal and numerical. The hazard is described as "slight," "moderate," "severe," or "very severe." A rating of "slight" indicates that erosion is unlikely under ordinary climatic conditions; "moderate" indicates that some erosion is likely and that erosion-control measures may be needed; "severe" indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and "very severe" indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

RUSLE2 Related Attributes

This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. Soil property data for each map unit component include the hydrologic soil group, erosion factors Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the mineral surface horizon. Missing surface data may indicate the presence of an organic surface layer. .

Report—RUSLE2 Related Attributes

Soil properties and interpretations for erosion runoff calculations. The surface mineral horizon properties are displayed. Organic surface horizons are not displayed.

RUSLE2 Related Attributes—Hardin County, Ohio								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
Ble1A1—Blount silt loam, end moraine, 0 to 2 percent slopes								
Blount, end moraine	85	151	D	.37	3	22.0	56.0	22.0
Ble1B1—Blount silt loam, end moraine, 2 to 4 percent slopes								
Blount, end moraine	85	151	D	.37	3	22.0	54.0	24.0
Blg1A1—Blount silt loam, ground moraine, 0 to 2 percent slopes								
Blount, ground moraine	85	151	D	.37	3	22.0	56.0	22.0
Blg1B1—Blount silt loam, ground moraine, 2 to 4 percent slopes								
Blount, ground moraine	85	151	D	.37	3	22.0	54.0	24.0
Co—Colwood loam								
Colwood	85	200	B/D	.28	5	44.0	40.5	15.5
DeA—Del Rey silt loam, 0 to 3 percent slopes								
Del Rey	90	125	D	.43	5	26.3	52.7	21.0
Gwe1B1—Glynwood silt loam, end moraine, 2 to 6 percent slopes								
Glynwood, end moraine	85	151	D	.37	3	22.0	54.0	24.0

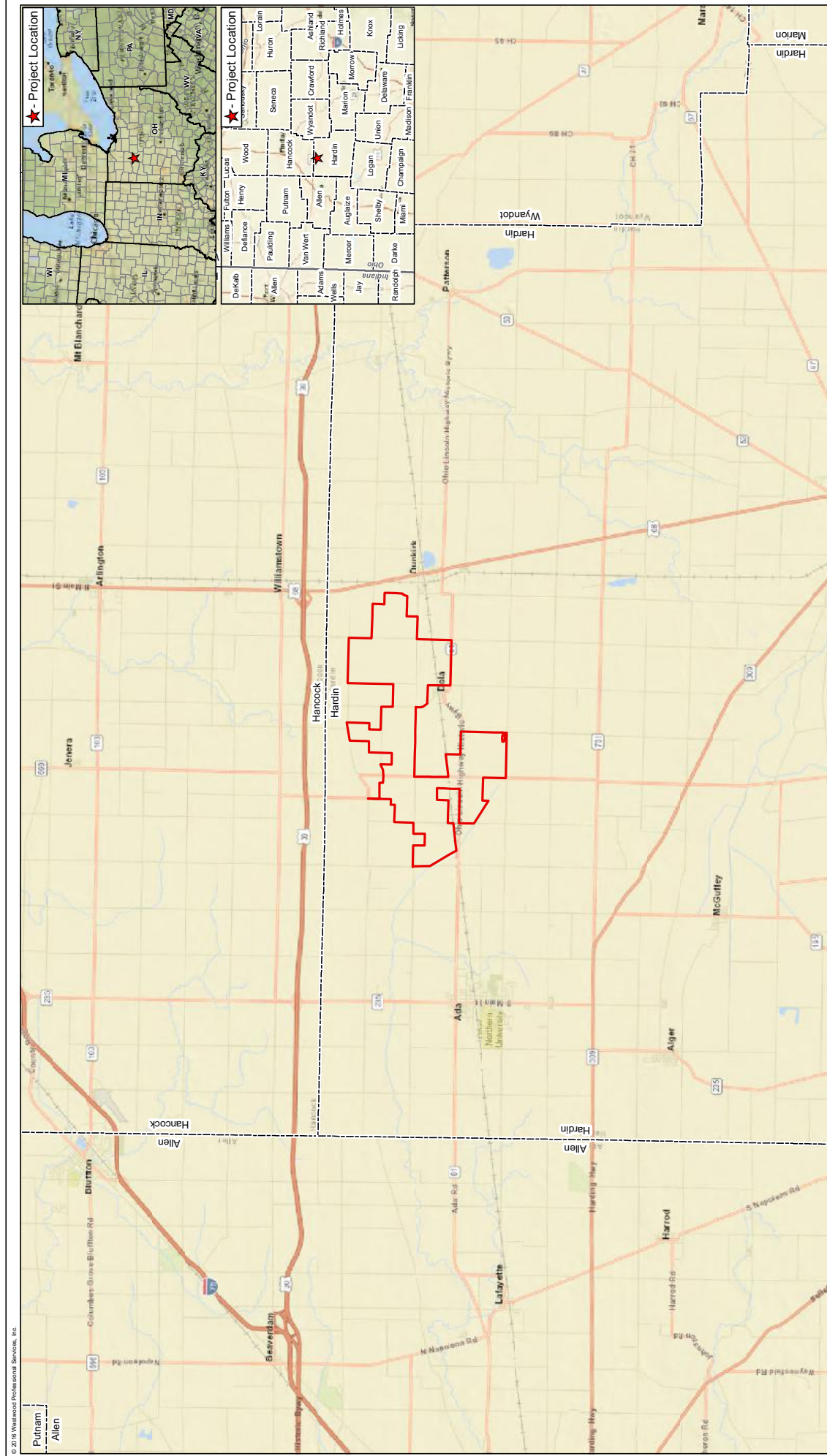
RUSLE2 Related Attributes--Hardin County, Ohio								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
Gwg1B1—Glynwood silt loam, ground moraine, 2 to 6 percent slopes								
Glynwood, ground moraine	85	151	D	.37	3	22.0	54.0	24.0
Gwg5C2—Glynwood clay loam, ground moraine, 6 to 12 percent slopes, eroded								
Glynwood	85	79	D	.37	3	25.0	45.0	30.0
HkA—Haskins silt loam, 0 to 2 percent slopes								
Haskins	85	151	C/D	.43	5	29.7	54.3	16.0
KaB—Kendallville silt loam, 2 to 6 percent slopes								
Kendallville	85	102	C	.37	5	29.7	54.3	16.0
KbA—Kibbie loam, 0 to 3 percent slopes								
Kibbie	85	180	B/D	.28	5	44.3	39.7	16.0
MaB—Martinsville loam, 1 to 4 percent slopes								
Martinsville	90	131	B	.37	5	41.0	45.0	14.0
Mf—Milford silty clay loam								
Milford	90	200	C/D	.24	5	18.5	44.0	37.5
Pa—Patton silty clay loam								
Patton	90	200	C/D	.28	5	6.7	62.3	31.0
PkA—Pewamo silty clay loam, 0 to 1 percent slopes								
Pewamo	85	151	C/D	.24	5	15.0	50.0	35.0
Ro—Roundhead muck								
Roundhead	90	200	C/D	.49	1	7.0	69.0	24.0

Data Source Information

Soil Survey Area: Hardin County, Ohio
Survey Area Data: Version 13, Sep 26, 2015

Attachment D

Pre and Post Drainage Maps, Impaired Water Maps



Hog Creek Wind Project

Hardin County, Ohio

Vicinity Map

October 28, 2016



Legend

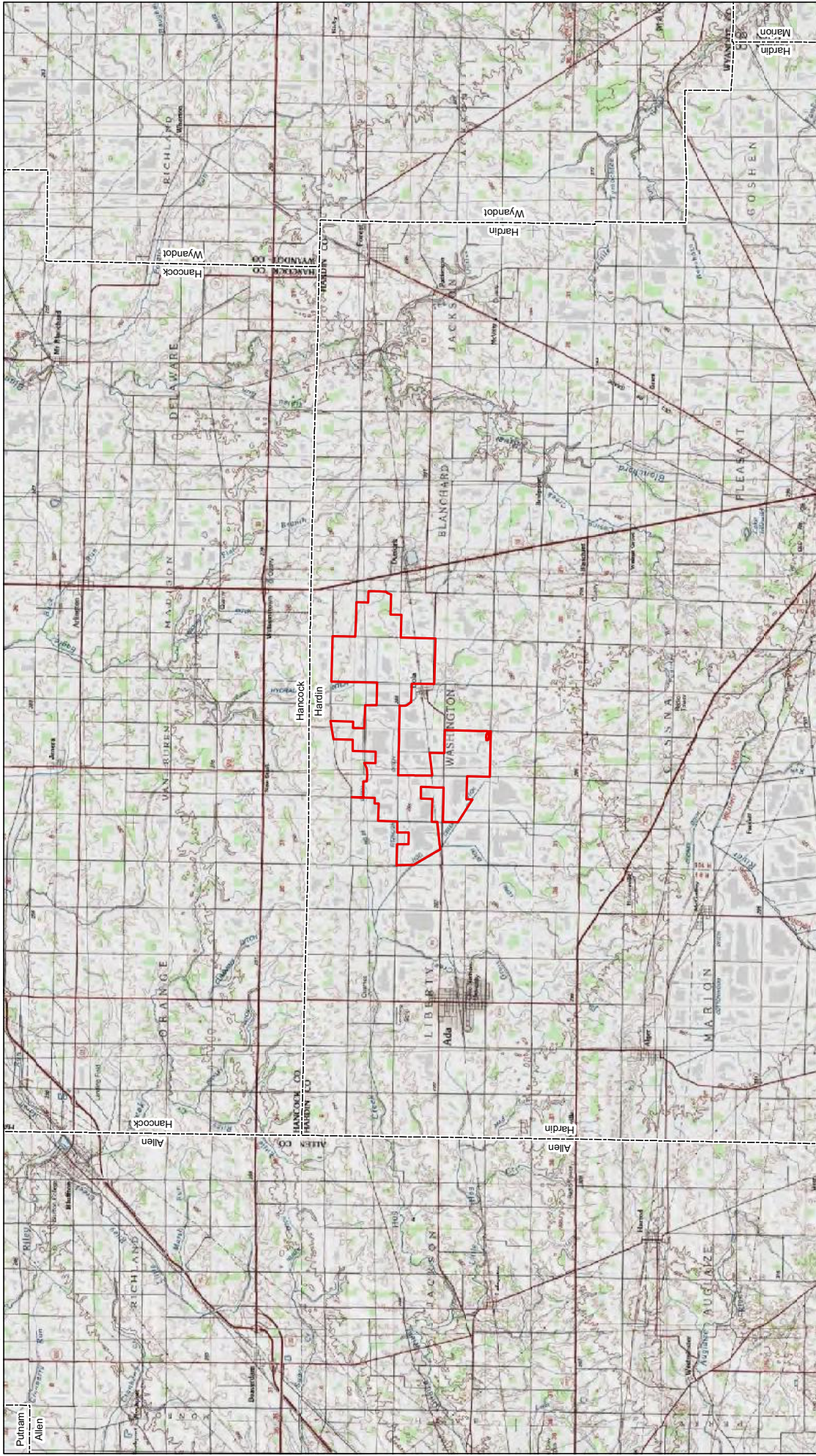
Project Boundary

County Boundary

© 2016 Westwood Professional Services, Inc.

Data Source(s): Westwood (2016); ESRI WMS World Streets Basemap Imagery (Accessed 2016)

Westwood
JUNY 5TH 96 10:00 AM
Westwood Properties, Inc.





Map Document: \\westwood\local\GIS\Projects\0010719_001\GIS\SWPPP\GIS\TopoMap_E32_SWPPP\GIS\TopoMap_E32_SWP\PPJSGSTopoMap_100416.mxd 10/28/2016 4:55:04 PM

Data Source(s): Westwood (2016), ESRI WMS World Streets Base Map Imagery (Acquired 2016).



Legend

-  Project Boundary
-  County Boundary



Hog Creek Wind Project

Hardin County, Ohio

USGS Topographic Map

October 28, 2016

Attachment E

Site Plans, Erosion and Sediment Control Plans, Details, TMDL Documentation

Westwood

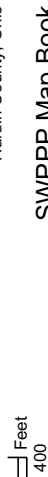
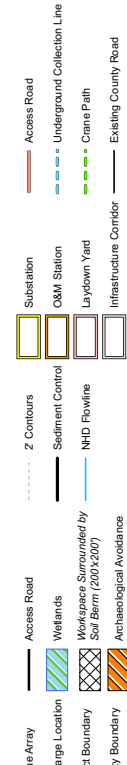
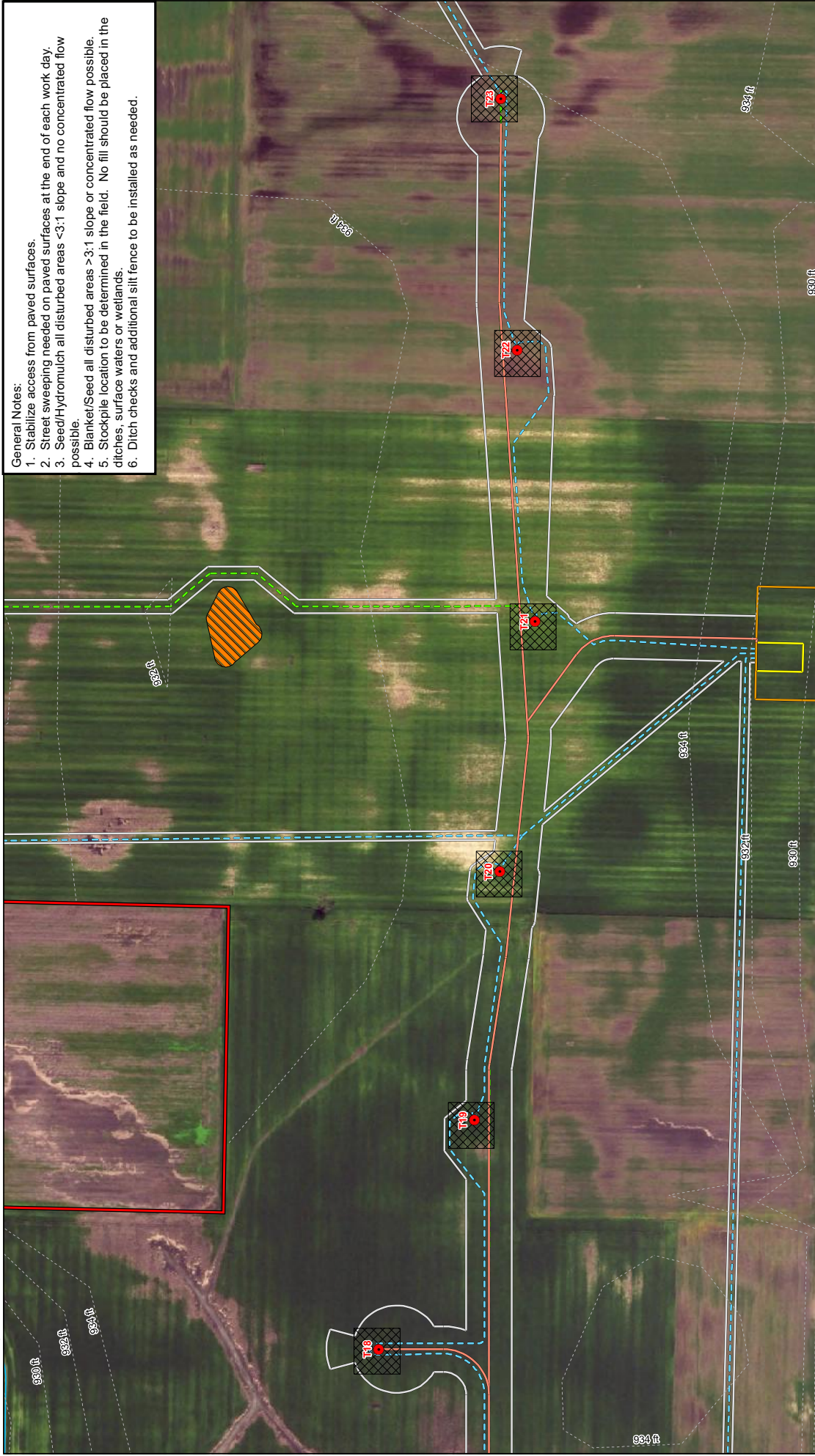


EXHIBIT 2 OF 9



General Notes:

1. Stabilize access from paved surfaces.
2. Street sweeping needed on paved surfaces at the end of each work day.
3. Seed/Hydromulch all disturbed areas <3:1 slope and no concentrated flow possible.
4. Blanket/Seed all disturbed areas >3:1 slope or concentrated flow possible.
5. Stockpile location to be determined in the field. No fill should be placed in the ditches, surface waters or wetlands.
6. Ditch checks and additional silt fence to be installed as needed.

