



**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGES OF STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES
EROSION AND SEDIMENT CONTROL (E&S) MODULE 1**

Applicant: CRG Services Management, LLC

Project Site Name: 2951 Betz Court Site

Surface Water Name(s): 001 - UNT to Jordan Creek
(via onsite Wetland J)
002 - UNT to Jordan Creek
(via onsite Wetland L)
003 - UNT to Jordan Creek
(via onsite sheet flow)

Surface Water Use(s): HQ-CWF, MF

E&S PLAN INFORMATION

1. Describe the existing topographic features of the project site and the immediate surrounding area.

The overall property was used for farming and commercial purposes. The original farmland was converted to a storage facility for a stone supplier in the 1980's. Other portions of the property were then converted to a horror park in the 1990's. Approximately 50% of the site is used for commercial operations, and the remaining areas are heavily wooded.

Site investigations have revealed that an Unnamed Tributary to Jordan Creek and several wetlands are found on the property. The project consists of one (1) main watershed area and two (2) sub-watershed areas or points of interest which is described in further detail in this report. All stormwater is ultimately tributary to Jordan Creek, which is ultimately part of the Jordan Creek Watershed. The project site is located with Subarea 73 as identified on the Jordan Creek Watershed Map as part of its Act 167 plan.

2. Complete the following table for soils present at the project site.

Map Unit Symbol	Map Unit Name	Acres	HSG	% of Disturbed Area	Depth (ft)	Hydric
BkB	Berks-Weikert complex, 3% to 8% slopes	5.96	B	21.28	2-3	<input type="checkbox"/>
BkC	Berks-Weikert complex, 8% to 15% slopes	13.76	B	49.14	2-3	<input type="checkbox"/>
BkD	Berks-Weikert complex, 15% to 25% slopes	5.71	B	20.39	2-3	<input type="checkbox"/>
BkF	Berks-Weikert complex, 25% to 60% slopes	2.57	B	9.19	2-3	<input type="checkbox"/>

Discuss any soil limitations and how the E&S Plan was designed to address those limitations.

See E&S Plan Set sheet ES 12.1 - "Soil Limitations and Resolutions" heading

If Hydric soils are present, is a wetland determination attached to this module? Yes No N/A

If soils are known to be contaminated, 1) identify the pollutants exceeding Act 2 standards in the space provided below, 2) identify the extent of soil contamination on an E&S Plan Drawing that is attached to this module, and 3) describe the methods that will be used to avoid or minimize disturbance of the contaminated soils in the space provided below.

N/A

3. Describe the characteristics of the earth disturbance activity, including the past, present and proposed land uses and the proposed alteration to the project site.

Over the past fifty years, the overall property was used for farming and commercial purposes. The original farmland was converted to a storage facility for a stone supplier in the 1980's. Other portions of the property were then converted to a horror park in the 1990's. Approximately 50% of the site is used for commercial operations, and the remaining areas are heavily wooded. The overall project entails construction of one (1) new warehouse/distribution center totaling approximately 299,880 square feet of gross floor area. Development of the site will also include construction of two (2) access driveways, truck courts, employee parking areas, site utilities, landscaping amenities, a stormwater collection and conveyance system and other related site improvements. Access to the site will be provided through two (2) proposed driveway connections to Betz Court. Approximately 28 acres of the site and surrounding area will be disturbed during construction of the new project. From the historical aerial imagery, it appears that the site was historical agriculture activity included row crops.

4. Describe the volume and rate of runoff from the project site and its upstream watershed area.

The upstream watershed consists of about 20% of the total area of the watershed. It consists of mainly of residential and commercial use. The offsite area accounts for the majority of runoff volume for the 2-yr event in Watershed Area #1, but a smaller amount in Watersheds 2 & 3. The offsite area accounts for approximately 36% of the total runoff volume for the 2-yr event, but the on-site area accounts for a greater portion of the runoff as the storm events increase in return period, up to a nearly equivalent amount at the 100-yr event. The peak runoff rate from the upstream watershed is significantly larger, relatively, to the on-site peak runoff rates for the smaller storm events, while the on-site peak runoff rates for the larger return period storm events exceeds that of the upstream watershed peak runoff rates.

