Storm Water Pollution Prevention Plan for the Remediation of Sub-Slab Soils at Load Line 1 (RVAAP-08), Load Line 2 (RVAAP-09), and Load Line 3 (RVAAP-10)

Ravenna Army Ammunition Plant
8451 St. Route 5
Ravenna, OH 44266-9297

Contract No. W912QR-04-D-0025
Delivery Order No. 0006

US Army Corps of Engineers®

Prepared for:
U.S. Army Corps of Engineers
600 Martin Luther King, Jr. Place
P.O. Box 59
Louisville, Kentucky 40201-0059

Prepared by:
URS Group, Inc.
1375 Euclid Avenue
Suite 600
Cleveland, Ohio 44115-1808

URS

March 16, 2010

Notice of Intent (NOI) For Coverage Under Ohio Environmental Protection Agency General 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. 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 D of the NOI instructions for the appropriate processing fee)

I. Applicant Information/Mailing Address

Company (Applicant) Name: URS Group, Inc.

Mailing (Applicant) Address: 1375 Euclid Ave.

City: Cleveland **State:** OH **Zip Code:** 44115

Contact Person: Ms. Jo Ann Bartsch **Phone:** (216) 622-2229 **Fax:** (216) 622-2428

Contact E-Mail Address: jo_ann_bartsch@urscorp.com

II. Facility/Site Location Information

Facility Name: Ravenna Army Ammunition Plant

Facility Address/Location: 8451 State Route 5

City: Ravenna **State:** OH **Zip Code:** 44266

County(ies): Portage/Trumbull **Township(s):**

Facility Contact Person: Mr. Mark Patterson **Phone:** (330) 358-7312 **Fax:** (330) 358-7314

Facility Contact E-Mail Address: mark.c.patterson@us.army.mil

Quarter: **Section(s):** **Range:**

Receiving Stream or MS4: Load Lines 1, 2, and 3 drain to Sand Creek

If aware of a state nature preserve within 1,000 feet of the facility/site, check here: ☐

Enter river code here, if discharge is to a river designated scenic, wild, or recreational, or to a tributary within 1,000 feet (see instructions):

General Permit Number: OHC000003 Construction Storm Water **Initial Coverage:** ☒ **Renewal Coverage:** ☐

Type of Activity: Construction SW / Darby SW - 1 to 5.99 acres disturbed Fee = $200

SIC Code(s): - - - -

Existing NPDES Permit Number: 3GR00112*DG

ODNR Coal Mining Application Number:

Outfall	Design Flow (MGD)	Latitude	Longitude

For Ohio EPA Use Only

Check ID (OFA):

Person:

Place:

DOC #:

ORG #:

Rev. ID #:

Other DSW Permits Required:

Proposed Project Start Date (MO DY YR): 04/01/10 **Estimated Completion Date: (MO DY YR):** 11/30/10

Total Land Disturbance (Acres): 1.00 **MS4 Drainage Area (Square Miles):**

Payment Information: **Check #** 5216958 **Check Amount:** $200 **Date of Check:** 02/05/10

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: URS Group, Inc. Jo Ann Bartsch **Title:** Project Manager

Applicant Signature: John Bartsch **Date:** 3/15/10

EPA 4494 (Rev. 9/07)

FOR CONSTRUCTION STORM WATER, ATTACH LOCATION MAP

Click to clear all entered information CLEAR

S2020

Check Date - 02/05/10

URS

Check No - 110482 Stub 1 of 1

Voucher#	Invoice#	Date	Remarks	Inv. Amount	Discount	Net Amount
5216958	020410CK	02/04/10	SUBSLAB SAMPL	200.00	0.00	200.00

Total Amount	200.00		200.00

Payee: 1064683 State of Ohio

CIR11Z

REMOVE DOCUMENT ALONG THIS PERFORATION

THIS DOCUMENT IS PRINTED IN TWO COLORS. DO NOT ACCEPT UNLESS BLUE AND BURGUNDY ARE PRESENT.

URS

P.O. Box 201088, Austin, TX 78720-1088
512-419-6600

Bank of America
ACH R/T 051112788

64-1276/611-GA

Check #	Date
00110482	02/05/10

Amount
$*******200.00

PAY : TWO HUNDRED AND 00/100**********

TO : Ohio EPA
Office of Fiscal Administration
PO Box 1049
50 W Town St Ste 700
Columbus OH 43216-1049

URS CORPORATION

VOID AFTER 180 DAYS FROM DATE OF ISSUE

⑈00110482⑈ ⑆061112788⑆ 3359 162735⑈

SEE REVERSE SIDE FOR OPENING INSTRUCTIONS

URS
P.O. Box 201088
Austin, TX 78720-1088

Ohio EPA
Office of Fiscal Administration
PO Box 1049
50 W Town St Ste 700
Columbus OH 43216-1049

SEE REVERSE SIDE FOR OPENING INSTRUCTIONS

TABLE OF CONTENTS

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

LIST OF ACRONYMS

AOC	Area of Concern
BMP	Best Management Practices
BRACD	Base Realignment and Closure Division
COC	Chemical of Concern
DoD	Department of Defense
E&S	Erosion and Sediment
GOCO	Government-Owned Contractor-Operated
IRP	Installation Restoration Program
LEPC	Local Emergency Planning Committee
LL	Load Line
MARC	Multiple Award Remediation Contract
NGB	National Guard Bureau
NOI	Notice of Intent
NOT	Notice of Termination
OHARNG	Ohio Army National Guard
Ohio EPA	Ohio Environmental Protection Agency
PCB	Polychlorinated Biphenyl
RDX	Hexahydro-1,3,5-trinitro-1,3,5-triazine
RQ	Reportable Quantity
RVAAP	Ravenna Army Ammunition Plant
SAIC	Science Applications International Corporation
Sq. ft	Square feet
SWP3	Storm Water Pollution Prevention Plan
SVOC	Semi-volatile Organic Compound
TNT	Trinitrotoluene also 2,4,6-Trinitrotoluene
URS	URS Group, Inc.
USACE	United States Army Corps of Engineers
WMMP	Waste Management and Minimization Plan

URS Group, Inc. (URS) was contracted by the United States Army Corps of Engineers (USACE) Louisville District to perform remediation activities associated with impacted soils in Load Lines 1, 2, and 3 (LLs 1-3) at the Ravenna Army Ammunition Plant (RVAAP) under the URS Multiple Award Remediation Contract (MARC). This Storm Water Pollution Prevention Plan (SWP3) specifies the storm water erosion and sediment (E&S) controls for the proposed remediation activities as required under the Ohio EPA Environmental Protection Agency (Ohio EPA) General Permit for Storm Water Discharges Associated with Construction Activities (Ohio EPA Permit No. OHC000003). A copy of the permit is included in Appendix A.

As part of the RVAAP permitting requirements, URS has submitted a Notice of Intent (NOI) application and associated fee to the Ohio EPA to obtain coverage under the General Permit. URS prepared the NOI for Base Realignment and Closure Division (BRACD) signature, the agency responsible for management of environmental Areas of Concern (AOCs) at the RVAAP. The requirement for this General Permit is State law and mandatory for any project that disturbs 1 or more acres of ground. This permit is separate from the industrial storm water monitoring program/permit that the RVAAP currently possesses (SWP3, dated January 2008, Permit #3GR00112*DG).

This SWP3 implements best management practices (BMPs) that are the minimum criteria for the overall control of soil and sediment erosion and storm water runoff during construction activities. This SWP3 includes the following:

- Identification of the SWP3 Coordinator and alternate with a description of that person's duties;
- Description of existing site conditions including existing land use for the RVAAP (i.e.,wooded areas, open grassed areas, buildings, etc.), soil types, as well as the location of existing surface waters which are located on or next to the load lines (wetlands, streams,rivers, lakes, ponds, etc);
- Identification of the bodies of water that will receive runoff from the construction areas, including the ultimate body of water that receives storm water;
- Identification of drainage areas and potential storm water contaminants;
- Description of storm water management controls and various BMPs necessary to reduce erosion, sediment, and pollutants in storm water discharge;
- Description of how controls will be coordinated with construction activities; and a
- Description of the implementation schedule and provisions for amendment of this SWP3.