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Date: Source(s): Westwood (2016); ESRI; WMS
World Street Base Map Imagery (Aerial)
County Boundary Imagery (Aerial) (2016);
Census Bureau (2010)

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Legend

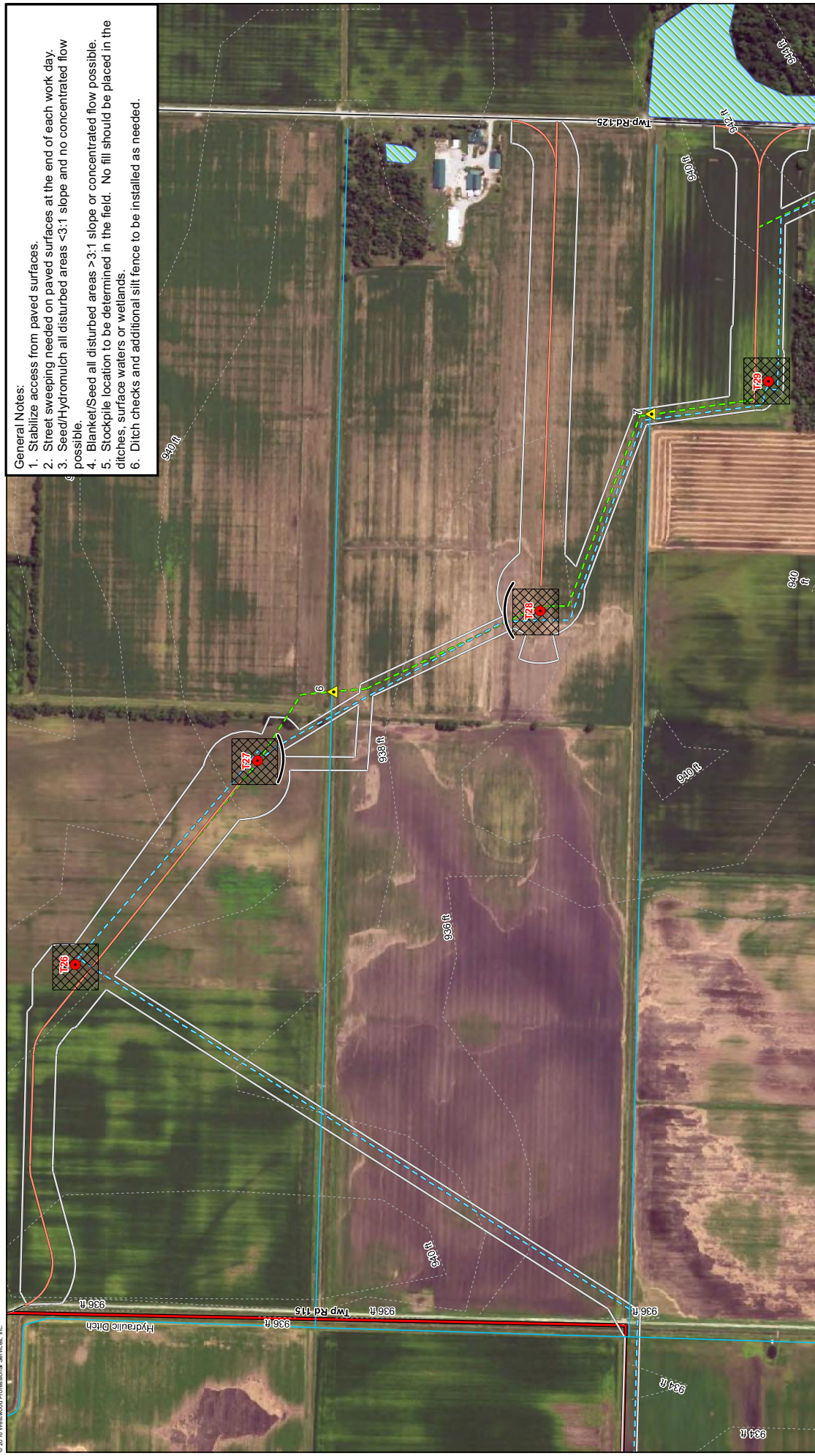
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Discharge Location	Wetlands	Workspaces Surrounded by Soil Berm (200'x200')	O&M Station	Underground Collection Line
Project Boundary	County Boundary	Archaeological Avoidance	Laydown Yard	Crane Path
			Infrastructure Corridor	Existing County Road

Hog Creek Wind Project
Hardin County, Ohio

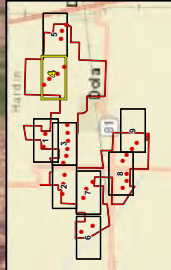
SWPPP Map Book

EXHIBIT 3 OF 9

1. Stabilize access from paved surfaces.
2. Street sweeping needed on paved surfaces at the end of each work day.
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4. Blanket/Seed all disturbed areas $>3:1$ slope or concentrated flow possible.
5. Stockpile location to be determined in the field. No fill should be placed in the ditches, surface waters or wetlands.
6. Ditch checks and additional silt fence to be installed as needed



Legend



Data Source(s): Westwood (2016); ESRI WMS World Streets Basemap Imagery (Accessed 2016); Ohio NAP Imagery (Accessed 2016); Census Bureau (2015).

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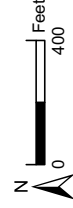
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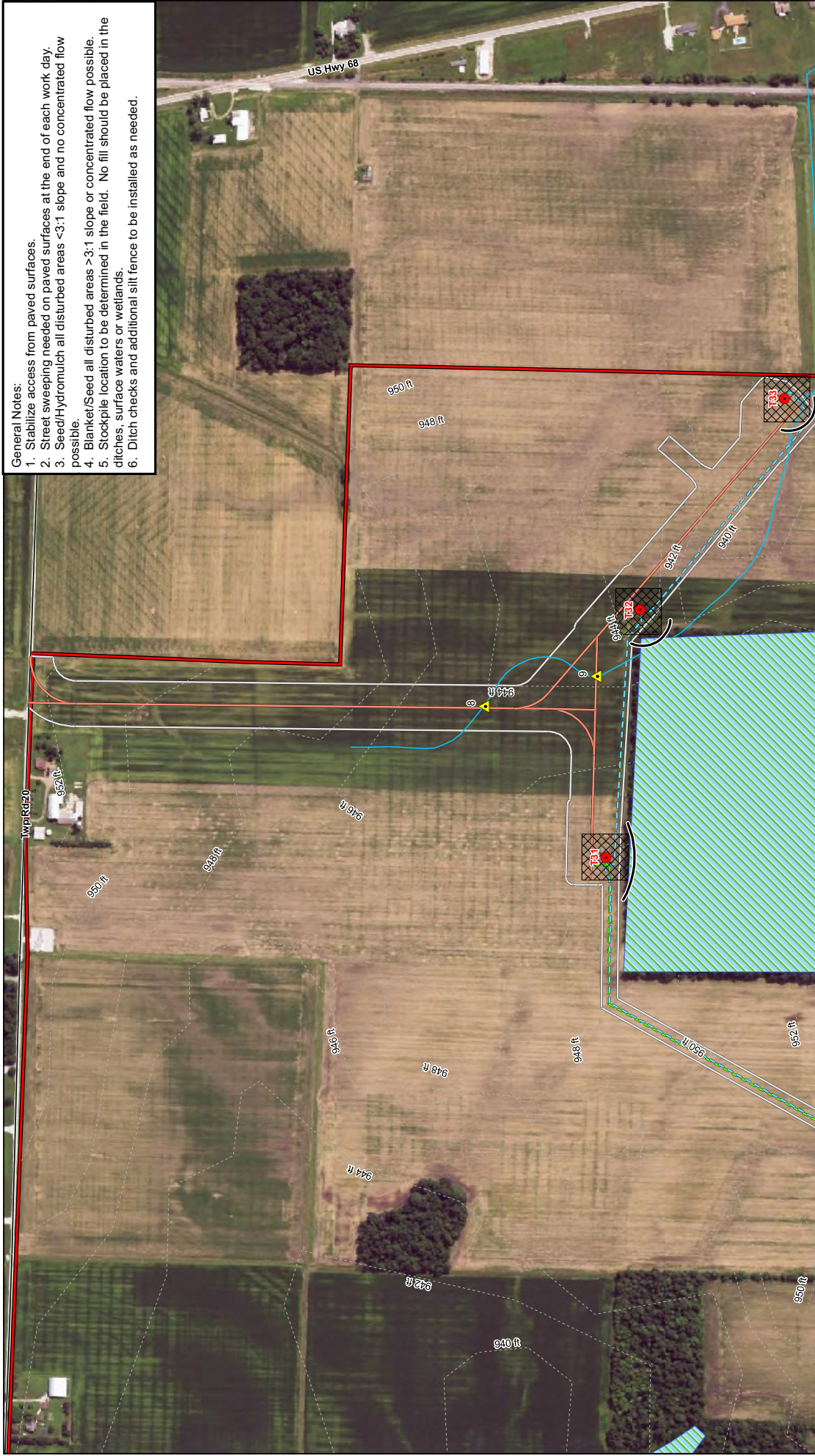
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EXHIBIT 4 OF 9





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Legend

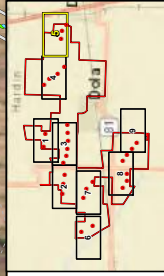
- Turbine Array
- Discharge Location
- Project Boundary
- County Boundary
- Access Road
- Wetlands
- Workspaces Surrounded by Soil Berm (200'x200')
- Archaeological Avoidance
- 2' Contours
- Sediment Control
- NHD Flowline
- Substation
- OMM Station
- Laydown Yard
- Infrastructure Corridor
- Existing County Road
- Underground Collection Line
- Crane Path

Hog Creek Wind Project

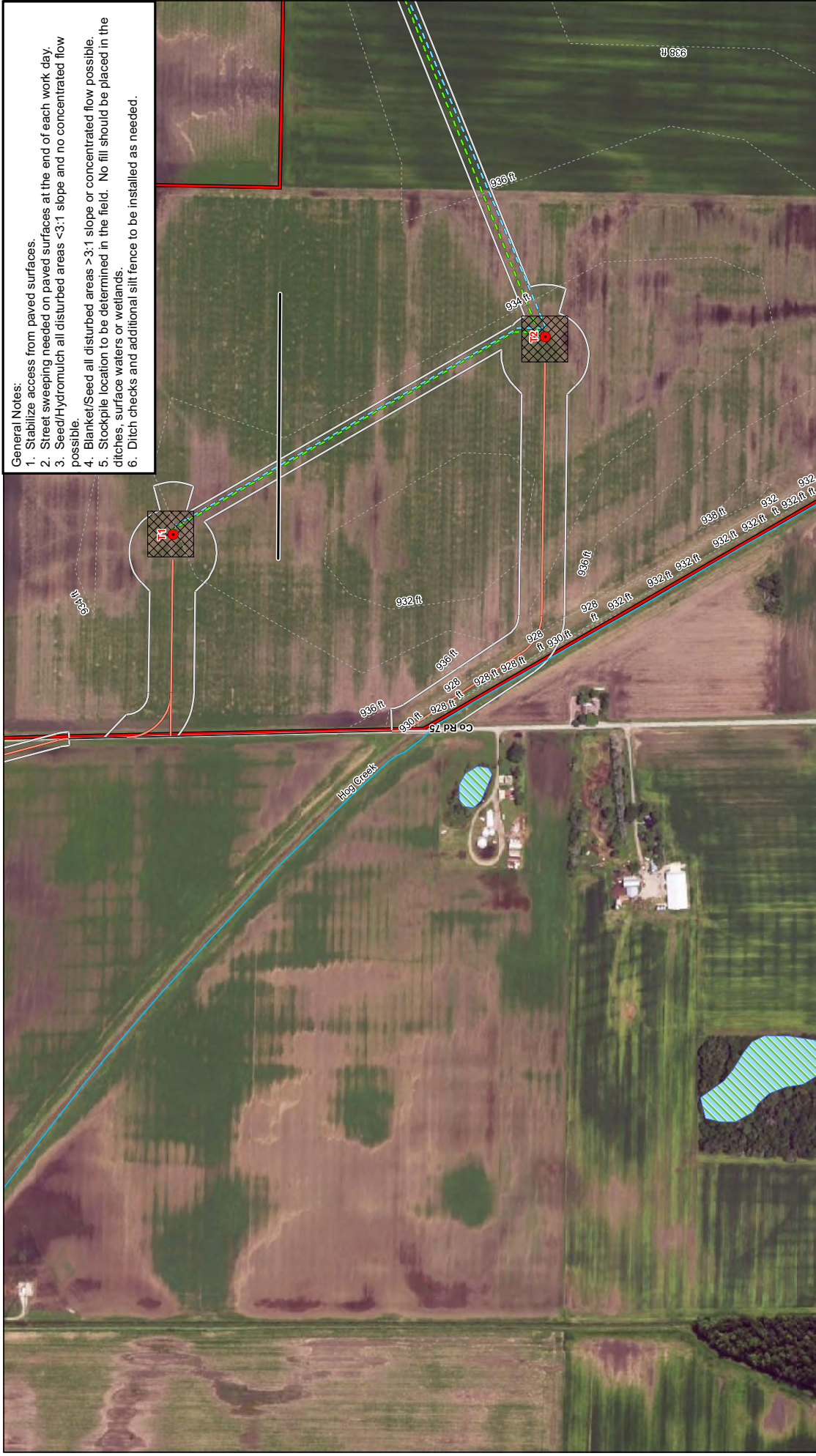
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EXHIBIT 5 OF 9