5. Check boxes to indicate all BMPs that will be installed or implemented, identify plan numbers for the BMPs, and describe any deviations from the E&S Manual.

E&S BMPs	Plan No(s). Identified	Plan No(s). for O&M	Deviation(s) from E&S Manual
<input type="checkbox"/> Rock Construction Entrance			
<input type="checkbox"/> Rock Construction Entrance with Wash Rack			
<input type="checkbox"/> Rumble Pad			
<input type="checkbox"/> Wheel Wash			
<input type="checkbox"/> Temporary and Permanent Access Roads			
<input type="checkbox"/> Waterbar			
<input type="checkbox"/> Broad-based Dip			
<input type="checkbox"/> Open-top Culvert			
<input type="checkbox"/> Water Deflector			
<input type="checkbox"/> Roadside Ditch			
<input type="checkbox"/> Ditch Relief Culvert			
<input type="checkbox"/> Turnout			
<input checked="" type="checkbox"/> Compost Sock Sediment Trap	ES 12.0 & 12.1	ES 13.1	
<input type="checkbox"/> Temporary Stream Crossing			
<input type="checkbox"/> Temporary Wetland Crossing			
<input type="checkbox"/> Turbidity Barrier (Silt Curtain)			
<input type="checkbox"/> Dewatering Work Areas			
<input checked="" type="checkbox"/> Pumped Water Filter Bag	N/A	ES 12.3	
<input type="checkbox"/> Sump Pit			
<input checked="" type="checkbox"/> Waste Management	ES 12.1	ES 12.1	
<input checked="" type="checkbox"/> Concrete Washout	ES 12.0 & 12.1	ES 12.3	
<input checked="" type="checkbox"/> Compost Filter Sock	ES 12.0 & 12.1	ES 12.3	
<input type="checkbox"/> Compost Filter Berm			
<input type="checkbox"/> Weighted Sediment Filter Tube			
<input checked="" type="checkbox"/> Rock Filter Outlet	N/A	ES 12.3	
<input type="checkbox"/> Silt Fence (Filter Fabric Fence)			
<input type="checkbox"/> Reinforced Silt Fence			
<input type="checkbox"/> Super Silt Fence (Super Filter Fabric Fence)			

E&S BMPs	Plan No(s). Identified	Plan No(s). for O&M	Deviation(s) from E&S Manual
<input type="checkbox"/> Sediment Filter Log (Fiber Log)			
<input type="checkbox"/> Wood Chip Filter Berm			
<input type="checkbox"/> Straw Bale Barrier			
<input type="checkbox"/> Rock Filter			
<input type="checkbox"/> Vegetative Filter Strip			
<input checked="" type="checkbox"/> Inlet Filter Bag	ES 12.0 & 12.1	ES 12.3	
<input checked="" type="checkbox"/> Stone Inlet Protection	ES 12.0 & 12.1	ES 12.3	
<input checked="" type="checkbox"/> Runoff Conveyance (Channel)	ES 12.0 & 12.1	ES 12.2	
<input type="checkbox"/> Bench			
<input type="checkbox"/> Top-of-Slope Berm			
<input type="checkbox"/> Temporary Slope Pipe			
<input checked="" type="checkbox"/> Sediment Basin	ES 12.0 & 12.1	ES 12.2	
<input checked="" type="checkbox"/> Sediment Trap	ES 12.0 & 12.1	ES 12.3	
<input checked="" type="checkbox"/> Riprap Apron	ES 12.0 & 12.1	ES 12.2	
<input type="checkbox"/> Flow Transition Mat			
<input type="checkbox"/> Stilling Basin (Plunge Pool)			
<input type="checkbox"/> Stilling Well			
<input checked="" type="checkbox"/> Energy Dissipater	ES 12.0 & 12.1	ES 12.3	
<input type="checkbox"/> Drop Structure			
<input type="checkbox"/> Earthen Level Spreader			
<input checked="" type="checkbox"/> Structural Level Spreader	ES 12.0 & 12.1	ES 12.2	
<input type="checkbox"/> Surface Roughening			
<input checked="" type="checkbox"/> Vegetative Stabilization	ES 12.1	ES 12.3	
<input checked="" type="checkbox"/> Erosion Control Blanket	ES 12.0 & 12.1	ES 12.3	
<input type="checkbox"/> Soil Binders			
<input type="checkbox"/> Sodding			
<input type="checkbox"/> Cellular Confinement Systems			
<input checked="" type="checkbox"/> Alternative: Extended Rock Construction Entrance	ES 12.0 & 12.1	ES 12.3	Length extended to 150 ft.
<input checked="" type="checkbox"/> Alternative: Filtrexx Diversion Socks	ES 12.0 & 12.1	ES 12.3	