The designated field superintendent will be the SWP3 coordinator for all activities associated with the implementation of this SWP3. The field superintendent's duties include the following:

- Implement the SWP3 plan with the aid of the designated URS field team;
- Oversee maintenance practices identified as BMPs in the SWP3;
- Implement and oversee employee training;
- Conduct or provide for inspection and monitoring activities;
- Identify other pollutant sources and make sure they are added to the SWP3 as identified;
- Identify any deficiencies in the SWP3 and make sure they are corrected;
- Ensure any changes in construction plans are addressed in the SWP3; and
- Conduct site inspections and complete the "Construction Site Docket".

3.1 SITE DESCRIPTION AND BACKGROUND

The RVAAP Installation Restoration Program (IRP) began in 1989 at the 21,683-acre installation. As of February 2006, a total of 20,403 of the original 21,683 acres have been transferred to the National Guard Bureau (NGB) and subsequently licensed to the Ohio Army National Guard (OHARNG) for use as a military training site (Camp Ravenna). The current RVAAP consists of 1,280 acres scattered throughout.

Camp Ravenna is located in northeastern Ohio within east-central Portage County and southwestern Trumbull County, approximately 3 miles east northeast of the city of Ravenna and approximately 1 mile northwest of the city of Newton Falls (Figure 3-1). The combined Camp Ravenna/RVAAP areas consist of a rectangular parcel of land approximately 11 miles long and 3.5 miles wide bounded by State Route 5, the Michael J. Kirwan Reservoir, and the CSX System Railroad on the south; Garret, McCormick and Berry roads on the west; the Norfolk Southern Railroad on the north; and State Route 534 on the east (Figure 3-2). Camp Ravenna is surrounded by several communities: Windham on the north; Garrettsville 6 miles to the northwest; Newton Falls 1 mile to the southeast; Charlestown to the southwest; and Wayland 3 miles to the south. The RVAAP portions of Camp Ravenna are solely located within Portage County.

When the RVAAP was operational, Camp Ravenna did not exist and the entire 21,683-acre parcel was a government-owned, contractor-operated (GOCO) industrial facility. Industrial operations at the RVAAP primarily consisted of 12 munitions assembly facilities referred to as "load lines" (LLs). Load Lines 1-3 were used between 1941 and 1971 to melt and load trinitrotoluene (TNT) and Composition B, a mixture of TNT and hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) into large-caliber shells. The RVAAP has been inactive since 1992.

The RVAAP IRP encompasses investigation and cleanup of past activities over the entire 21,683 acres of the former RVAAP. Therefore, references to the RVAAP in this document are considered to be inclusive of the historical extent of the RVAAP, which is inclusive of the combined acreages of the current Camp Ravenna and RVAAP, unless otherwise specifically stated.

3.2 DESCRIPTION OF CONSTRUCTION ACTIVITIES

The type of construction activities to be conducted by URS will consist of the excavation and off-site disposal of contaminated surface and subsurface soils from discrete areas at LLs 1-3 as denoted in the construction drawings in Appendix B. Land disturbance activities will include access road development, preparation of stockpile areas, and excavation of contaminated soils.

In all, approximately 2,500 cubic yards of contaminated soils will be excavated to a maximum depth of 5 feet below ground surface. Contaminated soils will be temporarily stockpiled onsite at each LL. All contaminated soils will be disposed at solid or hazardous waste facilities approved to treat or dispose of the materials. Any generated construction debris will be disposed in an Ohio EPA approved construction and demolition debris landfill.

Following soil removal activities, URS will restore excavated areas with approved clean backfill from off-site sources. The areas will be restored to original grade and will be stabilized with permanent seed as discussed in Section 5.2.2.

URS and their contractors will be onsite during daylight working hours between 7 AM and 5 PM and will work 5 days a week from Monday through Friday. Construction activities from initial mobilization until final grading and soil stabilization are scheduled to last a total of 1 month.

3.3 SURFACE FEATURES AND TOPOGRAPHY

Surface features at LLs 1-3 include asphalt and gravel access roads, man-made ditches, sanitary sewer lines, manholes, rail beds, and buildings. The main process area at each load line is heavily vegetated with rough grass and scrub vegetation between the major structures at the load lines. Scrub vegetation and immature hardwoods characterize the nonproduction areas around the main process areas. Moderately mature hardwoods exist along outlying areas of the load lines (SAIC, 2003; Shaw, 2004a, b).

3.4 SOILS AND GEOLOGY

The regional geology at RVAAP consists of horizontal to gently dipping bedrock strata of Mississippian and Pennsylvanian age overlain by varying thickness of unconsolidated glacial deposits. Bedrock at RVAAP is overlain by deposits of Wisconsin-aged Lavery Till in the western portion of the facility and the younger Hiram Till and associated outwash deposits in the eastern portion. Unconsolidated glacial deposits vary considerably in their character and thickness across the RVAAP, with deposits absent in some of the eastern portion of the facility to an estimated 150 feet in the south-central portion.

Soils at RVAAP are generally derived from Wisconsin-aged silty clay glacial till. Much of the native soil at RVAAP was reworked or removed during construction activities in operational areas of the installation. In general, the soils at the load lines are poorly drained and consist of silty clay or clay loam formed over glacial till. Runoff is typically medium to rapid and the soil is seasonally wet (SAIC, 2003; Shaw, 2004a, b).

3.5 ENVIRONMENTAL SENSITIVE AREAS

The entire RVAAP facility is situated within the Ohio River Basin, with the West Branch of the Mahoning River representing the major surface stream in the area. This stream flows adjacent to the western end of the facility, generally from north to south, before flowing into the Kirwan Reservoir located to the south of State Route 5. The West Branch flows out of the reservoir along the southern facility boundary before joining the Mahoning River east of the RVAAP.

The western and northern portions of the RVAAP are characterized by low hills and dendritic surface drainage. The eastern and southern portions are characterized by an undulating to moderately level surface, with less dissection by surface drainage. Numerous wetland areas occur on the facility. Three primary watercourses drain RVAAP; the South Fork of Eagle Creek, Sand Creek, and Hinkley Creek.

Approximately 50 ponds are scattered throughout the installation. Many were built within natural drainageways to function as settling ponds or basins for process effluent and runoff. Others may be the result of glacial or beaver activity. All water bodies at the RVAAP support an abundance of aquatic vegetation and are well stocked with fish. None of the ponds within the installation are used as water supply sources (SAIC, 2003; Shaw, 2004a, b).

3.6 SITE PLANS

Approximately 1 acre will be disturbed during construction activities, including areas to be graded for roadway access and prepared for lay-down of equipment materials and soil stockpiles. URS does not anticipate impacting any heavily wooded areas and only expects to clear and remove grass/shrubs at former process areas that are over grown due to inactivity at the facility. The area of disturbance at each load line is presented in Table 3-1. Plans for each of the three load lines that show the property boundaries, access roads, proposed excavation areas, and storm water drainage paths are included in Appendix B.

3.7 STORM WATER DRAINAGE

In general, storm drain systems at the RVAAP are no longer maintained and functionality of these systems is minimal; therefore, most conveyance to the existing drainage pathways is via overland flow. Some asphalt areas exist at each of the LLs; however, due to the poor condition of these areas, infiltration through cracks and fissures is considered a more prevalent occurrence rather than significant collection and runoff to the surface water pathways. A description of the drainage areas at each of the load lines in presented in Table 3-1 and in further detail below.

3.7.1 Load Line 1

Most surface water from precipitation collects in storm water catch basins and unlined ditches throughout the LL 1 production area. Most runoff is discharged through the following exit pathways: (1) Outlets A and B, that discharge ultimately to a Parshall flume on Sand Creek at State Route 534 northeast of LL 1; (2) Outlet C and Charlie's Pond east of LL 1; (3) Outlets D, E and F discharging through Criggy's Pond southeast of LL 1; and (4) an unnamed drainage outlet in the northwest corner of the AOC that flows into Sand Creek. Outlets A, B and C are considered interim surface water pathways and retain water based on seasonal precipitation conditions. Outlets D, E and F are consistently dry (SAIC, 2003).