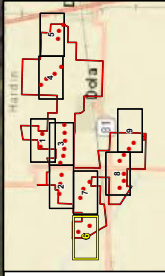
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- General Notes:
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Data Source(s): Westwood (2016); ESRI, WMS
World Street Base Map Imagery (Aerial)
Census Bureau (2010)
Census Bureau (2010)

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Legend

- Turbine Array
- Discharge Location
- Project Boundary
- County Boundary
- Access Road
- Wetlands
- Workspaces Surrounded by Soil Berm (200'x200')
- Archaeological Avoidance
- Z Contours
- Sediment Control
- NHD Flowline
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- Laydown Yard
- Infrastructure Corridor
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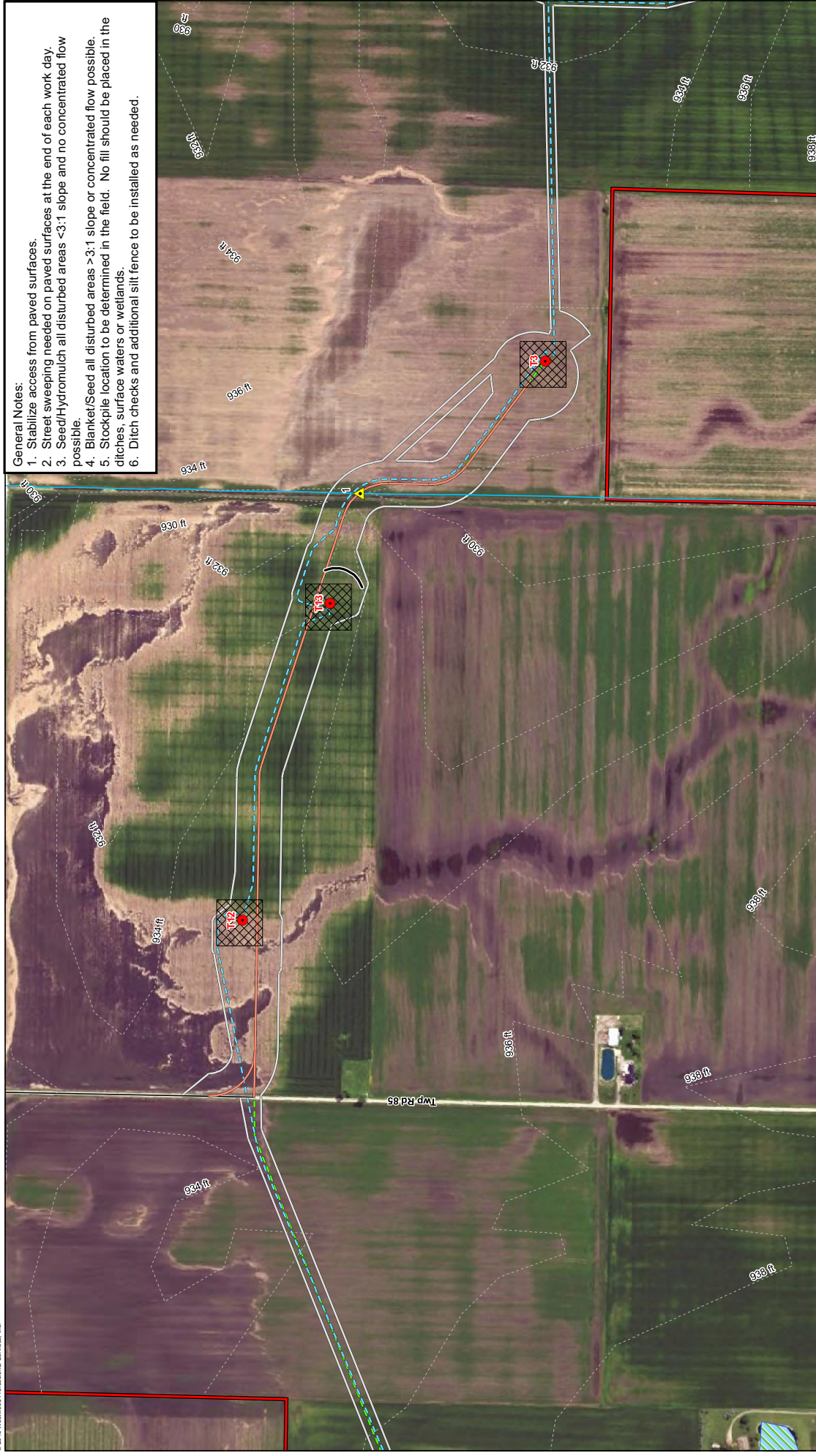


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Hardin County, Ohio

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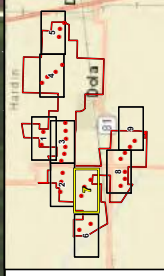
EXHIBIT 6 OF 9



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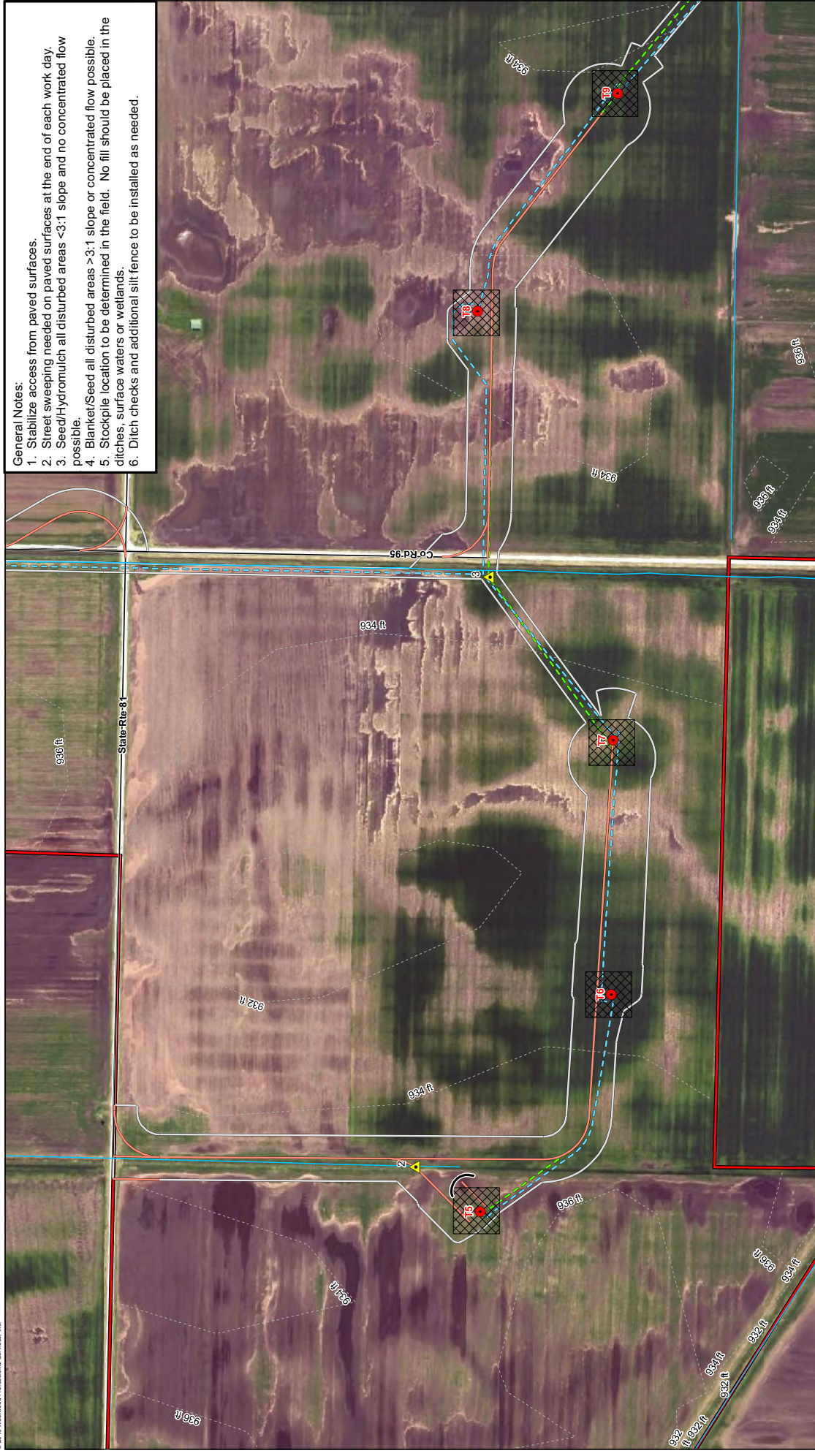


Legend

- Turbine Array
- Discharge Location
- Project Boundary
- County Boundary
- Access Road
- Wetlands
- Workspaces Surrounded by Soil Berm (200'x200')
- Archaeological Avoidance
- 2' Contours
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- Crane Path



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EXHIBIT 7 OF 9



General Notes:

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6. Ditch checks and additional silt fence to be installed as needed.

Legend

- Turbine Array
- Discharge Location
- Project Boundary
- County Boundary
- Access Road
- Wetlands
- Workspaces Surrounded by Soil Berm (200'x200')
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Data Source(s): Westwood (2016); ESRI; WMS
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County Boundary (Aerial) (2016);
County Boundary (2016)

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General Notes:

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Legend

- Turbine Array
- Discharge Location
- Project Boundary
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- Access Road
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- Workspaces Surrounded by Soil Bero (200x200)
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EXHIBIT 9 OF 9

Scale: 0 to 400 Feet

North Arrow

7.0 TMDL RESULTS

7.1 Total phosphorus

Table 7.1 shows the TMDLs that were developed for the Blanchard River watershed for total phosphorus using the GWLF model. Table 7.1 is organized by assessment unit and in some instances is further sub-divided into smaller watersheds to reflect differences in use designations. Included in the table is location information, type of allocation, estimate of existing loading, and the reduction required to meet the TMDL limits. Also included are the average and maximum TMDL values expressed on a daily time scale.

Appendix B shows the GWLF land use summary for all but one of the years that were modeled. This information indicates how much phosphorus is coming from each of the land uses and point sources and can be useful in developing water quality restoration strategies.

In summary, the majority of total phosphorus loading in the watershed is run-off from row crop agriculture which is by far the dominant land use in the basin. Other notable sources include point sources, such as discharges from schools, highway roadside rests, waste water treatment plants, and failing home sewage treatment systems. In most cases, small discharges contribute a low percentage of the total phosphorus load over the course of a year and are generally not issued permit limits for phosphorus. However, they can impact streams during periods of low flow when the potential for dilution is low.

Table 7.1. Total phosphorus TMDLs, existing loads, and needed reductions for each of the WAUs in the Blanchard River watershed.

Area of assessment (and/or AU)	Aquatic life use	Season	Type of allocation	Average of existing conditions (kg/day)	Target: average needed reduction (percent)	Explicit MOS (kg/day)	Average TMDL: average daily load (kg/day)	Maximum TMDL: maximum daily load (kg/day)
HUC - 010 Blanchard R. Headwaters	WWH (wadable)	winter	LA	201	69.4	na	61.5	709
		spring	LA	81.3	9.26	na	73.8	349
		summer	LA	71.3	78.2	2.14	13.4	354
		fall	LA	61.9	84.0	na	9.90	383
HUC - 020 Blanchard R. with The Outlet	WWH (wadable)	annual	WLA HSTS	2.24 3.05	15.4 90.0		1.89 0.305	2.87 2.89
		winter	LA	115	61.1	na	44.7	326
		spring	LA	68.9	16.7	na	57.4	202
		summer	LA	67.6	72.1	2.03	16.8	211
HUC - 020-030 The Outlet	MWH (wadable)	fall	LA	40.8	71.1	na	11.8	151
		annual	WLA HSTS	1.04 3.37	52.6 90.0		0.491 0.337	1.50 3.20
		winter	LA	32.5	0.0	na	32.5	99.7
		spring	LA	18.6	0.0	na	18.6	59.9
HUC - 030-020 Eagle Creek	WWH (wadable)	summer	LA	17.4	21.9	0.52	13.1	59.5
		fall	LA	10.30	9.4	na	9.33	47.1
		annual	WLA HSTS	na 0.0767	na 90.0		na 0.008	na 0.073
		winter	LA	54.4	59.7	na	21.9	161
HUC - 030-020 Eagle Creek	WWH (wadable)	spring	LA	28.3	3.2	na	27.4	93.3
		summer	LA	25.9	66.8	0.78	7.8	102.0
		fall	LA	15.4	64.6	na	5.45	68.5
		annual	WLA HSTS	1.69 8.98	41.1 90.0		1.00 0.897	2.83 8.53

Area of assessment (and/or AU)	Aquatic life use	Season	Type of allocation	Average of existing conditions (kg/day)	Target: average needed reduction (percent)	Explicit MOS (kg/day)	Average TMDL: average daily load (kg/day)	Maximum TMDL: maximum daily load (kg/day)
HUC - 040-010 & 020 Ottawa & Tiderishi Creeks	WWH (wadable)	winter	LA	66.5	86.1	na	9.24	257
		spring	LA	26.6	54.5	na	12.1	108
		summer	LA	44.2	85.6	1.33	5.04	177
		fall	LA	28.4	88.4	na	3.29	129
HUC - 050 Riley Creek	WWH (wadable)	annual	WLA HSTS	2.35 4.67	71.5 90.0		0.671 0.467	2.35 4.44
		winter	LA	103	66.3	na	34.7	336
		spring	LA	44.0	13.0	na	38.2	270
		summer	LA	53.2	75.7	1.60	11.3	173
HUC - 060-040 Miller City Cutoff	MWH (head waters)	fall	LA	41.0	74.1	na	10.6	202
		annual	WLA HSTS	9.63 1.31	38.5 90.0		5.92 0.13	11.6 1.25
		winter	LA	7.72	0.0	na	7.72	23.8
		spring	LA	0.00	0.0	na	0.00	12.3
HUC - 060 Caton Ditch (includes Miller City Cutoff)	MWH (wadable)	summer	LA	5.15	5.6	0.16	4.71	19.1
		fall	LA	2.06	1.9	na	2.03	10.5
		annual	WLA HSTS	0.025 0.186	71.5 90.0		0.00712 0.0186	0.157 0.176
		winter	LA	25.5	5.0	na	24.18	81.4
HUC - 060 Caton Ditch (includes Miller City Cutoff)	MWH (wadable)	spring	LA	9.7	0.0	na	9.69	42.2
		summer	LA	14.9	22.3	0.45	11.15	56.4
		fall	LA	7.16	19.2	na	5.78	38.2
		annual	WLA HSTS	na 0.553	na 90.0		na 0.055	na 0.525