Table 1 – For PAG-01 applicants, complete the requested information for each selected E&S BMP, where applicable.

Site Access BMPs									
BMP Name	No.	Length (ft)	Width (ft)	% Slope	Spacing (ft)	Length of Upslope Drainage (ft)	Culvert Diameter (in)	Soil Type in Ditch	E&S Manual Figure/Detail No.
Rock Construction Entrance (RCE)									
RCE with Wash Rack									
Temporary and Permanent Access Roads – Crowned Roadway									
Temporary and Permanent Access Roads – Insloped Roadway									
Waterbar									
Broad-based Dip									
Open-top Culvert									
Water Deflector									
Roadside Ditch									
Ditch Relief Culvert									
Sediment Barriers / Filters									
BMP Name	DA (ac)	Diameter (in)	Storage Capacity (cf)	Trap Height (in)	% Slope	Slope Length Above Barrier (ft)	Barrier Height (in)	E&S Manual Figure/Detail No.	
Compost Sock Sediment Trap									
Compost Filter Sock									
Compost Filter Berm									
Silt Fence (Filter Fabric Fence)									
Super Silt Fence									
Sediment Filter Log									
Weighted Sediment Filter Tube									
Straw Bale Barrier									
Wood Chip Filter Berm									
Toe-of-Slope Berm									

Table 1 – For PAG-01 applicants, complete the requested information for each selected E&S BMP, where applicable.

Runoff Conveyance BMPs													
BMP Name	Temporary	Design Storm	DA (ac)	Multiplier	Qr (cfs)	Q (cfs)	Manning's n	Va (fps)	V (fps)	D (ft)	d (ft)	Flow Depth Ratio	E&S Manual Figure/Detail No.
Vegetated Channel	<input type="checkbox"/>												
Sodded Channel	<input type="checkbox"/>												
Riprap Channel	<input type="checkbox"/>												
Energy Reduction BMPs													
BMP Name	Downstream Distance to Drainage Course (ft)		Downstream % Slope	DA (ac)	Discharge (cfs)	Manhole Depth (ft)	Inflow Pipe Diameter (in)	Outlet Pipe Diameter (in)	E&S Manual Figure/Detail No.				
Level Spreader													
Drop Structure													
Stilling Basins / Wells													
BMP Name	Pipe Diameter (in)	Discharge (cfs)	Well Diameter (in)	Depth of Well Below Invert (ft)	Basin Depth (ft)	Median Riprap Size (in)	Distance from Discharge Pipe to Basin Center (ft)		E&S Manual Figure/Detail No.				
Stilling Basin													
Stilling Well													
Other BMPs													
BMP Name	DA (ac)	Pipe Diameter (in)	Berm Height (in)	Length (ft)	% Slope	Vertical Spacing (ft)	Channel Depth (ft)	Riprap Size	Riprap Thickness (in)	Initial Width (ft)	Terminal Width (ft)	E&S Manual Figure/Detail No.	
Temporary Slope Pipe													
Bench													
Rock Filter													
Riprap Apron													

For selected BMPs not identified in Table 1, report the name of the BMP and the Figure or Detail No. from the E&S Manual that will be used for design and implementation (PAG-01 only).