3.7.2 Load Line 2

The primary surface water conveyance at LL 2 drains to the south, ultimately discharging to Kelly's Pond. Surface water flows through a series of man-made ditches that flow to the south end of the LL 2 production area. Surface water also flows north through a smaller network of ditches to a group of four ponds situated on the northeast corner of LL 2; however, the majority of surface water runoff is to the south (Shaw, 2004a).

3.7.3 Load Line 3

The primary surface water conveyances at LL 3 are man-made ditches that drain to the western portion of LL 3. These drainage ditches ultimately convey the surface water to Cobb's Pond located just north of LL 3 (Shaw, 2004b).

The purpose of this section is to identify pollutants that could impact storm water during construction activities at the RVAAP LLs 1-3. Potential pollutants include contaminants from past operations at the RVAAP as well as from materials and equipment that are brought onsite as part of the proposed construction activities. Preventing the release of potential contaminants to the environment through storm water during construction activities is an integral objective of this SWP3.

4.1 POTENTIAL POLLUTANTS FROM PAST ACTIVITIES

Past operations at LLs 1-3 produced explosive dust, spills and vapors that collected in soils. The chemicals of concern (COCs) identified in past investigations and remediations included inorganics, explosives, polychlorinated biphenyls (PCBs) and semivolatile organic compounds (SVOCs). The sub-slab sampling conducted to support this remediation identified TNT as the only COC.

4.2 POTENTIAL POLLUTANTS FROM CONSTRUCTION ACTIVITIES

Potential spill sources include petroleum products, solvents, and other products used in construction activities. Any fuels, diesel and gasoline, and lubricants brought to the RVAAP in limited quantities will be confined to the support zone or lay-down area for dispensing. In addition to products brought onsite, the proposed construction activities will also generate waste materials that will include contaminated soils, contaminated plastic, vehicle and sampling equipment decontamination wastewater. See Table 4-1 for a list of potential spill contaminants, their sources, and avoidance measures.

4.3 SPILL REPORTING REQUIREMENTS

In the event of a petroleum spill, URS will provide notification to the RVAAP security at Post 1 at (330) 358-2017. The contact information for onsite URS staff will be provided to Post 1 prior to field activities. The spill reporter should identify **"This is a spill alert"** with the following information:

- Reporter's name,
- Location of spill or leak,
- Description and estimated quantity of material released,
- Description of situation,
- Whether there are any injuries,
- Whether the spill/leak is continuing or contained,
- Who else is on the scene,

- Where the reporter will be, and
- How the reporter can be reached (radio/telephone).

The RVAAP security will notify the appropriate RVAAP and/or Camp Ravenna (if a spill occurs on Camp Ravenna property) personnel who will determine if the spill is considered a reportable quantity (RQ) (i.e., greater than 25 gallons). The appropriate RVAAP/ Camp Ravenna person will then notify the appropriate regulatory agencies and/or response centers. If the petroleum release is determined to have exceeded the RQ, the Ohio EPA requires notification to the following response centers within 30 minutes of the spill:

- City of Ravenna Fire Department - (330) 297-5738;
- Ohio EPA Emergency Response Unit - (800) 282-9378; and the
- Portage County Local Emergency Planning Committee (LEPC) - (330) 297-0222

The reporter may be required to complete spill alert forms at the instruction of RVAAP security prior to leaving the site.

Erosion control will be accomplished by controlling runoff and then stabilizing soil. There are three basic methods that will be used to control soil movement at the site: runoff control, soil stabilization, and sediment control. Controlling erosion will be the first stage and will be implemented using runoff controls and soil stabilization. Sediment control may be necessary for larger disturbed areas at the LLs where it is harder or impractical to control erosion or where sediment particles are relatively large. Details of the control methods are presented in Figure 5-1.

5.1 RUNOFF CONTROL PRACTICES

Runoff controls are necessary to prevent storm water or other overland flow sources at disturbed areas from entering or leaving a work area and to control the occurrence of gully, channel, and stream erosion. In order to mitigate runoff, URS will identify potential overland drainage routes for all disturbed areas at each work location. Runoff controls will primarily consist of diversion structures and interception to enclosed drainage areas. Secondary controls may include conveyance to existing waterways and construction of stabilization outlets. Only water flow from precipitation events and not runoff from construction activities will be diverted to existing waterways. The implementation of these methods will depend on the location of the work and the potential for the release of contaminants, and will require prior approval by the Ohio EPA, USACE, and the RVAAP.

5.1.1 Diversion Structures

Runoff that occurs in work areas will be collected by diversion structures that are directed to enclosed drainage systems and pumped into 55-gallon drums or temporary storage tanks. The collected runoff will be analyzed for disposal options. If analytical results are acceptable, URS will discharge the collected runoff to ground surface following approval by the Ohio EPA, USACE, OHARNG, and the RVAAP, subject to strict RVAAP discharge requirements.

Diversion structures consisting of temporary earth dikes and/or drainage swales will be formed upgradient of construction areas where the volume of overland flow is such that it is necessary to divert flow around disturbed portions of the LLs. As a BMP, earthwork and other construction operations will be conducted in a manner to prevent muddy water, eroded materials and other undesirable constituents of project construction waters from being discharged through storm water runoff.

5.2 SOIL STABILIZATION

Soil stabilization will be performed at disturbed areas and conveyance channels to control potential erosion of soils due to rain, sheet flow, and rills. The purpose of soil stabilization is to protect surface areas and strengthen subsurface areas to minimize or prevent soil erosion. Soil stabilization methods will primarily consist of vegetative soil cover, nonvegetative cover, and structural cover. The preferred method of soil stabilization is the placement of vegetative cover; however, nonvegetative and/or structural erosion control practices may be necessary when disturbed areas cannot be promptly stabilized with vegetation.

Vegetative soil cover will include the placement of temporary or permanent seed or the protection of existing vegetation from construction activities. Only noninvasive species will be used for temporary and permanent soil stabilization efforts and the type of seeding required for the various areas will be in accordance with the requirements in the URS Work Plan for this project. For nonvegetative cover, URS will place mulch in unprotected areas. Structural soil stabilization options will include land grading to provide erosion and runoff control.

5.2.1 Temporary Stabilization

Disturbed portions of each work area where the remediation activities have temporarily ceased will be stabilized with temporary seed or mulch as presented in Table 5-1.

5.2.2 Permanent Stabilization

Disturbed portions of each work area where the remediation activities have permanently ceased will be stabilized with permanent seeding or mulch as presented in Table 5-2.

All permanent vegetative cover will be placed in consideration of Camp Ravenna and the General Permit requirements, as well as requirements in the approved Work Plan.

5.3 SEDIMENT CONTROL

Sediment control is necessary for the protection of areas downgradient of construction areas and off-site locations. The purpose of sediment control is to retain sediments that are generated as a result of soil erosion and storm water runoff. The primary method of sediment control to be implemented by URS is sediment barriers to consist of silt fence and/or hay bale dikes to be used solely or in conjunction with one another. These controls are presented in Figure 5-1.

To the greatest extent practicable, all soil disturbing activities at each of the LLs will be minimized and will proceed in a manner to reduce erosion and sedimentation. All earthwork, grading, movement of equipment, and other operations likely to cause siltation and tracking of sediments, will be planned and performed in a sequence as to avoid pollution in adjacent waters.

5.3.1 Inlet Protection

Inlet protection will be used to filter sediment from surface water. Inlet protection will remain until the corresponding tributary area is stabilized or until permanent surfacing of the tributary drainage area is placed.

5.3.2 Silt Fence and Diversions

To protect nearby waterways and environmentally sensitive areas, silt fencing will be installed along the downgradient perimeter at all work areas. Silt fences may be constructed using filter fabric or straw bales that will be staked to provide a barrier to transport silts, fines, and debris yet provide passage of runoff. Selection and type of grade of fabric will be made to allow adequate

passage of water. Stakes used to construct silt fences will be of wood with squared, butt ends and tapered driving points. Filter fabric shall be stapled or tied with jute twine to stakes. All filter fences will be removed after their function has been fulfilled and before filing of the Notice of Termination (NOT).