Area of assessment (and/or AU)	Aquatic life use	Season	Type of allocation	Average of existing conditions (kg/day)	Target: average needed reduction (percent)	Explicit MOS (kg/day)	Average TMDL: average daily load (kg/day)	Maximum TMDL: maximum daily load (kg/day)
HUC - 040-040 Moffitt Ditch	MWH (head waters)	winter	LA	14.3	0.0	na	14.30	44.9
		spring	LA	3.15	0.0	na	3.15	23.2
		summer	LA	8.93	5.6	0.27	8.16	33.4
		fall	LA	3.93	1.9	na	3.85	20.5
		annual	WLA HSTS	na 0.206	na 90.0	na	na 0.0206	na 0.195
HUC - 040-060 Dukes Run	WVH (head waters)	winter	LA	13.2	72.9	na	3.59	41.4
		spring	LA	2.50	34.5	na	1.64	21.4
		summer	LA	8.32	77.8	0.25	1.60	31.1
		fall	LA	3.62	76.9	na	0.83	18.8
		annual	WLA HSTS	na 0.662	na 90.0	na	na 0.066	na 0.629
HUC - 060-050 Bear Cr.	MWH (head waters)	winter	LA	11.7	0.0	na	11.7	36.7
		spring	LA	1.60	0.0	na	1.60	18.9
		summer	LA	7.49	5.6	0.23	6.84	28.0
		fall	LA	3.20	1.9	na	3.14	16.5
		annual	WLA HSTS	na 1.03	na 90.0	na	na 0.103	na 0.977
HUC - 060-060 Deer Creek	MWH (head waters)	winter	LA	9.49	0.0	na	9.49	29.4
		spring	LA	0.20	0.0	na	0.20	15.2
		summer	LA	6.19	5.6	0.19	5.66	23.0
		fall	LA	2.56	1.9	na	2.51	13.1
		annual	WLA HSTS	0.065 0.520	71.5 90.0	na	0.019 0.052	0.0333 0.494

Area of assessment (and/or AU)	Aquatic life use	Season	Type of allocation	Average of existing conditions (kg/day)	Target: average needed reduction (percent)	Explicit MOS (kg/day)	Average TMDL: average daily load (kg/day)	Maximum TMDL: maximum daily load (kg/day)
HUC - 060-010 Pike Run	WWH (head waters)	winter	LA	4.53	72.9	na	1.23	13.7
		spring	LA	0.00	34.5	na	0.00	7.07
		summer	LA	3.21	77.8	0.10	0.616	11.80
		fall	LA	1.19	76.9	na	0.274	5.91
		annual	WLA HSTS	na 0.206	na 90.0		na 0.021	na 0.195
Findlay MS4 for Eagle Creek	WWH (head waters)	winter	WLA	0.229	0.0	na	0.229	0.573
		spring	WLA	0.267	11.6	na	0.236	0.602
		summer	WLA	0.185	0.0	na	0.185	0.452
		fall	WLA	0.233	29.1	na	0.165	0.522
		annual	LA HSTS	na na	na na		na na	na na
Findlay MS4 for Blanchard mainstem	WWH (small river)	winter	WLA	0.213	0.0	na	0.213	0.612
		spring	WLA	0.233	0.0	na	0.233	0.726
		summer	WLA	0.155	0.0	na	0.155	0.598
		fall	WLA	0.207	0.0	na	0.207	0.615
		annual	LA HSTS	na na	na na		na na	na na

Table 7.2. NPDES facilities including the type of discharge, existing total phosphorus load, annual allocations, and needed total phosphorus reductions for each of the WAUs in the Blanchard River watershed.

Assessment unit	Facility	Type of Discharger ^a	Existing annual load (kg/yr)	Allowable annual load (kg/yr)	Needed reduction	
					kg/yr	percent
010	Dunkirk WWTP	controlled	50.7	3.82 ^b	46.9	92.5
	Forest STP	continuous	220	12.0	208	94.6
	Triumph Thermal	continuous	3.38	1.53	1.85	54.7
	Duff Quarry	continuous	0.730	2.66	0	0
020	Vanlue	controlled	73.1	- ^c	0	0
030	Findlay WWTP	continuous	11,357	15,711	0	0
	Camp Berry	continuous	seasonal			
	Arlington WWTP	continuous	598	22.2	576	96.3
	Arlington WTP	continuous	no data ^d			
040	Sycamore Springs Golf Course	continuous	seasonal			
	Tawa Ridge Estates	continuous	13.6	0.390	13.16	97.1
	ODOT I-75 Rest Area	continuous	48.4	1.11	47.3	97.7
	Cory Rawson High School	continuous	60.5	1.73	58.8	97.1
050	Rawson WWTP	controlled	15.4	- ^e	0	0
	Bluffton WWTP	continuous	1036	119	917	88.5
	Pandora WWTP	continuous	677	31.1	646	95.4
	Beaverdam WWTP/Richland Manor/Speedway Super America	controlled	73.9	3.84 ^b	70.0	94.8
060	Ridge Road MHP	continuous	29.0	0.387	28.7	98.7
	Mast Estates Subdivision	continuous	43.6	0.213	43.3	99.5
	County Acres package plant, Miller City High School, & Putnam Co. Board of MRDD	continuous	232	5.31	227	97.7
	Putnam Co. Landfill	continuous	no data ^d			
	Ottawa WWTP	continuous	566	296	270	47.7

^a Existing, allowable, and load reductions can each be represented as a daily value by dividing the annual value by 365 days/year for all of the continuous dischargers. However, daily representation of the loads for the controlled dischargers should be calculated based on what is likely to be discharged on the days discharges actually occur (i.e., not every day). Therefore these annual loads should be divided by the average annual frequency of discharges which is the following (in days/year): Dunkirk WWTP = 21.2; Vanlue WWTP = 70.4; Rawson WWTP = 7.67; Super America WWTP = 6.67.

^b Upstream total phosphorus concentrations preclude the potential for dilution and requires discharge concentration to be at the WQS

^c Varies based on stream flow. Potential for upstream dilution allows discharge concentration above the TMDL target when discharge occurs at a stream flow of 2.22 cfs or greater

^d Currently no discharge data; however, this facility is an unlikely source of total phosphorus

^e Varies based on stream flow. Potential for upstream dilution allows discharge concentration above the TMDL target when discharge occurs at a stream flow of 33.34 cfs or greater

5 LOAD REDUCTION RESULTS

Several analyses were completed to address the causes of impairment. Results are summarized in this chapter and organized by assessment unit (nested subwatershed). Further details are available in Appendix D.

5.1 Middle Hog Creek (04100007 03 02) and Lower Hog Creek (04100007 03 04)

Total phosphorus reductions ranged from 0 percent to 67.0 percent in these nested subwatersheds. *E. coli* reductions ranged from 24.1 percent to 98.5 percent. Additional TMDLs included sediment.

Table 5-1. Total phosphorus TMDL table: Hog Ck @ Swaney Rd

TMDL and duration intervals	High 0-5%	Wet weather 5-40%	Normal range 40-80%	Dry weather 80-95%	Low 95-100%
Samples Per Regime	3	0	3	1	0
Median Sample load	372	N/A	1.75	2.91	N/A
Total Load Reduction Required	66.9%	No Data	NA	67.0%	No Data
Total Maximum Daily Load	132.99	12.01	3.56	1.48	0.91
Margin of Safety ¹ : 5%	6.65	0.60	0.18	0.07	0.04
Allowance for future growth: 2%	2.66	0.24	0.07	0.03	0.02
Load Allocation	122.83	10.32	2.46	0.53	0.01
Wasteload Allocation Total	0.85	0.85	0.85	0.85	0.85
Ada WWTP 2PB00050	0.85	0.85	0.85	0.85	0.85

Values were adjusted for rounding. All loads are in kg/day.

¹ MOS reduced to 4% in low flow regime.

Ottawa River (Lima Area) Watershed TMDLs

Table 5-2. Characterization of the sediment TMDL in the Lower Hog Creek nested subwatershed.

Note: ALU designation in parentheses.

Stream/River	River Mile	QHEI Categories			Total Sediment Score	Deviation from Target (%)	Main Impairment Category
		Substrate	Channel	Riparian			
03 04 Hog Creek – Ottawa River							
Hog Ck (WWH) ¹	3.80	20	12.5	6.5	39	---	channel
Target (MWH)		≥ 9	≥ 10	≥ 4	≥ 23		
Target (WWH)		≥ 13	≥ 14	≥ 5	≥ 32		

¹ Substrate assessed based on data collected at RM 0.3 because data were unavailable at RM 3.8; the land use and channel characteristics between the two sites do not differ substantially.

Note that the LDC in Table 5-3 includes the Upper Hog Creek (04100007 03 01) nested subwatershed. Although Ohio EPA did not collect data in this nested subwatershed, reductions are needed because the nested subwatershed drains into Hog Creek.

Table 5-3. *E. coli* TMDL table: Hog Creek @ Swaney Rd.

TMDL and duration intervals	High 0-5%	Wet weather 5-40%	Normal range 40-80%	Dry weather 80-95%	Low 95-100%
Samples Per Regime	2	3	6	1	0
Median Sample load	69550	131	53.68	14.61	N/A
Total Load Reduction Required	98.5%	36.2%	49.0%	32.5%	No Data
Total Maximum Daily Load	1314.73	116.34	44.61	23.64	14.77
Margin of Safety: 20%¹	262.95	23.27	8.92	4.73	1.48
Allowance for future growth: 2%	26.29	2.33	0.89	0.47	0.30
Load Allocation	1013.30	78.56	22.60	6.25	0.81
Wasteload Allocation Total	12.19	12.19	12.19	12.19	12.19
Ada WWTP 2PB00050	12.19	12.19	12.19	12.19	12.19

Values were adjusted for rounding. All Loads are in billion cfu/day.

¹ 10% in Low flow regime

5.2 Little Hog Creek (04100007 03 03) and Lima Reservoir-Ottawa River (04100007 03 06)

Total phosphorus reductions ranged from 0 percent to 77.1 percent in these nested subwatersheds. *E. coli* reductions ranged from 75.8 percent to 94.7 percent. Additional TMDLs included total phosphorus via QUAL2K, CBOD₅, sediment and habitat.

Ottawa River (Lima Area) Watershed TMDLs

Table 5-4. Total phosphorus TMDL table: Mud Run @ Bluffton Bentley Rd.

TMDL and duration intervals	High 0-5%	Wet weather 5-40%	Normal range 40-80%	Dry weather 80-95%	Low 95-100%
Samples Per Regime	2	0	3	0	0
Median Sample load	47	N/A	0.42	N/A	N/A
Total Load Reduction Required	76.9%	No Data	37.7%	No Data	No Data
Total Maximum Daily Load	11.66	1.01	0.28	0.08	0.02
Margin of Safety: 5%	0.58	0.05	0.01	0.004	0.001
Allowance for future growth: 2%	0.23	0.02	0.01	0.002	0.0004
Load Allocation	10.84	0.94	0.26	0.07	0.02
Wasteload Allocation Total	0.00	0.00	0.00	0.00	0.00

Values were adjusted for rounding. All loads are in kg/day.

Table 5-5. Total phosphorus TMDL and supporting allocations for the modeled stream reach using QUAL2K.

	Conc. (mg/l)	Yield (kg/mi ² /day)	Load (kg/day)
Load (nonpoint source)	-	0.000267	0.04
Wasteload (total point sources)			10.58
2IJ00013 (National Lime & Stone)	0.015	-	0.11
2PE00000 (Lima WWTP)	0.0762	-	5.33
2IG00001 (Lima Refining Company)	0.0762	-	1.58
2IF00004 (PCS Nitrogen)	0.0762	-	1.25
2PK00002 (Shawnee #2 WWTP)	0.305	-	2.31
Margin of Safety: 21.8%	-	-	3.03
Allowance for future growth: 2%	-	-	0.28
TMDL = LA + WLA + MOS + AFG			13.93

Table 5-6. Characterization of the sediment TMDL in the Little Hog Creek and Lima Reservoir-Ottawa River nested subwatersheds.

Note: ALU designation in parentheses.

Note: AEC designation in parentheses.

Stream/River	River Mile	QHEI Categories			Total Sediment Score	Deviation from Target (%)	Main Impairment Category
		Substrate	Channel	Riparian			
03 06 Ottawa River							
Ottawa R (WWH)	43.45	11	10	4	25	21.9	channel
Ottawa R (WWH)	42.61	6	10	10	26	18.8	substrate
Ottawa R (WWH)	38.63	10	6.5	3	19.5	39.1	channel
Ottawa R (WWH)	37.91	8.5	11	4	23.5	26.6	substrate
Zurmehly Ck (WWH)	0.1	9.5	17	7	33.5	--	substrate
Target (MWH)		≥ 9	≥ 10	≥ 4	≥ 23		
Target (WWH)		≥ 13	≥ 14	≥ 5	≥ 32		

Ottawa River (Lima Area) Watershed TMDLs

Table 5-7. Characterization of the habitat TMDL using QHEI metrics for sites with impairment due to habitat alteration, sedimentation/siltation, turbidity, and/or flow alteration (non-natural) in the Little Hog Creek and Lima Reservoir-Ottawa River nested subwatersheds.

Note: ALU designation in parentheses.

Stream/River	River Mile	QHEI Score	# of High Influence Attributes	Total # of Modified Attributes	Sub-score			Total Habitat Score
					QHEI	High Influence	Modified	
03 06 Ottawa River								
Ottawa R (WWH)	43.45	49	1	5	0	0	0	0
Ottawa R (WWH)	42.61	58	2	8	0	0	0	0
Ottawa R (WWH)	38.63	48.5	2	8	0	0	0	0
Ottawa R (WWH)	37.91	63.5	1	6	1	1	0	2
Target (MWH)		≥ 43 = 1 pt	< 2 = 1 pt	< 6 = 1 pt				3 pts
Target (WWH)		≥ 60 = 1 pt	< 2 = 1 pt	< 5 = 1 pt				3 pts

Table 5-8. E. coli TMDL table: Ottawa R. @ Shawnee Rd.

TMDL and duration intervals	High 0-5%	Wet weather 5-40%	Normal range 40-80%	Dry weather 80-95%	Low 95-100%
Samples Per Regime	0	4	4	1	0
Median Sample load	N/A	5279	1166.20	613.31	N/A
Total Load Reduction Required	No Data	93.4%	83.6%	No Data	73.8%
Total Maximum Daily Load	2866.00	654.64	275.78	238.45	224.54
Margin of Safety: 20%¹	573.20	130.93	55.16	47.69	44.91
Allowance for future growth: 2%	57.32	13.09	5.52	4.77	4.49
Load Allocation	1479.07	81.93	41.52	22.15	11.30
Wasteload Allocation Total	758.57	430.85	175.74	166.50	166.50
Lima area MS4 communities	346.94	19.21	9.73	0.00	0.00
County Line Invest. LLC 2PW00018	0.01	0.01	0.01	0.01	0.01
Ada WWTP 2PB00050	12.19	12.19	12.19	12.19	12.19
Colonial Golfer's Club 2PR00195	0.05	0.05	0.05	0.05	0.05
LaFayette WWTP 2PA00049	0.48	0.48	0.48	0.48	0.48
National Lime & Stone Co 2J00013	9.54	9.54	9.54	9.54	9.54
PCS Nitrogen 2IF00004	17.84	17.84	17.84	17.84	17.84
Lima Refinery 2IG00018	38.16	38.16	38.16	38.16	38.16
Lima WWTP 2PE00000	333.87	333.87	88.24	88.24	88.24
City of Lima CSOs ²	0	0	0	0	0

Values were adjusted for rounding. All loads are in billion cfu/day.