BMP Name	E&S Manual Figure/Detail No.	BMP Name	E&S Manual Figure/Detail No.

6. All applicable Standard E&S Worksheets from Appendix B of the E&S Manual have been completed and are attached.

7. Other worksheets or calculations equivalent to Appendix B of the E&S Manual have been completed and are attached.

8. Identify the E&S Plan Drawing number(s) that describes the sequence of BMP installation and removal in relation to the scheduling of earth disturbance activities, prior to, during and after earth disturbance activities that ensure the proper functioning of all BMPs.

See E&S Plan Set sheet ES 12.1 - "Staging of Major Construction Activities" heading

9. Supporting E&S calculations have been completed and are available upon request (PAG-01 only).

10. Supporting E&S calculations are attached to the NOI/application.

11. Plan drawings consist of standard Figures/Construction Details in E&S Manual (PAG-01 only).

12. Plan drawings have been developed for the project and are attached to the NOI/application.

13. BMPs will be inspected on a weekly basis and after measurable storm events (i.e., at least 0.25 inch).

14. Identify the following information relating to temporary stabilization measures on an E&S Plan Drawing and identify the Drawing No. below: 1) vegetative species, 2) % pure live seed, 3) seed application rate, 4) fertilizer type, 5) fertilizer application rate, 6) mulch type, 7) mulching rate, and 8) liming rate.

E&S Plan Drawing No(s): **See E&S Plan Set sheet ES 13.1 - "Seeding Specifications" heading**

15. Identify the following information relating to permanent stabilization measures on an E&S Plan Drawing and identify the Drawing No. below: 1) vegetative species, 2) % pure live seed, 3) seed application rate, 4) fertilizer type, 5) fertilizer application rate, 6) mulch type, 7) mulching rate, 8) liming rate, 9) anchor material, 10) anchoring method, 11) rate of anchor material application, 12) topsoil placement depth, and 13) seeding season dates.

E&S Plan Drawing No(s): **See E&S Plan Set sheet ES 13.1 - "Seeding Specifications" heading**

16. Describe the procedures that will be taken to ensure that recycling or disposal of materials associated with or from the project site will be conducted properly.

See E&S Plan Set sheet ES 13.1 - "Recycling of Building Materials" heading

17. Identify the presence of any naturally occurring geologic formations or soil conditions that may have the potential to cause pollution during earth disturbance activities. If such formations or conditions exist, identify BMPs that will be implemented to avoid or minimize potential pollution.

See E&S Plan Set sheet ES 13.1 - "Geologic Soil Formations & Potential Pollution" heading

18. Identify whether the potential exists for thermal impacts to surface waters from the earth disturbance activity. If such potential exists, identify BMPs that will be implemented to avoid, minimize, or mitigate potential thermal impacts.

See E&S Plan Set sheet ES 13.1 - "Thermal Impact Analysis" heading

19. The E&S Plan has been planned, designed, and will be implemented to be consistent with the PCSM Plan.

20. If applicable, identify existing and proposed riparian forest buffers on E&S and PCSM Plan Drawings and identify the Drawing No(s) below (select N/A if not applicable).

E&S Plan Drawing No(s): **ES 12.0 & 12.1** N/A

PCSM Plan Drawing No(s): **SW 14.0**

E&S PLAN DEVELOPER

I am trained and experienced in E&S control methods.

I am a licensed professional.

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E&S Plan Developer Signature

06/30/2023

Date