5.3.3 Stream Protection

If construction activities disturb areas adjacent to streams or nearby waterways, structural practices will be designed and implemented to protect the streams or waterways from the impact of sediment runoff. No structural controls will be used in the stream and URS will maintain a minimum 25-foot buffer zone from the high-water mark of the surface water.

5.4 COORDINATION OF BMPS WITH CONSTRUCTION ACTIVITIES

The E&S controls will be constructed, stabilized, and functional before general site disturbance within the tributary area to those controls. The construction sequence for the installation and implementation of erosion and sediment controls will generally commence, as follows:

1. If required, construct entrance road in accordance with plans and specifications. All roadways must be kept clear of dirt and debris. Immediately remove soil from RVAAP roadways if tracking occurs.

2. Provide erosion control measures such as silt fences as required preventing soil erosion on roadways edges and roadside ditches.

3. Dust suppression will consist of water application to exposed surface soils. Water will be applied so as to prevent soil migration to nearby catch basins and drainage pathways. As a preventative measure, catch basins and drainage pathways will be protected with sediment controls.

4. Construct required diversion channels and berms to direct runoff to control structures.

5. Once control structures are functional, strip topsoil to stockpile areas.

6. Stockpile excavated soil or fill material brought to the RVAAP at the soil stockpile and lay down areas shown on the construction drawings in Appendix B.

7. Water that accumulates in open excavation(s) will be completely removed by pumping and stored in 55-gallon drums or a temporary water tight storage tank.

8. Permanently seed and stabilize slope and channels as soon as practical to prevent slope and channel erosion.

9. Maintain dewatering processes and erosion control guidelines throughout work period.

10. Place inlet protection at storm drains to be potentially impacted.

11. Once activity has ceased in disturbed areas that are to be seeded or stabilized, prepare and place appropriate seed mix, mulch, etc.

12. After final stabilization has been achieved, remaining temporary erosion and sediment pollution control facilities will be removed.

13. Construction materials and equipment to be stored onsite will be protected to minimize exposure to storm water.

Should URS determine that any measures contained within this plan prove incapable of adequately removing sediment from on-site flows prior to discharge or of stabilizing the surfaces involved, additional measures will be immediately implemented to eliminate such problems.

6.1 EROSION AND SEDIMENT CONTROL MANAGEMENT

URS will manage on-site E&S control activities in an effort to reduce the need for maintenance of structural controls, regrading of severely eroded areas, and reconstruction of failed controls. In conjunction with the implementation of the E&S control methods, URS management activities will include the following:

- Physically mark the limits of land disturbance at the site with tape, signs or orange construction fence so that workers can see areas to be protected.
- Divert off-site runoff from highly erodible soils and steep slopes to stable areas.
- Clear only what is required for immediate construction activity.
- Initiate stabilization measures no later than 7 days after construction activity if a particular area has temporarily or permanently ceased unless activity will resume less than 21 days after activity has ceased.
- Provide and maintain stabilized entrances for construction vehicles to reduce dust emissions and soil and sediment tracking.
- Plant permanent seeding at optimal times of year (March through May and September through October). Type of seeding and seeding requirements in accordance with the approved Work Plan.
- Remove temporary sediment trapping devices only after permanent stabilization has been established on all contributory drainage areas.
- Make sure that all contractors and subcontractors understand these E&S requirements.
- Designate responsibility of the E&S requirements to one individual to be named prior to on-site mobilization.
- Establish and maintain an E&S inspection schedule that states the completion of identified repairs and maintenance items.

6.2 INSPECTIONS

Daily inspections will be performed in active work areas to ensure proper performance of run-on and run-off controls. A minimum of weekly and as-needed inspections will be made of inactive, nonvegetated, disturbed areas to ensure that the berms and sediment fences are functioning properly. Inspections will be made within 24-hours after any storm event greater than ½ inch of rain per 24-hour period and on a daily basis during extensive periods of rainfall. The following inspection and maintenance practices will be used to maintain E&S controls:

- Built up sediment will be removed from silt fencing when it has reached one-third the height of the fence.
- Silt fences will be inspected for depth of sediment, for tears, to see if fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- The sediment basin will be inspected for depth of sediment and built up sediment will be removed when it reaches 1 foot in depth.
- Temporary and permanent seeding will be inspected for bare spots, washouts, and healthy growth.
- The stabilized construction entrance will be inspected for sediment tracked on the road, for clean gravel, and to make sure the culvert beneath the entrance is working, and that all traffic uses the stabilized entrance when leaving the site.
- Paved streets along the load line haul route will be inspected and maintained as required to remove any mud, dirt, rock or other materials originating from the work areas.
- Sediment that is collected in the systems and removed will be transported to soil stockpile areas and disposed as necessary.

Corrective action will be taken if the operability of a control device is in question. Corrective measures will be required if inspections reveal excessive silt accumulation in storm water conveyances or along silt fences.

Maintenance and inspection forms to be used are included in Appendix C. The inspection report will be made after each inspection. A copy of the report form will be completed by the field superintendent or his qualified designee. Completed forms will be maintained onsite during the entire construction effort.

6.3 EMPLOYEE TRAINING

URS will assign only qualified inspection personnel that have knowledge and experience in the installation and maintenance of sediment and erosion controls to conduct inspections to ensure control practices are functional to evaluate whether the SWP3 is adequate and properly implemented in accordance with the schedule or whether additional control measures are required. On-site workers will be educated as to the goals of this SWP3 in addition to hands on training in erosion controls, spill prevention and response, good housekeeping, proper material handling, disposal and control of waste, equipment fueling, proper storage, washing, and inspection procedures as part of their site orientation training. All employees will receive the site orientation training prior to or on their first day on the site.

SAIC. 2003. Science Applications International Corporation. Final Phase II Remedial Investigation Report for the Load Line 1 at the Ravenna Army Ammunition Plant, Ravenna, Ohio. June 2003.

Shaw. 2004a. Shaw Environmental, Inc. Final Phase II Remedial Investigation Report for Load Line 2 at the Ravenna Army Ammunition Plant, Ravenna, Ohio. July 2004.

Shaw 2004b. Shaw Environmental, Inc. Final Phase II Remedial Investigation Report for Load Line 3 at the Ravenna Army Ammunition Plant, Ravenna, Ohio. July 2004.

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 person(s) 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 of knowing violations.

John Bartsch
Name

URS Project Manager
Title

2/15/10
Date

TABLES

Table 3-1
Characteristics of Storm Water Drainage
Ravenna Army Ammunition Plan
Ravenna, Ohio

Drainage Area[1]	Storm Water Flow Description During Construction Activities	Area to be Disturbed		Impervious Surface Area During Construction	Runoff Coefficient[2]	Drainage Discharge Point
		(sq. feet)	(acres)	(sq. feet)		
Load Line 1						
Melt Pour Complex (Bldgs CB-4 and 4A)	Overland flow across compacted soils and vegetated areas to Outlets B and C.	1,200	0.028	30,000	Low to moderate	Sand Creek and Charlie's Pond
Perimeter/Miscellaneous Area	Overland across compacted soils.	3,160	0.0725	0	Low to moderate	Criggy's Pond
Stockpile Area	Plastic sheeting to be placed on ground and soils to be covered. Overland flow across compacted soils and vegetated areas to north area channel.	1,000	0.02	1,000	Low to moderate	To be detemined
	Subtotal	**5,360**	**0.1205**	**31,000**		
Load Line 2						
Explosives Handling Area (Bldgs DB-4 and DB-10)	Overland flow is divided between north and south drainage channels and flows across compacted soils and vegetated areas.	7,200	0.165	58,000	Low to Moderate	Unnamed ponds to north and Kelly's Pond to south.
Perimeter/Miscellaneous	Overland flow across compacted soils and vegetated areas to north drainage channel	3,160	0.0725	4,500	Moderate	Unnamed ponds to north.
Stockpile Area	Plastic sheeting to be placed on ground and soils to be covered. Overland flow across compacted soils and vegetated areas to south drainage channel.	1,000	0.02	1,000	Low to Moderate	Kelly's Pond
	Subtotal	**11,360**	**0.2575**	**63,500**		
Load Line 3						
Explosive Handling Area (Bldgs. EA-6, EA-6A, EB-4, EB-4A, EB-25)	Overland flow across compacted soils and vegetated areas to the west drainage channel.	11,580	0.266	56,000	Low to Moderate	Cobb's Pond
Miscellaneous	Overland flow across compacted soils and vegetated areas to the west drainage channel.	3,160	0.0725	7,000	Low to Moderate	Cobb's Pond
Stockpile Area	Plastic sheeting to be placed on ground and soils to be covered. Overland flow across compacted soils and vegetated areas to west drainage channel.	1,000	0.02	1,000	Low to Moderate	Cobb's Pond
	Subtotal	**5,734**	**0.3585**	**64,000**		
	AREA TOTALS	**32,460**	**0.74**	**158,500**		