¹ 10% in Low flow regime

² Zero load for CSOs does not necessarily mean the prohibition of CSOs, but rather that another mechanism (the LTCP) will address the CSOs.

5.3 Lost Creek (04100007 03 05)

Total phosphorus reductions ranged from 0 percent to 82.4 percent in this nested subwatershed. *E. coli* reductions ranged from 62.8 percent to 98.5 percent.

Table 5-9. Total phosphorus TMDL table: Lost Ck @ Reservoir Rd.

TMDL and duration intervals	High 0-5%	Wet weather 5-40%	Normal range 40-80%	Dry weather 80-95%	Low 95-100%
Samples Per Regime	0	2	3	0	0
Median Sample load	N/A	5	0.15	N/A	N/A
Total Load Reduction Required	No Data	82.4%	NA	No Data	No Data
Total Maximum Daily Load	10.09	0.88	0.24	0.07	0.02
Margin of Safety: 5%	0.50	0.04	0.01	0.003	0.001
Allowance for future growth: 2%	0.20	0.02	0.00	0.001	0.0004
Load Allocation	6.94	0.60	0.17	0.07	0.01
Wasteload Allocation Total	2.44	0.21	0.06	0.00	0.00
Lima area MS4 communities	2.44	0.21	0.06	0.00	0.00

Values were adjusted for rounding. All loads are in kg/day.

Table 5-10. *E. coli* TMDL table: Lost Creek @ E. High St.

TMDL and duration intervals	High 0-5%	Wet weather 5-40%	Normal range 40-80%	Dry weather 80-95%	Low 95-100%
Samples Per Regime	0	5	6	1	0
Median Sample load	N/A	419	18.15	1.87	N/A
Total Load Reduction Required	No Data	98.5%	89.1%	62.8%	No Data
Total Maximum Daily Load	102.44	8.17	2.53	0.89	0.18
Margin of Safety: 20% ¹	20.49	1.63	0.51	0.18	0.02
Allowance for future growth: 2%	2.05	0.16	0.05	0.02	0.00
Load Allocation	59.12	4.70	1.45	0.68	0.15
Wasteload Allocation Total	20.78	1.67	0.52	0.01	0.01
Lima area MS4 communities	20.77	1.65	0.51	0.00	0.00
County Line Invest. LLC 2PW00018	0.01	0.01	0.01	0.01	0.01

Values were adjusted for rounding. All loads are in billion cfu/day.

¹ 10% in Low flow regime

5.4 Little Ottawa River (04100007 04 01)

Total phosphorus reductions ranged from 57.8 percent to 60.1 percent in this nested subwatershed. *E. coli* reductions ranged from 0 percent to 97.4 percent. Additional TMDLs included sediment.

Indian Village Mobile Home Park is preparing to tie into existing sewers, so it was not given a wasteload allocation in Table 5-11.

Table 5-11. Total phosphorus TMDL table: Little Ottawa River @ Ft. Amanda Rd.

TMDL and duration intervals	High 0-5%	Wet weather 5-40%	Normal range 40-80%	Dry weather 80-95%	Low 95-100%
Samples Per Regime	0	3	2	0	0
Median Sample load	N/A	2	1.72	N/A	N/A
Total Load Reduction Required	No Data	57.8%	60.1%	No Data	No Data
Total Maximum Daily Load	3.52	0.92	0.74	0.69	0.68
Margin of Safety: 5%	0.18	0.05	0.04	0.03	0.03
Allowance for future growth: 2%	0.07	0.02	0.01	0.01	0.01
Load Allocation	1.95	0.18	0.06	0.04	0.02
Wasteload Allocation Total	1.33	0.67	0.63	0.61	0.61
Lima area MS4 communities	0.72	0.07	0.02	0.00	0.00
Cridersville WWTP 2PB00048	0.61	0.61	0.61	0.61	0.61

Values were adjusted for rounding. All loads are in kg/day.

Table 5-12. Characterization of the sediment TMDL in the Little Ottawa River nested subwatershed.

Note: ALU designation in parentheses.

Stream/River	River Mile	QHEI Categories			Total Sediment Score	Deviation from Target (%)	Main Impairment Category
		Substrate	Channel	Riparian			
04 01 Little Ottawa River							
L. Ottawa R (WWH)	1.85	6.5	17	5.5	29	9.4	substrate
Target (MWH)		≥ 9	≥ 10	≥ 4	≥ 23		
Target (WWH)		≥ 13	≥ 14	≥ 5	≥ 32		

Ottawa River (Lima Area) Watershed TMDLs

Table 5-13. *E. coli* TMDL table: Little Ottawa River @ Ft. Amanda Rd.

TMDL and duration intervals	High 0-5%	Wet weather 5-40%	Normal range 40-80%	Dry weather 80-95%	Low 95-100%
Samples Per Regime	1	4	5	1	0
Median Sample load	7336	850	89.57	1.61	N/A
Total Load Reduction Required	96.9%	97.4%	89.4%	N/A	No Data
Total Maximum Daily Load	294.46	28.14	12.21	7.55	5.58
Margin of Safety: 20%¹	58.89	5.63	2.44	1.51	0.56
Allowance for future growth: 2%	5.89	0.56	0.24	0.15	0.11
Load Allocation	164.11	12.47	3.39	1.02	0.03
Wasteload Allocation Total	65.57	9.49	6.13	4.88	4.88
Lima area MS4 communities	60.98	4.90	1.54	0.00	0.00
Cridersville WWTP 2PB00048	4.88	4.88	4.88	4.88	4.88

Values were adjusted for rounding. All loads are in billion cfu/day.

¹ 10% in Low flow regime

5.5 Dug Run-Ottawa River (04100007 04 02)

E. coli reductions ranged from 60.9 percent to 96.8 percent in this nested subwatershed.

Table 5-14. *E. coli* TMDL table: Ottawa R. @ Copus Rd.

TMDL and duration intervals	High 0-5%	Wet weather 5-40%	Normal range 40-80%	Dry weather 80-95%	Low 95-100%
Samples Per Regime	0	3	5	0	1
Median Sample load	N/A	16933	504.95	N/A	415.25
Total Load Reduction Required	No Data	96.8%	53.5%	No Data	54.5%
Total Maximum Daily Load	3268.6	701.28	300.96	257.65	241.50
Margin of Safety: 20% ¹	653.72	140.26	60.19	51.53	24.15
Allowance for future growth: 2%	65.37	14.03	6.02	5.15	4.83
Load Allocation	1467.41	85.68	39.71	23.77	11.89
Wasteload Allocation Total	1082.10	461.32	195.04	177.19	177.19
Lima area MS4 communities	659.27	38.49	17.84	0.00	0.00
County Line Invest. LLC 2PW00018	0.01	0.01	0.01	0.01	0.01
Ada WWTP 2PB00050	12.19	12.19	12.19	12.19	12.19
Colonial Golfer's Club 2PR00195	0.05	0.05	0.05	0.05	0.05
LaFayette WWTP 2PA00049	0.48	0.48	0.48	0.48	0.48
National Lime & Stone Co 2IJ00013	9.54	9.54	9.54	9.54	9.54
PCS Nitrogen 2IF00004	17.84	17.84	17.84	17.84	17.84
Lima Refinery 2IG00001	38.16	38.16	38.16	38.16	38.16
Lima WWTP 2PE00000	333.87	333.87	88.24	88.24	88.24
City of Lima CSOs ²	0	0	0	0	0
Cridersville WWTP 2PB00048	4.88	4.88	4.88	4.88	4.88
Shawnee #2 WWTP 2PK00002	9.54	9.54	9.54	9.54	9.54

Values were adjusted for rounding. All loads are in billion cfu/day.

¹ 10% in Low flow regime

² Zero load for CSOs does not necessarily mean the prohibition of CSOs, but rather that another mechanism (the LTCP) will address the CSOs.

5.6 Honey Run (04100007 04 03) and Beaver Run-Ottawa River (04100007 04 06)

Total phosphorus reductions ranged from 0 percent to 72.6 percent in these nested subwatersheds. *E. coli* reductions ranged from 16.5 percent to 98.5 percent. Additional TMDLs included sediment and habitat.

Table 5-15. Total phosphorus TMDL table: Honey Run @ Cremeans Rd.

TMDL and duration intervals	High 0-5%	Wet weather 5-40%	Normal range 40-80%	Dry weather 80-95%	Low 95-100%
Samples Per Regime	0	3	2	0	0
Median Sample load	N/A	19	0.51	N/A	N/A
Total Load Reduction Required	No Data	72.6%	N/A	No Data	No Data
Total Maximum Daily Load	19.55	1.66	0.42	0.11	0.02
Margin of Safety: 5%	0.98	0.08	0.02	0.01	0.001
Allowance for future growth: 2%	0.39	0.03	0.01	0.002	0.0005
Load Allocation	18.18	1.55	0.39	0.10	0.02
Wasteload Allocation Total	0.00	0.00	0.00	0.00	0.00

Values were adjusted for rounding. All loads are in kg/day.

Table 5-16. Characterization of the sediment TMDL in the Honey Run nested subwatershed.

Note: ALU designation in parentheses.

Stream/River	River Mile	QHEI Categories			Total Sediment Score	Deviation from Target (%)	Main Impairment Category
		Substrate	Channel	Riparian			
04 03 Ottawa River							
Honey Run (MWH-C) ¹	3.58	8.5	8	8.5	25	---	channel
Target (MWH)		≥ 9	≥ 10	≥ 4	≥ 23		
Target (WWH)		≥ 13	≥ 14	≥ 5	≥ 32		

¹ The site meets the overall sediment score; however, two of the sub-metrics do not meet the target and are considered to be influencing the attainment status.

Ottawa River (Lima Area) Watershed TMDLs

Table 5-17. Characterization of the habitat TMDL using QHEI metrics for sites with impairment due to habitat alteration, sedimentation/siltation, turbidity, and/or flow alteration (non-natural) in the Honey Run nested subwatershed.

Note: ALU designation in parentheses.

Stream/River	River Mile	QHEI Score	# of High Influence Attributes	Total # of Modified Attributes	Sub-score			Total Habitat Score
					QHEI	High Influence	Modified	
04 03 Ottawa River								
Honey Run (MWH-C)	3.58	50.5	3	10	1	0	0	1
Target (MWH)		≥ 43 = 1 pt	< 2 = 1 pt	< 6 = 1 pt				3 pts
Target (WWH)		≥ 60 = 1 pt	< 2 = 1 pt	< 5 = 1 pt				3 pts

Table 5-18. *E. coli* TMDL table: Honey Run @ Wapak Rd.

TMDL and duration intervals	High 0-5%	Wet weather 5-40%	Normal range 40-80%	Dry weather 80-95%	Low 95-100%
Samples Per Regime	1	4	5	0	0
Median Sample load	4547	960	29.95	N/A	N/A
Total Load Reduction Required	96.0%	98.5%	85.2%	No Data	No Data
Total Maximum Daily Load	230.58	18.37	5.67	1.97	0.40
Margin of Safety: 20%	46.12	3.67	1.13	0.39	0.08
Allowance for future growth: 2%	4.61	0.37	0.11	0.04	0.01
Load Allocation	179.86	14.33	4.42	1.54	0.31
Wasteload Allocation Total	0.00	0.00	0.00	0.00	0.00

Values were adjusted for rounding. All loads are in billion cfu/day.

Ottawa River (Lima Area) Watershed TMDLs

Table 5-19. *E. coli* TMDL table: Ottawa R. @ US-224.

TMDL and duration intervals	High 0-5%	Wet weather 5-40%	Normal range 40-80%	Dry weather 80-95%	Low 95-100%
Samples Per Regime	0	4	4	0	1
Median Sample load	N/A	11058	517.41	N/A	172.91
Total Load Reduction Required	No Data	93.8%	47.5%	No Data	N/A
Total Maximum Daily Load	5906.76	876.22	348.31	292.58	266.13
Margin of Safety: 20%¹	1181.35	175.24	69.66	58.52	53.23
Allowance for future growth: 2%	118.14	17.52	6.97	5.85	5.32
Load Allocation	3414.12	197.29	61.06	30.96	10.35
Wasteload Allocation Total	1192.46	486.17	210.63	197.23	197.23
Lima area MS4 communities	749.59	43.31	13.40	0.00	0.00
County Line Invest. LLC 2PW00018	0.01	0.01	0.01	0.01	0.01
Ada WWTP 2PB00050	12.19	12.19	12.19	12.19	12.19
Colonial Golfer's Club 2PR00195	0.05	0.05	0.05	0.05	0.05
LaFayette WWTP 2PA00049	0.48	0.48	0.48	0.48	0.48
National Lime & Stone Co 2IJ00013	9.54	9.54	9.54	9.54	9.54
PCS Nitrogen 2IF00004	17.84	17.84	17.84	17.84	17.84
Lima Refinery 2IG00001	38.16	38.16	38.16	38.16	38.16
Lima WWTP 2PE00000	333.87	333.87	88.24	88.24	88.24
City of Lima CSOs ²	0	0	0	0	0
Shawnee #2 WWTP 2PK00002	9.54	9.54	9.54	9.54	9.54
Elida WWTP 2PB00046	2.38	2.38	2.38	2.38	2.38
American #2 WWTP 2PH00006	5.72	5.72	5.72	5.72	5.72
American Bath STP 2PH00007	7.15	7.15	7.15	7.15	7.15
National Lime & Stone Co Rimer 2IJ00053	4.77	4.77	4.77	4.77	4.77
Cridersville WWTP 2PB00048	4.88	4.88	4.88	4.88	4.88

Values were adjusted for rounding. All loads are in billion cfu/day.

¹ 10% in Low flow regime

² Zero load for CSOs does not necessarily mean the prohibition of CSOs, but rather that another mechanism (the LTCP) will address the CSOs.

5.7 Pike Run (04100007 04 04)

E. coli reductions ranged from 98.0 percent to 98.5 percent in this nested subwatershed.

Table 5-20. *E. coli* TMDL table Pike Run @ Lima-Gomer Rd.

TMDL and duration intervals	High 0-5%	Wet weather 5-40%	Normal range 40-80%	Dry weather 80-95%	Low 95-100%
Samples Per Regime	1	4	5	1	0
Median Sample load	10398	1026	597.41	547.61	N/A
Total Load Reduction Required	98.2%	98.0%	98.1%	98.5%	No Data
Total Maximum Daily Load	234.75	26.70	14.24	10.60	9.06
Margin of Safety: 20% ¹	46.95	5.34	2.85	2.12	0.91
Allowance for future growth: 2%	4.69	0.53	0.28	0.21	0.18
Load Allocation	121.40	9.43	2.73	1.12	0.82
Wasteload Allocation Total	61.70	11.39	8.38	7.15	7.15
Lima area MS4 communities	54.54	4.24	1.23	0.00	0.00
City of Lima CSOs ²	0	0	0	0	0
American Bath STP 2PH00007	7.15	7.15	7.15	7.15	7.15

Values were adjusted for rounding. All loads are in billion cfu/day.