Table 3-1
Characteristics of Storm Water Drainage
Ravenna Army Ammunition Plan
Ravenna, Ohio

(1) See LL plans in Appendix B for drainage areas.
(2) Runoff Coefficient:

High: 70-100% impervious (example: asphalt, buildings, paved surfaces)
Moderate: 40-70% impervious (example: compacted soils)
Low: 0-40% impervious (example: grassy areas)

Table 4-1
Potential Spills, Sources and Planned Avoidance Measures
Ravenna Army Ammunition Plan
Ravenna, Ohio

Contaminant	Source	Impact Scenario	Avoidance Measures
Contaminated equipment and vehicle decontamination wastewaters	Container/tank ruptures or overflows (worst case scenario)	Wastewater is released to the ground	Provide secondary containment for all containers; at a minimum, use plastic sheeting to make a temporary berm. Prepare for sufficient containment to address a freeze-related failure. URS will consider engineering controls and scheduling to avoid equipment failure.
Fuel Spill	Fuel spill, related to heavy equipment or trucks	Anticipated: 50 gallons	URS will contract for off-site, on-demand fuel supply using mobile source. On-site fuel storage will not occur.
Antifreeze Spill	Single vehicle radiator or hose failure	Maximum 40 gallons of diluted antifreeze	URS will inspect equipment daily for cracks and leaks and fluid levels. Onsite storage of antifreeze will be limited. Machines will be stopped in place when a leak is identified. Limited spill equipment will be available for each vehicle.
Used Motor Oil	Oil spill	Maximum of 55-gallon spill from accumulation area	Secondary containment will be provided in the waste accumulation area.
Hydraulic Oil	Hose rupture or overfill	<10 gallons	URS will inspect equipment daily for cracks and leaks and fluid levels. Machines will be stopped in place when a leak is identified. Limited spill equipment will be available for each vehicle.
Hydraulic Oil	Minor leaks and drips. Minor leaks are expected.	<0.5 gallons	Operators will locate drip pans/plastic under machines that are parked when minor dripping is noted. Minor leaks will be reported to service staff for inspection and preventive maintenance.
Contaminated soil spill	Truck spill while loading. Expected case for repetitive minor spills.	<5 cubic yards	This is expected as a normal part of the work process. URS does not plan to count these spills as reportable spills. URS will clean up these undocumented spills immediately as part of the work process. URS will consider the cleanup of the spills as prudent housekeeping.
Contaminated soil spill	Cross contamination from other waste locations	Hypothetical case	Vehicles or equipment that arrive from off-site locations will not be accepted if not properly cleaned or maintained prior to arrival.
Contaminated soil spill	Truck overturned while cornering	10 cubic yards	URS will impose RVAAP restricted speed limits (35 mph day / 25 mph night) This case would be reportable to off-site regulators and authorities only if there was a release to the storm water conveyance systems or to off-site air. URS daily safety meetings and orientation will emphasize defensive driving. Hazardous driving will be cause for discipline. Rolling a truck because of negligent driving will mandate removal of the driver from the site. Triaxial trucks, if used, will have the third axle down prior to departing the loading site.
Contaminated soil spill	Soil spill on facility roadway	<5 cubic yards	Spills on facility roadways will be documented and decontaminated.
Dust release	Excavation, stockpiling, and load out activities	The driest soil is disturbed by scraping a single shallow lift.	Dry surface soils will be preconditioned until moist to 6 inches below surface level before removal, if necessary.

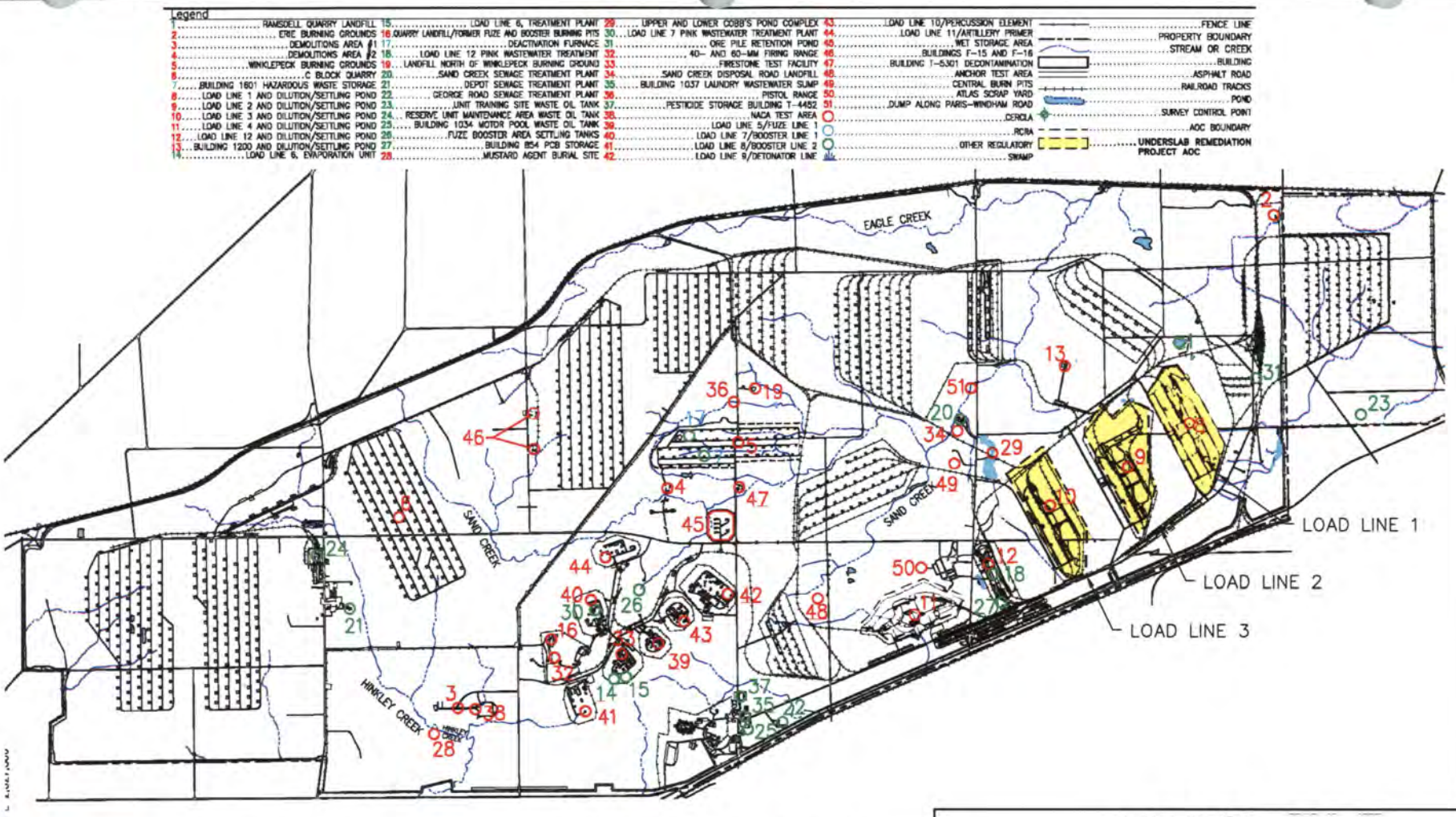
Table 5-1
Temporary Stabilization Requirements
Ravenna Army Ammunition Plan
Ravenna, Ohio

Area Requiring Temporary Stabilization	Time Frame to Apply Erosion Controls
Any disturbed area within 50 feet of a stream and not a final grade	Within 2 days of the most recent disturbance if the area will remain idle for more than 21 days
For all construction activities, any disturbed areas that will be dormant for more than 21 days but less than one year, and not within 50 feet of a stream	Within 7 days of the most recent disturbance within the area
Disturbed areas that will be idle over winter	Prior to the onset of winter weather

Table 5-2
Permanent Stabilization Requirements
Ravenna Army Ammunition Plan
Ravenna, Ohio

Area Requiring Permanent Stabilization	Time Frame to Apply Erosion Controls
Any area that will lie dormant for one year or more	Within 7 days of the most recent disturbance
Any areas within 50 feet of a stream and at final grade	Within 2 days of reaching final grade
Any other areas at final grade	Within 7 days of reaching final grade within that area

FIGURES



Contacts for Underslab Remediation Project

Facility: Jim McGee, VistaSciences Corp. (330-358-3005)

Construction: Stan Levenger, URS (614-787-4711)
JoAnn Bartsch, URS (216-622-2229)

US Army Corps of Engineers

0 4000 8000
SCALE 1" = 8000'

MAP SOURCE:
RAVENNA ARMY AMMUNITION PLANT
RAVENNA, OHIO

URS

RAVENNA ARMY AMMUNITION PLANT
RAVENNA, OHIO

STORM WATER POLLUTION PREVENTION PLAN
RAVENNA ARMY AMMUNITION PLANT FACILITY MAP

DRAWN BY:	CHECKED BY:	PROJECT No:	DATE:	FIGURE No:
JSC	SL	13812319	02/04/10	3-2

K:\Projects\R\Ravenna AAP\13812319\DWGs\Figures\SWPPP\SWPPP-STATE\Ravenna-Fig 3-2 Facility Location Map.dwg User: jessica_cotton Mar 15, 2010 - 2:37pm

APPENDIX A

Ohio EPA Permit No.: OHC000003

Ohio EPA Permit No.: OHC000003

Effective Date: April 21, 2008
Expiration Date: April 20, 2013

OHIO ENVIRONMENTAL PROTECTION AGENCY

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 3745-38-06.

Laura H. Powell

Laura H. Powell
Assistant 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: [signature] **Date:** 4-21-08

TABLE OF CONTENTS

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 one or more acres of land. 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. 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 (off-site borrow pits and soil disposal areas, which serve only one project, do not have to be contiguous with the construction site);

Part I.B

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 an alternative 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 at 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. 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 (see Attachment A); or

Part I.B.3

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, an 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 fire fighting 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 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 fire fighting 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.

Part I.B

5. Spills and unintended releases (Releases in excess of Reportable Quantities). This permit does not relieve the permittee of the reporting requirements of 40 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.

Part I.C

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 conveyance of permit coverage for a portion of the development 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 coverage for individual lot(s) will be conveyed, the permittee shall inform, in writing, 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 II 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, shall notify the applicant in writing that he/she has 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.

Part I.E

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)). 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.

Part II. NOTICE OF INTENT REQUIREMENTS

A. Deadlines for notification.

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. 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.

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.

B. 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.

Part II

C. 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.

D. Additional notification.

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.

E. Renotification.

Upon renewal of this general permit, the permittee is required to notify the director of his intent to be covered by the general permit renewal. Permittees covered under the previous NPDES general permits for storm water discharges associated with construction activity (NPDES permit numbers OHR100000 and OHC000002) shall have continuing coverage under this permit. The permittees covered under OHR100000 or OHC000002 shall submit a letter within 90 days of receipt of written notification by Ohio EPA expressing their intent that coverage be continued. There is no fee associated with these letters of intent for continued coverage. Permit coverage will be terminated after the 90-day period if the letter is not received by Ohio EPA. Ohio EPA will provide instructions on the contents of the letter and where it is to be sent within the notification letter.

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.

Permittees continuing coverage from the previous generations of this permit (OHR100000 and OHC000002) that have initiated construction activity prior to the receipt of the first written notification from Ohio EPA to submit a letter of intent to continue coverage, as required in Part II.E, are not required to update their SWP3 as a result of this renewal (OHC000003). Permittees continuing coverage from the previous generations of this permit (OHR100000 and OHC000002) that have not initiated construction activity prior to the receipt of the first written notification from Ohio EPA to submit a letter of intent to continue coverage, as required in Part II.E, are required to update their SWP3 as a result of this renewal (OHC000003).

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.

Part III.C

2. Plan Availability

   a. On-site: The plan shall be made available immediately upon request of the director or his 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 a 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 as otherwise provided in the notification) or authorized representative, 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.

Part III

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 of each individual contractor shall be obtained prior to their 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;

Part III.G.1

g. An implementation schedule which describes the sequence of major construction operations (i.e., 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 must 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:

Part III.G.1.n

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 should be depicted 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;

viii. 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;

xi. The location of any in-stream activities including stream crossings;

Part III.G

2. Controls. The SWP3 must contain a description of the controls appropriate for each construction operation covered by this permit and the operator(s) must implement such controls. The SWP3 must 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 subcontactors 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 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 must make use of practices which preserve the existing natural condition as much as feasible. Such practices may include: preserving riparian areas adjacent to surface waters of the State, preserving existing vegetation and vegetative buffer strips, phasing of construction operations in order to minimize the amount of disturbed land at any one time and designation of tree preservation areas or other protective clearing or grubbing practices. The recommended buffer that operators should leave undisturbed along a surface water of the State is 25 feet as measured from the ordinary high water mark of the surface water.

   b. **Erosion Control Practices.** The SWP3 must 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 must 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.

Part III.G.2.b

i. **Stabilization.** Disturbed areas must be stabilized as specified in the following tables below. Permanent and temporary stabilization are defined in Part VII.

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 21 days
For all construction activities, any disturbed areas that will be dormant for more than 21 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.

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 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.

Part III.G.2

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 must 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 must 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.

Part III.G.2.d.ii

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.

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 (ft^3) per acre of drainage (67 yd^3/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 ft^3 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 must 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 must be less than or equal to five feet. The configuration between inlets and the outlet of the basin must 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 must consider public safety, especially as it relates to children, as a design factor for the sediment basin and alternative sediment controls must 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 table below.

Part III.G.2.d.iii

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, it is recommended that a setback of at least 25-feet, as measured from the ordinary high water mark of the surface water, be maintained in its natural state as a permanent buffer. Where impacts within this setback area are unavoidable due to the nature of the construction activity (e.g., stream crossings for roads or utilities), the project shall be designed such that the number of stream crossings and the width of the disturbance within the setback area are minimized.

vi. Modifying Controls. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the permittee must replace or modify the control for site conditions.

Part III.G.2

e. **Post-Construction Storm Water Management Requirements.** So that the 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 must 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 must 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 must 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 must 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 must 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).

Part III.G.2.e

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 must 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.H.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 must be able to detain storm water runoff for protection of the stream channels, stream erosion control, and improved water quality. The BMP(s) chosen must be compatible with site and soil conditions. Structural (designed) post-construction storm water treatment practices shall be incorporated into the permanent drainage system for the site. The BMP(s) chosen must be sized to treat the water quality volume (WQv) and ensure compliance with Ohio's Water Quality Standards in OAC Chapter 3745-1. The WQv shall be equivalent to the volume of runoff from a 0.75-inch rainfall and shall be determined according to the following equation:

$WQv = C * P * A / 12$

where:

WQv = water quality volume in acre-feet

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

P = 0.75 inch precipitation depth

A = area draining into the BMP in acres

Part III.G.2.e

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 WQv shall be incorporated into the BMP for sediment storage. Ohio EPA recommends that BMPs be designed according to the methodology included in 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 must not discharge more than the first half of the WQv 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 WQv for wet extended detention basins, but is equal to the WQv for all other BMPs listed in Table 2.