¹ 10% in Low flow regime

² Zero load for CSOs does not necessarily mean the prohibition of CSOs, but rather that another mechanism (the LTCP) will address the CSOs.

5.8 Leatherwood Ditch (04100007 04 05)

E. coli reductions ranged from 83.1 percent to 87.8 percent in this nested subwatershed.

Table 5-21. *E. coli* TMDL table: Leatherwood Ditch @ Putnam CR-U.

TMDL and duration intervals	High 0-5%	Wet weather 5-40%	Normal range 40-80%	Dry weather 80-95%	Low 95-100%
Samples Per Regime	0	3	2	0	0
Median Sample load	N/A	72	30.60	N/A	N/A
Total Load Reduction Required	No Data	83.1%	87.8%	No Data	No Data
Total Maximum Daily Load	194.21	15.48	4.78	1.66	0.34
Margin of Safety: 20%	38.84	3.10	0.96	0.33	0.07
Allowance for future growth: 2%	3.88	0.31	0.10	0.03	0.01
Load Allocation	151.48	12.07	3.73	1.30	0.26
Wasteload Allocation Total	0.00	0.00	0.00	0.00	0.00

Values were adjusted for rounding. All loads are in billion cfu/day.

5.9 Sugar Creek (04100007 05 01)

E. coli reductions ranged from 90.8 percent to 92.8 percent in this nested subwatershed.

Table 5-22. *E. coli* TMDL table: Sugar Creek @ CR-O.

TMDL and duration intervals	High 0-5%	Wet weather 5-40%	Normal range 40-80%	Dry weather 80-95%	Low 95-100%
Samples Per Regime	0	6	2	0	1
Median Sample load	N/A	982	235.36	N/A	19.60
Total Load Reduction Required	No Data	92.8%	90.8%	No Data	91.6%
Total Maximum Daily Load	1135.60	90.45	27.90	9.62	1.88
Margin of Safety: 20%	227.12	18.09	5.58	1.92	0.38
Allowance for future growth: 2%	22.71	1.81	0.56	0.19	0.04
Load Allocation	868.05	69.14	21.33	7.50	1.46
Wasteload Allocation Total	17.72	1.41	0.44	0.00	0.00
Lima area MS4 communities	17.72	1.41	0.44	0.00	0.00

Values were adjusted for rounding. All loads are in billion cfu/day.

5.10 Plum Creek (04100007 05 02)

Total phosphorus reductions ranged from 24.5 percent to 25.4 percent in this nested subwatershed. *E. coli* reductions ranged from 55.0 percent to 98.7 percent. Additional TMDLs included sediment and habitat.

Table 5-23. Total phosphorus TMDL table: Plum Creek @ TR-O.

TMDL and duration intervals	High 0-5%	Wet weather 5-40%	Normal range 40-80%	Dry weather 80-95%	Low 95-100%
Samples Per Regime	0	2	3	0	0
Median Sample load	N/A	17	6.87	N/A	N/A
Total Load Reduction Required	No Data	24.5%	25.4%	No Data	No Data
Total Maximum Daily Load	132.54	13.70	5.51	3.29	2.65
Margin of Safety: 5%	6.63	0.69	0.28	0.16	0.13
Allowance for future growth: 2%	2.65	0.27	0.11	0.07	0.05
Load Allocation	120.79	10.27	0.50	0.10	0.010
Wasteload Allocation Total	2.47	2.47	4.62	2.96	2.46
Columbus Grove WWTP 2PC00004	2.16	2.16	2.16	2.16	2.16
Columbus Grove CSOs	0.00	0.00	0.00	0.00	0.00
Cairo Sulfur Products 2IF00008	0.30	0.30	0.30	0.30	0.30

Values were adjusted for rounding. All loads are in kg/day.

Ottawa River (Lima Area) Watershed TMDLs

Table 5-24. Characterization of the sediment TMDL in the Plum Creek nested subwatershed.

Note: ALU designation in parentheses.

Note: AES designation in parentheses.							
Stream/River	River Mile	QHEI Categories			Total Sediment Score	Deviation from Target (%)	Main Impairment Category
		Substrate	Channel	Riparian			
05 02 Plum Ck – Ottawa River							
Plum Creek (MWH-C)	8.12	5	7.5	4	16.5	28.3	substrate
Target (MWH)		≥ 9	≥ 10	≥ 4	≥ 23		
Target (WWH)		≥ 13	≥ 14	≥ 5	≥ 32		

Table 5-25. Characterization of the habitat TMDL using QHEI metrics for sites with impairment due to habitat alteration, sedimentation/siltation, turbidity, and/or flow alteration (non-natural) in the Plum Creek nested subwatershed.

Note: ALU designation in parentheses.

Stream/River	River Mile	QHEI Score	# of High Influence Attributes	Total # of Modified Attributes	Sub-score			Total Habitat Score
					QHEI	High Influence	Modified	
05 02 Plum Creek – Ottawa River								
Plum Creek (MWH-C)	8.1	36	2	10	0	0	0	0
Target (MWH)		≥ 43 = 1 pt	< 2 = 1 pt	< 6 = 1 pt				3 pts
Target (WWH)		≥ 60 = 1 pt	< 2 = 1 pt	< 5 = 1 pt				3 pts

Table 5-26. E. coli TMDL table: Plum Creek @ SR-114.

TMDL and duration intervals	High 0-5%	Wet weather 5-40%	Normal range 40-80%	Dry weather 80-95%	Low 95-100%
Samples Per Regime	0	5	6	1	0
Median Sample load	N/A	3720	112.33	19.99	N/A
Total Load Reduction Required	No Data	98.7%	84.1%	55.0%	No Data
Total Maximum Daily Load	710.22	61.68	22.87	11.53	6.72
Margin of Safety: 20% ¹	142.04	12.34	4.57	2.31	0.67
Allowance for future growth: 2%	14.20	1.23	0.46	0.23	0.13
Load Allocation	549.68	43.82	13.55	4.70	1.62
Wasteload Allocation Total	4.29	4.29	4.29	4.29	4.29
Columbus Grove WWTP 2PC00004	3.91	3.91	3.91	3.91	3.91
Cairo Sulfur Products 2IF00008	0.38	0.38	0.38	0.38	0.38

Values were adjusted for rounding. All loads are in billion cfu/day.

¹ 10% in Low flow regime

Attachment F

Training Documentation

Stormwater Pollution Prevention Training Log

Project Name:

Project Location:

Instructor's Name(s):

Instructor's Title(s):

Course Location:

Date of Course:

Course Length(hours):

Stormwater Training Topic: (check as appropriate)

- | | |
|--|---|
| <input type="checkbox"/> Sediment and Erosion Controls | <input type="checkbox"/> Emergency Procedures |
| <input type="checkbox"/> Stabilization Controls | <input type="checkbox"/> Inspections/Corrective Actions |
| <input type="checkbox"/> Pollution Prevention Measures | <input type="checkbox"/> Stormwater Runoff Sampling |

Specific Training Objective(s):

Attendee Roster: (attach additional pages as necessary)

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Attachment G

Inspection and Maintenance Forms



Construction Site Inspection Checklist for OHC000004

By making use of some simple Best Management Practices (BMPs) a construction site operator can do his or her share to protect Ohio's water resources from the harmful effects of sediment. The topography of the site and the extent of the construction activities will determine which of these practices are applicable to any given site, but the BMPs listed here are applicable to most construction sites. For details on the installation and maintenance of these BMPs, please refer to the current ***Rainwater and Land Development, Ohio's Standards for Storm Water Management Land Development and Urban Stream Protection*** by the Ohio Department of Natural Resources (ODNR) Division of Soil and Water Conservation. The manual is available at <http://ohiodnr.com/soilandwater/water/rainwater/default/tabid/9186/Default.aspx> or by contacting your county Soil and Water Conservation District.

Temporary Stabilization

This is the most effective BMP. All disturbed areas that will lie dormant for over 14 days must be stabilized within 7 days of the date the area becomes inactive. The goal of temporary stabilization is to provide cover, quickly. Areas within 50 feet of a stream must be stabilized within 2 days of inactivity. This is accomplished by seeding with fast-growing grasses then covering with straw mulch. Apply only mulch between November 1 and March 31. To minimize your costs of temporary stabilization, leave natural cover in place for as long as possible. Only disturb areas you intend to work within the next 14 days.

Construction Entrances

Construction entrances are installed to minimize off-site tracking of sediments. A stone access drive should be installed at every point where vehicles enter or exit the site. Every individual lot should also have its own drive once construction on the lot begins.

Sediment Ponds

Sediment ponds are required for construction areas with concentrated runoff, when the design capacity of silt fence or inlet protection is exceeded, or for drainage areas with 10 or more disturbed areas. There are two types of sediment ponds: sediment basins and sediment traps. A sediment trap is appropriate where the contributing drainage area is 10 acres or less. The outlet is an earthen embankment with a simple stone spillway. A sediment basin is appropriate for drainage areas larger than 10 acres. The outlet is an engineered riser pipe with a skimmer or similar device used to dewater the pond at the surface. Often a permanent storm water management pond, such as a retention or detention basin, can be modified to act as a sediment basin during construction. All sediment ponds must be installed within 7 days of first grubbing the area they control, provide a minimum dewatering zone of 67 cubic yards per acre of total contributing drainage area and a sediment settling zone of 34 cubic yards per disturbed acre below the level of the outlet. Sediment basins must be designed to drain the dewatering zone over a 48-hour period.

Silt Fence

This is typically used at the perimeter of a disturbed area. It's only for small drainage areas on relatively flat slopes or around small soil storage piles. Not suitable where runoff is concentrated in a ditch, pipe or through streams. For large drainage areas where flow is concentrated, collect runoff in diversion berms or channels and pass it through a sediment pond prior to discharging it from the site. Combination barriers constructed of silt fence supported by straw bales or silt fence embedded within rock check dams may be effective within small channels. As with all sediment controls, silt fence must be capable of pooling runoff so that sediment can settle out of suspension. Silt fence must be installed within 7 days of first grubbing the area it controls.

Inlet Protection

This must be installed on all yard drains and curb drains when these inlets do not drain to a sediment trap or basin. Even if there is a sediment trap or basin, inlet protection is still recommended, as it will increase the overall sediment removal efficiency. These are best used on roads with little or no traffic. If working properly, inlet protection will cause water to pond. If used on curb inlets, streets will flood temporarily during heavy storms. Check with your municipality before installing curb inlet protection. They may prefer an alternate means of sediment control such as silt fence or ponds.

Permanent Stabilization

All areas at final grade must be permanently stabilized within 7 days of reaching final grade. This is usually accomplished by using seed and mulch, but special measures are sometimes required. This is particularly true in drainage ditches or on steep slopes. These measures include the addition of topsoil, erosion control matting, rock rip-rap or retaining walls. Permanent seeding should be done March 1 to May 31 and August 1 to September 30. Dormant seeding can be done from November 20 to March 15. At all other times of the year, the area should be temporarily stabilized until a permanent seeding can be applied.

Non-Sediment Pollution Control

Although sediment is the pollutant of greatest concern on most construction sites, there are other sources of pollution. Most of these BMPs are easy to implement with a little bit of planning and go a long way toward keeping your site clean and organized. Please be sure to inform all contractors how these BMPs affect their operations on the site, particularly those that will be working near a stream.

Inspection Sheet

INSPECTIONS MUST BE CONDUCTED ONCE EVERY 7 DAYS AND WITHIN 24 HOURS OF A 0.5" OR GREATER RAINFALL. ALL SEDIMENT CONTROLS MUST BE INSTALLED PRIOR TO GRADING AND WITHIN 7 DAYS OF FIRST GRUBBING

GENERAL INSPECTION INFORMATION

Construction Site Inspection Date: _____ Inspector Name: _____

Inspector Title: _____ Qualifications/Certifications: _____

Storm Events of the Last 7 Days

Storm Event Date	Storm Event Time	Storm Event Duration	Total Rainfall Amount (inches)	Discharge Occur? (Y/N)
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Weather Information at the Time of Inspection

Temperature _____ Climate (Sunny, Cloudy, Rain)? _____ Is Storm Water Being Discharged? _____

Sketch or Small Site Map

Along with a narrative inspection log, Ohio EPA recommends the inspector use a sketch or a reduced photocopy of the site plan showing the location of storm water outfalls and storm drain inlets as well as the location and types of control measures. Problems observed at these locations, or at other locations on the construction site, should be highlighted and any corrective measures undertaken should be drawn in and noted in detail on the front side of the sketch. This method will also be helpful as the permittee is required to update the SWP3 to reflect current site conditions.

CONSTRUCTION ENTRANCES

Key things to look for ...

	Yes	No
1. Has the drive been constructed by placing geotextile fabric under the stone?	<input type="checkbox"/>	<input type="checkbox"/>
2. Is the stone 2-inch diameter?	<input type="checkbox"/>	<input type="checkbox"/>
3. Has the stone been placed to a depth of 6 inches, with a width of 10 feet and a length of at least 50 feet (30 feet for entrances onto individual sublots)?	<input type="checkbox"/>	<input type="checkbox"/>
4. If the drive is placed on a slope, has a diversion berm been constructed across the drive to divert runoff away from the street or water resource?	<input type="checkbox"/>	<input type="checkbox"/>
5. If drive is placed across a ditch, was a culvert pipe used to allow runoff to flow across the drive?	<input type="checkbox"/>	<input type="checkbox"/>

Note areas where repairs or maintenance is needed or where this practice needs to be applied:

SEDIMENT PONDS

Key things to look for ...

	Yes	No
1. Are concentrated flows of runoff directed to a sediment pond?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Is sheet-flow runoff from drainage areas that exceed the design capacity of silt fence (generally 0.25 acre or larger) directed to a sediment pond?	<input type="checkbox"/>	<input type="checkbox"/>
3. Is runoff being collected and directed to the sediment pond via the storm sewer system or via a network of diversion berms and channels?	<input type="checkbox"/>	<input type="checkbox"/>
4. Is the sediment pond dewatering zone appropriately sized (67 cubic yards per acre of total drainage area)?	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the sediment pond sediment settling zone appropriately sized (34 cubic yards per acre of disturbed area)?	<input type="checkbox"/>	<input type="checkbox"/>
6. Is the sediment basin designed to be dewatered at the surface through the use of a skimmer or another similar surface water dewatering device?	<input type="checkbox"/>	<input type="checkbox"/>
7. Is the sediment basin designed so that the dewatering zone will drain in no less time than 48 hours?	<input type="checkbox"/>	<input type="checkbox"/>
8. Have the embankments of the sediment pond and the areas that lie downstream of the pond been stabilized?	<input type="checkbox"/>	<input type="checkbox"/>
9. For sediment basins that dewater 100% between storms, is the riser pipe wrapped with chicken wire and double wrapped with geotextile fabric?	<input type="checkbox"/>	<input type="checkbox"/>
10. Does the riser have 1-inch diameter holes spaced 4 inches apart, both horizontally and vertically?	<input type="checkbox"/>	<input type="checkbox"/>
11. For sediment basins, which dewater 60% between storms, is the diameter of the dewatering hole per plan (see Chapter 6 of <i>Rainwater</i> manual)?	<input type="checkbox"/>	<input type="checkbox"/>
12. For sediment traps, is there geotextile under the stone spillway and is the spillway saddle-shaped?	<input type="checkbox"/>	<input type="checkbox"/>
13. For sediment traps, which dewater 100% between storms, is the dewatering pipe end-capped, no larger than 6 inches in diameter, perforated and double-wrapped in geotextile?	<input type="checkbox"/>	<input type="checkbox"/>
14. Is the length-to-width ratio between inlet(s) and outlet at least 2:1? NOTE: If not, a baffle should be added to lengthen the distance.	<input type="checkbox"/>	<input type="checkbox"/>
15. Is the depth from the bottom of the basin to the top of the primary spillway no more than 3 to 5 feet?	<input type="checkbox"/>	<input type="checkbox"/>
16. For a modified storm water pond being used as a sediment pond, is the connection between the riser pipe and the permanent outlet water-tight?	<input type="checkbox"/>	<input type="checkbox"/>
17. Was the basin installed prior to grading the site?	<input type="checkbox"/>	<input type="checkbox"/>
18. Is it time to clean-out the sediment pond to restore its original capacity? Generally, sediment should be removed from the sediment settling zone once it's half-full. Stabilize the dredged sediments with seed and mulch.	<input type="checkbox"/>	<input type="checkbox"/>

Note areas where repairs or maintenance is needed or where this practice needs to be applied:

SILT FENCE

Key things to look for ...