Part III.G.2.e

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

Best Management Practice	Drain Time of WQv
Infiltration Basin^	24 - 48 hours
Enhanced Water Quality Swale	24 hours
Dry Extended Detention Basin*	48 hours
Wet Extended Detention Basin**	24 hours
Constructed Wetland (above permanent pool)+	24 hours
Sand & Other Media Filtration	40 hours
Bioretention Cell^	40 hours
Pocket Wetland#	24 hours
Vegetated Filter Strip	24 hours

* Dry basins must include forebay and micropool each sized at 10% of the WQv
** Provide both a permanent pool and an EDv above the permanent pool, each sized at 0.75 * WQv
+ Extended detention shall be provided for the full WQv above the permanent water pool.
^ The WQv shall completely infiltrate within 48 hours so there is no standing or residual water in the BMP.
# Pocket wetlands must have a wet pool equal to the WQv, with 25% of the WQv in a pool and 75% in marshes. The EDv above the permanent pool must be equal to the WQv.

The permittee may 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. Construction activities shall be exempt from this condition if it can be demonstrated that the WQv 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.

Part III.G.2.e

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 WQ_v, 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 pervious pavement and/or 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 permeable pavements, green roofs, rain barrels, conservation development, smart growth, low-impact development, and other site design techniques contained in the Ohio Lake Commission's Balanced Growth Program (see http://www.epa.state.oh.us/oleo/bg1/index.html). 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.

Part III.G.2.e

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 (see http://www.dep.state.pa.us/dep/deputate/pollprev/techservices/tarp).

The Director may require discharges from such structures to be monitored to ensure compliance with Part III.G.2.e of this permit. Permittees must 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 must show that the alternative BMP has a minimum total suspended solids (TSS) removal efficiency of 80 percent. Also, the WQv discharge rate from the practice must 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 in the receiving surface waters of the State.

Part III.G.2.e

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, permeable pavements green roofs, rain gardens, catch basin inserts, and hydrodynamics separators. The Director may also consider non-structural post-construction approaches where no local requirement 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 non-jurisdictional stream and wetland 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 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 must 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.)

Part III.G.2.f

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) 879-4191 (Lake Erie Basin)
Pittsburgh, PA District (412) 395-7154 (Mahoning River Basin)
Louisville, KY District (502) 315-6733 (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.** The SWP3 must also provide BMPs for pollutant sources other than sediment. Non-sediment pollutant sources, which may be present on a construction site, include paving operations, concrete washout, structure painting, structure cleaning, demolition debris disposal, drilling and blasting operations, material storage, slag, solid waste, hazardous waste, contaminated soils, sanitary and septic wastes, vehicle fueling and maintenance activities, and landscaping operations.

   i. **Non-Sediment Pollutant Controls.** No solid 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 concrete trucks wash out directly into a drainage channel, storm sewer or surface waters of the State. No exposure of storm water to waste materials is recommended.

   ii. **Off-site traffic.** Off-site vehicle tracking of sediments and dust generation shall be minimized.

Part III.G.2.g

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**. There shall be no turbid discharges to surface waters of the State resulting from dewatering activities. If trench or ground water contains sediment, it must 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 dewatering 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 must 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.

Part III.G.2

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 has been finally stabilized, you may mark this on your 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 must 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.

Part III.G.2.i

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 must be repaired or maintained within three days of the inspection. Sediment settling ponds must 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 must be amended and the new control practice must 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 must 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 must contain a statement of explanation as to why the control practice is not needed.

Part III.G

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 must 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 must 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

Part IV.B

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 is in place to ensure all post-construction BMPs will be maintained in perpetuity.

2. All permittees must submit an NOT form within 45 days of completing all permitted land disturbance activities. 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: individual lots without housing which are sold by the developer must undergo final stabilization prior to termination of permit coverage.); or

   d. An exception has been granted under Part III.G.4.

C. How to submit an NOT

Permittees must use Ohio EPA's approved NOT form. The form must 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.

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

2. 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.

Part V

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 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

Part V.G.1.a

ii. The manager of one or more manufacturing, production or operating facilities, provided, the manager is authorized to make management decisions which 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.

Part V.G

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.

Part V

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; and
3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment).

PART VI. REOPENER CLAUSE

A. 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.

B. 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. "Commencement of construction" means the initial disturbance of soils associated with clearing, grubbing, grading, placement of fill or excavating activities or other construction activities.

D. "Concentrated storm water runoff" means any storm water runoff which flows through a drainage pipe, ditch, diversion or other discrete conveyance channel.

E. "Director" means the director of the Ohio Environmental Protection Agency.

F. "Discharge" means the addition of any pollutant to the surface waters of the State from a point source.

G. "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.

H. "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 landscape 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.

I. "Individual Lot NOI" means a Notice of Intent for an individual lot to be covered by this permit (see parts I and II of this permit).

J. "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.

K. "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.

L. "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."

Part VII

M. "NOI" means notice of intent to be covered by this permit.

N. "NOT" means notice of termination.

O. "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 II.A, there can be more than one operator at a site and under these circumstances, the operators shall be co-permittees.

P. "Owner or operator" means the owner or operator of any "facility or activity" subject to regulation under the NPDES program.

Q. "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.

R. "Percent imperviousness" means the impervious area created divided by the total area of the project site.

S. "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.

T. "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.

Part VII

U. "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.

V. "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.

W. "Runoff coefficient" means the fraction of total rainfall that will appear at the conveyance as runoff.

X. "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.

Y. "State isolated wetland permit requirements" means the requirements set forth in Sections 6111.02 through 6111.029 of the ORC.

Z. "Storm water" means storm water runoff, snow melt and surface runoff and drainage.

AA. "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.

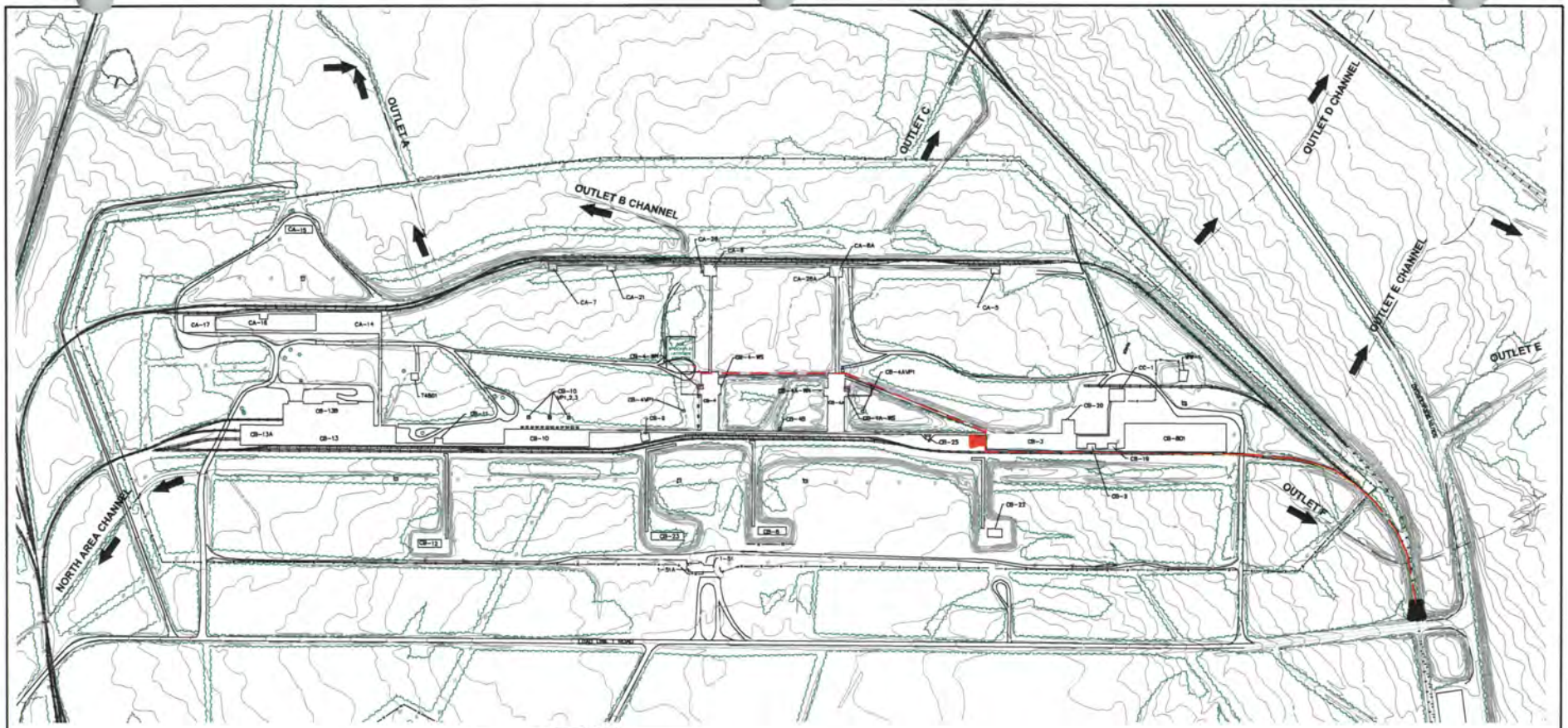
BB. "SWP3" means storm water pollution prevention plan.