	Yes	No
1. Is the fence at least 4" to 6" into the ground?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2. Is the trench backfilled to prevent runoff from cutting underneath the fence?	<input type="checkbox"/>	<input type="checkbox"/>
3. Is the fence pulled tight so it won't sag when water builds up behind it?	<input type="checkbox"/>	<input type="checkbox"/>
4. Are the ends brought upslope of the rest of the fence so as to prevent runoff from going around the ends?	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the fence placed on a level contour? If not, the fence will only act as a diversion.	<input type="checkbox"/>	<input type="checkbox"/>
6. Have all the gaps and tears in the fence been eliminated.	<input type="checkbox"/>	<input type="checkbox"/>
7. Is the fence controlling an appropriate drainage area? Refer to Chapter 6 of Rainwater manual. RULE OF THUMB: Design capacity for 100 linear feet of silt fence is 0.5 acres for slopes < 2%, 0.25 acres for slopes 2% to 20%, & 0.125 acres for slopes 20% or more. Generally, no more than 0.25 acres should lie behind 100 feet of fence at 2% to 10% slope, i.e., the distance between the fence and the top of the slope behind it should be no more than 125 feet. The allowable distance increases on flatter slopes and decreases for steeper slopes.	<input type="checkbox"/>	<input type="checkbox"/>

Note areas where repairs or maintenance is needed or where this practice needs to be applied:

INLET PROTECTION

Key things to look for ...

	Yes	No
1. Does water pond around the inlet when it rains?	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the fabric been replaced when it develops tears or sags?	<input type="checkbox"/>	<input type="checkbox"/>
3. For curb inlet protection, does the fabric cover the entire grate, including the curb window?	<input type="checkbox"/>	<input type="checkbox"/>
4. For yard inlet protection, does the structure encircle the entire grate?	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the fabric properly entrenched or anchored so that water passes through it and not under it?	<input type="checkbox"/>	<input type="checkbox"/>
6. For yard inlet protection, is the fabric properly supported to withstand the weight of water and prevent sagging? The fabric should be supported by a wood frame with cross braces, or straw bales.	<input type="checkbox"/>	<input type="checkbox"/>
7. Is sediment that has accumulated around the inlet removed on a regular basis?	<input type="checkbox"/>	<input type="checkbox"/>

Note areas where repairs or maintenance is needed or where this practice needs to be applied:

TEMPORARY STABILIZATION

Key things to look for ...

	Yes	No
1. Are there any areas of the site that are disturbed, but will likely lie dormant for over 14 days?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Have all dormant, disturbed areas been temporarily stabilized in their entirety?	<input type="checkbox"/>	<input type="checkbox"/>
3. Have disturbed areas outside the silt fence been seeded or mulched?	<input type="checkbox"/>	<input type="checkbox"/>
4. Have soil stockpiles that will sit for over 14 days been stabilized?	<input type="checkbox"/>	<input type="checkbox"/>
5. Has seed and mulch been applied at the proper rate? In general, seed is applied at 3 to 5 lbs per 1000 sq ft and straw mulch is applied at 2-3 bales per 1000 sq ft.	<input type="checkbox"/>	<input type="checkbox"/>
6. Has seed or mulch blown away? If so, repair.	<input type="checkbox"/>	<input type="checkbox"/>

Note areas where repairs or maintenance is needed or where this practice needs to be applied:

PERMANENT STABILIZATION

Key things to look for ...

	Yes	No
1. Are any areas at final grade?	<input type="checkbox"/>	<input type="checkbox"/>
2. Has the soil been properly prepared to accept permanent seeding?	<input type="checkbox"/>	<input type="checkbox"/>
3. Has seed and mulch been applied at the appropriate rate (see Chapter 7 of the <i>Rainwater</i> manual)?	<input type="checkbox"/>	<input type="checkbox"/>
4. If rainfall has been inadequate, are seeded areas being watered?	<input type="checkbox"/>	<input type="checkbox"/>
5. For drainage ditches where flow velocity exceeds 3.5 ft/s from a 10-year, 24-hour storm has matting been applied to the ditch bottom?	<input type="checkbox"/>	<input type="checkbox"/>
6. If the flow velocity exceeds 5.0 ft/s, has the ditch bottom been stabilized with rock rip-rap? NOTE: Rock check dams may be needed to slow the flow of runoff.	<input type="checkbox"/>	<input type="checkbox"/>
7. Has rock rip-rap been placed under all storm water outfall pipes to prevent scouring in the receiving stream or erosion of the receiving channel?	<input type="checkbox"/>	<input type="checkbox"/>
8. For sites with steep slopes or fill areas, is runoff from the top of the site conveyed to the bottom of the slope or fill area in a controlled manner so as not to cause erosion?	<input type="checkbox"/>	<input type="checkbox"/>

Note areas where repairs or maintenance is needed or where this practice needs to be applied:

NON-SEDIMENT POLLUTION CONTROL

Key things to look for ...

	Yes	No
1. Has an area been designated for washing out concrete trucks? Washings must be contained on site within a bermed area until they harden. The washings should never be directed toward a watercourse, ditch or storm drain.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Is waste and packaging disposed of in a dumpster? Do not burn them on site.	<input type="checkbox"/>	<input type="checkbox"/>
3. Are fuel tanks and drums of toxic and hazardous materials stored within a diked area or trailer and away from any watercourse, ditch or storm drain?	<input type="checkbox"/>	<input type="checkbox"/>
4. Are streets swept as often as necessary to keep them clean and free from sediment? NOTE: Sediment should be swept back onto the lot - not down the storm sewers.	<input type="checkbox"/>	<input type="checkbox"/>
5. Are stockpiles of soil or other materials stored away from any watercourse, ditch or storm drain?	<input type="checkbox"/>	<input type="checkbox"/>
6. Have stream crossings been constructed entirely of non-erodible material?	<input type="checkbox"/>	<input type="checkbox"/>
7. If an area of the site is being dewatered, is it being pumped from a sump pit or is the discharge directed to a sediment pond? NOTE: if you must lower ground water, the water may be discharged to the receiving stream as long as the water remains clean. Be sure not to co-mingle the clean ground water with sediment-laden water or to discharge it off-site by passing it over disturbed ground.	<input type="checkbox"/>	<input type="checkbox"/>

Note areas where repairs or maintenance is needed or where this practice needs to be applied:

Attachment H

Endangered Species and Cultural Resource Documentation



September 23, 2016

David Snyder, Archaeology Reviews Manager
Ohio Historic Preservation Office
Ohio History Connection
800 East 17th Avenue
Columbus, Ohio 43211-2474

**Subject: Request for the Comment on the Need for Additional History and Architectural Investigations
Hog Creek Wind Farm
Hardin County, Ohio**

Dear Mr. Snyder:

Tetra Tech has been contracted by Hog Creek Wind Farm, LLC, (Hog Creek) a subsidiary of Renewable Energy Systems Americas Inc. (RES Americas), to provide cultural resource management services for the proposed Hog Creek Wind Farm (the Project) in Hardin County. As part of this effort, Tetra Tech is consulting with the Ohio Historic Preservation Office (OHPO) and the Hardin County Historical Museums, Inc. regarding minor changes to the proposed Project Boundary and turbine location (see attached map), and if these changes would necessitate additional history and architectural investigations. An existing Memorandum of Understanding (MOU) between Hog Creek Wind Farm, LLC, the OHPO, and the Hardin County Historical Museums, Inc. regarding Hog Creek Wind Farms (I & II), Hardin County, Ohio (see attached MOU) specifies the conditions needed to address visual/indirect impacts of the proposed Project.

Background of History and Architectural Investigation

A history and architectural investigation was previously conducted on behalf of the previous Project owner, Juwi Wind/Great Lakes Wind, LLC, by Hardline Design Company (HDC). The scope of work included:

1. A literature review to identify previously inventoried structures within a 5-miles of the Hog Creek Project Boundary (dated December 2011);
2. Surveying all structures over 50 years old within the Project Boundary, and completing Ohio Historic Inventory (OHI) forms for properties with high levels of integrity within the Project Boundary; and
3. Reviewing properties with high levels of integrity that had not been previously surveyed in the towns of Dola, Dunkirk, and Ada, and completing OHI forms for properties with high levels of integrity.

A final report outlining the findings of this survey was submitted to the Ohio Historic Preservation Office (OHPO) on August 18, 2010. An MOU was completed in 2012 and was executed by Hog Creek on July 16, 2012, the Hardin County Historical Museums, Inc. on July 19, 2012, and the OHPO on August 1, 2012. The MOU is in effect until August 1, 2017. The Project, as initially planned, was never constructed, and in 2016 the Project was sold to RES Americas.

In the summer of 2016, the Project layout was modified to accommodate updated turbine technology and to conform to current Ohio setback regulations. Due to these changes, the current Hog Creek Project Boundary (dated June 7, 2017) expanded marginally to the north, south, and west, and extended 0.5 miles east (see attached

Tetra Tech Inc.

2001 Killebrew Drive, Suite 141, Bloomington, MN 55425
Tel 612-643-2200 Fax 612-643-2201 tetratech.com

map). Although the Project Boundary expanded, the number of wind turbines decreased from 41 to 30. The new turbines are the same height as the original turbines.

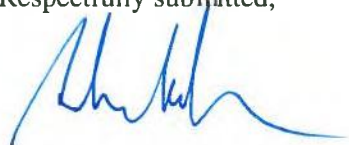
We are consulting your agency to:

1. Confirm that no additional history and architectural investigations are needed based on the updated Project Boundary and turbine locations; and
2. Reaffirm that Hog Creek will abide by the measures and commitments in the MOU as the Project progresses to construction later in 2016.

We would appreciate a response within 30 days of receipt of this letter indicating whether the project will affect resources under your jurisdiction. Please contact me at (612) 643-2237 if you have any questions.

Thank you for your assistance.

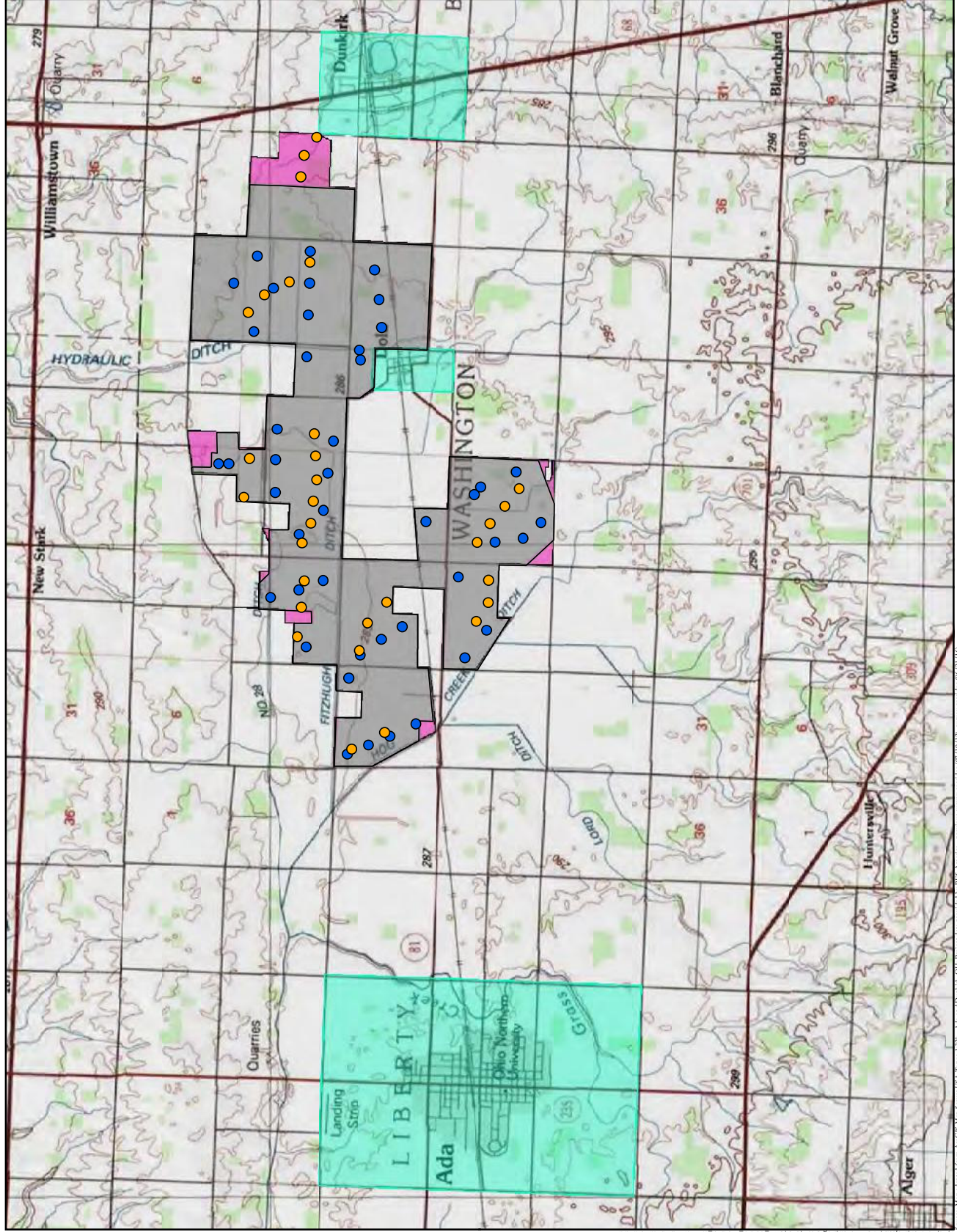
Respectfully submitted,



Adam Holven
Tetra Tech, Inc
2001 Killebrew Drive, Suite 141
Bloomington, MN 55425

Attachments (2) - Figure 1 Project Area and Previous Survey
Memorandum of Understanding

cc: Linda Iams, Director of Hardin County Historical Museums, Inc.



- Current Turbine Layout (06/13/2016)
- Previous Turbine Layout
- Previous Project Boundary
- Expanded Project Boundary
- Previous Architectural Survey
- Outside Project Boundary

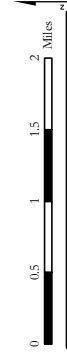


Figure 1
Project Boundary and
Previous Survey
Hog Creek Wind Farm
Hardin County, Ohio



MEMORANDUM OF UNDERSTANDING (MOU)
BETWEEN HOG CREEK WIND FARM, LLC
AND THE
OHIO HISTORIC PRESERVATION OFFICE
REGARDING HOG CREEK WIND FARMS (I & II)
HARDIN COUNTY, OHIO

WHEREAS Hog Creek Wind Farm, LLC (Hog Creek) plans to construct and to operate the Hog Creek Wind Farm Project in Hardin County, Ohio (the Project); and

WHEREAS the Project will be regulated by the Ohio Power Siting Board (OPSB) under Chapter 1552 of the Ohio Revised Code and Chapters 4906-1 to 7906-17 of the Ohio Administrative Code; and

WHEREAS, pursuant to Chapters 4906-17-08 (D) of the Ohio Administrative Code, Cultural Impacts, applicants for wind farm projects are directed to assess the impacts posed by their projects on the preservation and continued meaningfulness of historic landmarks, and to develop plans in consultation with the Ohio Historic Preservation Office (OHPO) to mitigate adverse impacts anticipated to historic landmarks; and

WHEREAS, pursuant to Chapter 4906-17-08 (d) of the Ohio Administrative Code, Cultural Impacts, Hog Creek shall identify historic landmarks within five miles of the Project; and

WHEREAS, historic landmarks are defined as places of importance recognized through the National Register Program or by the Ohio Historical Society (Historic Landmarks); and

WHEREAS, Hog Creek has consulted with OHPO and undertaken architectural and archeological resource surveys to identify Historic Landmarks in accordance with approved work plans; and

WHEREAS, Hog Creek has committed to the avoidance of significant archaeological sites; and

WHEREAS, Hog Creek has submitted an approved Archaeological Avoidance Plan to OHPO and OPSB to assure that identified significant archaeological sites are not disturbed during construction activities; and

WHEREAS, the Project will introduce a new type of development to the area that differs in scale, use, and design from established patterns; and

WHEREAS, because visual impacts to Historic Landmarks are anticipated as a result of changes to historic settings, Hog Creek has consulted with the Hardin County Historical Museums, Inc. to identify potential measures to mitigate effects to Historic Landmarks related to the Project.



September 30, 2016

Adam Holven
Tetra Tech, Inc.
2001 Killebrew Drive, Suite 141
Bloomington, MN 55425

Re: Hog Creek Wind Farm, Combined Project
16-1422-EL-BGA and 16-1423-EL-BGA
Washington Township, Hardin County, Ohio

Dear Mr. Holven,

This is in response to correspondence from your office dated July 22, 2016 (received July 25) regarding the above referenced project. The comments of the Ohio Historic Preservation Office (OHPO) are submitted in accordance with provisions of Ohio Revised Code 149.53 requesting cooperation among state agencies in the preservation of historic properties, Ohio Administrative Code 4906-17-08(D1-D3), and with provisions of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]).

The two projects, Hog Creek I and Hog Creek II, involve construction of a wind farm generating facility integrating 30 wind turbines within an area spanning approximately 8,300 acres. Construction requires direct ground disturbance of 326 acres.

Tetra Tech proposes intensive archaeological survey of the high probability area and a 10% sample of the low probability area. We agree with the proposed survey design.

Previous archaeological survey based on the original plans for Hog Creek I and Hog Creek II resulted in the identification of 2 archaeological sites that produced substantial archaeological assemblages (33-HR-266 and 33-HR-279). It would not be surprising to identify additional significant archaeological sites in the Combined Project area. When practical we find that avoiding significant archaeological sites can support broader preservation efforts. We recommend that Tetra Tech include mapping in the archaeological survey report that includes the previously identified archaeological sites and in particular make sure that the areas for sites 33-HR-266 and 33-HR-279 are clearly identified in relationship to construction plans.

An Architecture-History survey was conducted for the Hog Creek I and Hog Creek II projects. The Combined Project will result in changes altering the settings for a number of buildings that are considered eligible for inclusion in the National Register. A Memorandum of Understanding was executed to provide mitigation for the cumulative effects of the wind farm construction. The SHPO has reviewed the MOU and we reaffirm that the successful completion of the stipulated treatment will provide appropriate mitigation and close the review for the Combined Project.

Mr. Adam Holven
September 30, 2016
Page 2

We look forward to receiving and reviewing the archaeological survey report. Any questions concerning this matter should be addressed to David Snyder at (614) 298-2000, between the hours of 8 am. to 5 pm. Thank you for your cooperation.

Sincerely,

A handwritten signature in black ink that reads "David Snyder". The signature is written in a cursive style with a large, stylized "D" and "S".

David Snyder, Ph.D., Archaeology Reviews Manager
Resource Protection and Review

DMS/ds (OHPO Serial Number 1064525)

xc: Jon Pawley, Ohio Power Siting Board, 180 E. Broad, Columbus, OH 43215-3793

NOW, THEREFORE, Hog Creek and the OHPO agree to cooperate so that the Project is implemented in accordance with the following stipulations to mitigate adverse impacts anticipated to Historic Landmarks, and to address the preservation and continued meaningfulness of Historic Landmarks.

STIPLULATIONS

Hog Creek shall ensure that the following measures are carried out:

I. HARDIN COUNTY HISTORICAL MUSEUMS, INC.

a. HVAC/Electrical/Maintenance of Sullivan-Johnson House

Hog Creek will contribute financial support to the on-going efforts by the Hardin County Historical Museums, Inc. to maintain the Sullivan Johnson House at 223 N. Main Street, Kenton, Ohio.

- i. The Hardin County Historical Museums, Inc. will be responsible for allocating the contribution from Hog Creek to the replacement/repair of the HVAC System, Electrical System and maintenance of the aforementioned at the Sullivan-Johnson House.
- ii. Hog Creek will contribute a total amount not to exceed \$10,000 payable no later than sixty (60) days after Hog Creek commences construction of the Project.
- iii. The Hardin County Historical Museums, Inc. agrees to obtain all local site approvals and to assume responsibility of future maintenance of the Sullivan-Johnson House.

b. Hardin County Historical Museums, Inc. Operating Costs

Hog Creek will contribute financial support to the Hardin County Historical Museums, Inc. for the funding of operating expenses.

- i. The Hardin County Historical Museums, Inc. will be responsible for allocating the contribution from Hog Creek to the appropriate operating expenses.
- ii. Hog Creek will contribute a total amount not exceed \$10,000 payable no later than sixty (60) days after Hog Creek commences construction of the Project.
- iii. The Hardin County Historical Museums, Inc. agrees to utilize the funds for operating expenses.

II. DURATION

This MOU will expire if its terms are not carried out within five (5) years from the date of its execution. Prior to such time, Hog Creek, OPSB, OHPO and the Hardin County Historical Museums, Inc. may consult to reconsider the terms of the MOU and amend it in accordance with Stipulation VI below.

III. POST -REVIEW DISCOVERIES

If potential Historic Landmarks are discovered or unanticipated efforts on previously identified Historic Landmarks are found, Hog Creek shall notify OHPO within 48 hours of the discovery. Hog Creek immediately shall secure the jobsite and suspend work in the vicinity of the affected resource. Hog Creek will consult with OHPO to resolve adverse effects. Hog Creek shall assure that all construction contractors are made aware of the requirements of this stipulation. Construction shall not resume near the discovered

resource until the site has been assessed by an archaeological consultant and deemed as not significant. In case of significant findings, the site avoidance plan will be implemented to mitigate impacts to the affected resource.

IV. MONITORING AND REPORTING

Following the execution of the MOU until it expires or is terminated, Hog Creek shall provide OHPO with an annual summary report detailing work undertaken pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputed and objections received in the Hog Creek's efforts to carry out the terms of this MOU.

V. DISPUTE RESOLUTION

The Ohio Historic Preservation Office (OHPO) and Hog Creek each make a good faith effort to resolve any disputes between them. However, if they are unable to resolve a dispute and have reached an impasse, both parties commit to contact the Ohio Commission on Dispute Resolution and Conflict Management (Commission). Either party may initiate the contact with the Commission within 45 days of the impasse to engage in a mediation process sanctioned by, and under the auspices of, the Commission. Hog Creek agrees to pay the standard Commission fee if necessary.

VI. AMENDMENTS

This MOU may be amended with such an amendment is agreed to in writing by the signatories. The amendment will be effective on the date that the MOU has been signed by all signatories.

Execution of this MOU by Hog Creek and OHPO and implementation of its terms evidence that Hog Creek had developed acceptable plans to support the continued meaningfulness of important cultural resources and to mitigate adverse impacts anticipated to Historic Landmarks from the Project.

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SIGNATORIES:

Hog Creek Wind Farm, LLC

By: 

Date: 7-16-12

Name: Eric Simons

Its: Manager

Hardin County Historical Museums, Inc.

By: 

Date: 7-19-2012

Name: Linda L. Jams

Its: Director

Ohio Historic Preservation Office

By: 

Date: 8-1-2012

Name: for Mark J. Epstein

Its: Department Head, Resource Protection and Review

Hardin County Historical Museum

223 N. Main St., Kenton, OH 43326 419-673-7147 director@hardinmuseums.org

September 30, 2016

Adam Holven
Tetra Tech, In.
2001 Killebrew Dr., Suite 141
Bloomington, MN 55425

Dear Mr. Holven:

To our knowledge there are no additional history and architectural investigations that are needed.

Thank you for keeping us up to date.

Sincerely,



Linda L. Iams, Director

MEETING NOTES

SUBJECT: Wildlife Coordination		
PROJECT: Hog Creek	MEETING LOCATION:	USFWS Ohio Ecological Services Field Office Columbus, Ohio
MEETING DATE: April 26, 2016		

ATTENDEES

Rhett Good, WEST
Sean Flannery, RES
Mason Sorenson, RES

Keith Lott, U.S. Fish and Wildlife Service
(USFWS)
Jennifer Norris, Ohio DNR

TOPICS DISCUSSED

RES and WEST held a meeting with the USFWS and ODNR to discuss wildlife issues associated with the Hog Creek Wind Energy Project. A summary of the discussion is included below:

- Introductions
 - RES gave background on the company
- Hog Creek Wind Farm
 - Project Overview
 - Hardin County, OH
 - 66.7 MW
 - Project originally developed by JW Great Lakes, a subsidiary of Juwi. Project purchased by RES from Juwi in February of 2016
 - Previously received OPSB permit in 2010; will be submitting amendment to OPSB in May due to use of new turbine technology. Project facilities will be located within the previously studied project boundary
 - This was the first project in Ohio to sign the voluntary cooperative agreement with the ODNR
 - Project is 5,254 acres in size; 98% cultivated agriculture and developed areas per the National Landcover Data set. NLCD shows 84 forested acres in the project.
 - RES plans to construct and then sell the project to an operator
- Previous Wildlife Surveys (2008 – 2010)
 - Review of Christmas Bird Count Data, Breeding Bird Survey Data, and Natural Heritage Database Search completed in 2008 – Analogous to a Tier 2 Investigation
 - Diurnal Bird/Raptor Migration Survey (2x per week) completed from October 9 – 31, 2008
 - Avian survey completed on May 6, 7 and 18, 2010
 - Northern harrier nesting surveys completed March 26 and 27, and April 28 and 29, 2009, and May 6, 7 and 18, 2010
 - NOHA, LEFL, DEJU observed during migration
 - NOHA nests absent

- Raptor migration rates were low
- No acoustic bat surveys were completed; JW Great Lakes agreed to feather up to 4.0 m/s in lieu of acoustic bat surveys
- Raptor Nest Surveys – completed March 2016.
 - No Eagle Nests observed. 9 Active RTHA; 5 inactive buteo nests; 1 GHOW nest observed
 - Survey completed within 1 – 2 miles of project boundary, and exceeded ODNR recommendations for nest surveys.
 - Project falls within the low survey; Surveys completed to date exceed ODNR and USFWS recommendations for wildlife surveys
- ODNR Coordination History
 - May 4, 2009 - Signed Ohio DNR Cooperative Agreement
 - June 24, 2009 - Requested updated Natural Heritage information from the ODNR for Phase I.
 - July 15 – 2009 - ODNR provides updated Natural Heritage information for Phase I
 - February 1, 2010 – ODNR provides letter stating the project is located in a minimum survey effort area and “DOW feels as though this site poses a minimum threat to Ohio’s wildlife resources”
 - May 14, 2010 – Requested updated Natural Heritage information from the ODNR for Phase II.
 - June 15, 2010 – ODNR provides updated Natural Heritage information for Phase II.
- USFWS Consultation History
 - July 14, 2009 – Requested coordination letter and updated rare/sensitive habitat information from the USFWS.
 - September 18, 2009 – USFWS issues letter to OPSB stating project has “worked collaboratively with the Service to address potential wildlife, habitat, and natural resources issues ...”, that no suitable habitat for Indiana bat habitat is present, and “we do not believe the site poses a substantial threat to migratory birds or their habitat, though a limited amount of mortality to migratory birds should be expected to occur.”
 - April 20, 2010 – USFWS provides e-mail stating that no additional surveys needed for the Hog Creek Phase II expansion area, and USFWS is currently evaluating appropriate methods to address take of migratory Indiana bats.
- USFWS Feedback
 - No known eagle nests occur near the project
 - No Indiana bat records and associated buffers intersect the project
 - No records of eastern massasauga or habitat in the project
 - Project lacks suitable habitat for bats and a mist-net survey is not recommended
 - Indiana bats are likely to migrate through the project. Developers have the following options to address potential impacts during migration:
 - Develop a project specific HCP
 - Develop a HCP based on the MSHCP
 - Avoid take by following TAL guidelines (feathering up to 6.9 m/s during the spring and fall)
 - USFWS will issue a revised comment letter to RES and OPSB due to the length of time since the previous consultation
 - USFWS agreed that additional surveys were not needed for Hog Creek.

- ODNR Feedback
 - The Cooperative agreement provides a means for developers to comply with state laws protecting wildlife. If developers do not sign an agreement they may face restitution penalties for bird and bat mortality
 - Existing cooperative agreement can be revised based on more current information regarding impacts to birds and bats
 - ODNR will allow Hog Creek to utilize the Option B protocol for post-construction monitoring
 - A permit is needed if roadkill or other carcasses are removed from the site for eagle mitigation
 - ODNR requests that RES send a project shapefile for their use in evaluating the project
 - ODNR agreed that no further surveys are needed for Hog Creek
- Next Steps
 - RES commits to on-going coordination as the project moves forward through the OPSB amendment process.

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Case No(s). 09-0277-EL-BGN, 10-0654-EL-BGN

Summary: Correspondence of Hog Creek Wind Farm LLC in Compliance with Condition Nos. 40 & 18 - SWPPP electronically filed by Teresa Orahood on behalf of Sally W. Bloomfield