CC. "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.

DD. "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.

APPENDIX B

Load Line Construction Drawings



LEGEND

- BUILDING FOOTPRINT AND WALKWAY
- ASPHALT ROAD
- GRAVEL ROAD
- RAILROAD TRACKS
- FENCE LINE
- CONTOUR (2 FT. INTERVAL)
- CONTOUR (10 FT. INTERVAL)
- TREE OR TREELINE
- STEAM STANCHION
- OVERHEAD STEAM LINE
- AREA OF SOIL REMEDIATION
- SILT FENCE/STRAW BALES BARRIER
- VEHICLE DECONTAMINATION STATION
- STORM WATER FLOW DIRECTION
- HAUL ROUTES
- STABILIZED CONSTRUCTION ENTRANCE

NOTE:
1. INLETS TO BE PROTECTED WITH STRAW BALES

US Army Corps of Engineers

0 150 300 600
SCALE 1" ~ 600'

Contacts for Underslab Remediation Project

Facility: Jim McGee, VistaSciences Corp. (330-358-3005)

Construction: Stan Levenger, URS (614-787-4711)
JoAnn Bartsch, URS (216-622-2229)

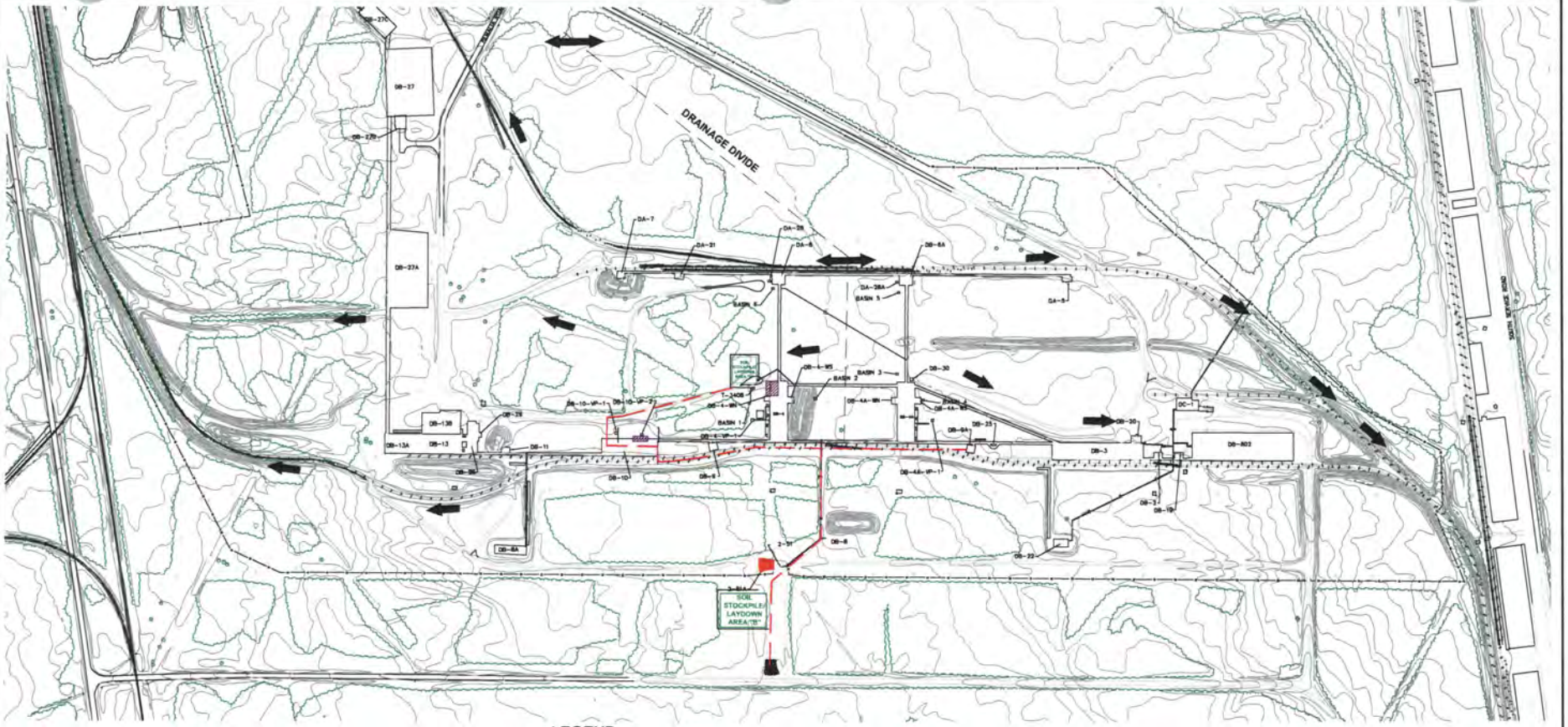
URS

RAVENNA ARMY AMMUNITION PLANT
RAVENNA, OHIO

STORM WATER POLLUTION PREVENTION PLAN OVERVIEW
LOAD LINE 1

DRAWN BY:	CHECKED BY:	PROJECT No:	DATE:	FIGURE No:
JSC	SL	13812319	02/04/10	B-1

K:\Projects\R\Ravenna AAP\13812319\DWGs\Figures\SWPPP\Ravenna-Figure B-1 SWPPP Overview Area LL1.dwg User: jessica_cotton Mar 15, 2010 - 3:10pm



LEGEND

- BUILDING FOOTPRINT AND WALKWAY
- ASPHALT ROAD
- GRAVEL ROAD
- RAILROAD TRACKS
- FENCE LINE
- CONTOUR (2 FT. INTERVAL)
- CONTOUR (10 FT. INTERVAL)
- TREE OR TREELINE
- STEAM STANCHION
- OVERHEAD STEAM LINE
- AREA OF SOIL REMEDIATION
- SILT FENCE/STRAW BALES BARRIER
- VEHICLE DECONTAMINATION STATION
- STORM WATER FLOW DIRECTION
- HAUL ROUTES
- STABILIZED CONSTRUCTION ENTRANCE

NOTE:
1. INLETS TO BE PROTECTED WITH STRAW BALES

US Army Corps of Engineers

0 150 300 600
SCALE 1" ~ 600'

Contacts for Underslab Remediation Project

Facility: Jim McGee, VistaSciences Corp. (330-358-3005)

Construction: Stan Levenger, URS (614-787-4711)
JoAnn Bartsch, URS (216-622-2229)

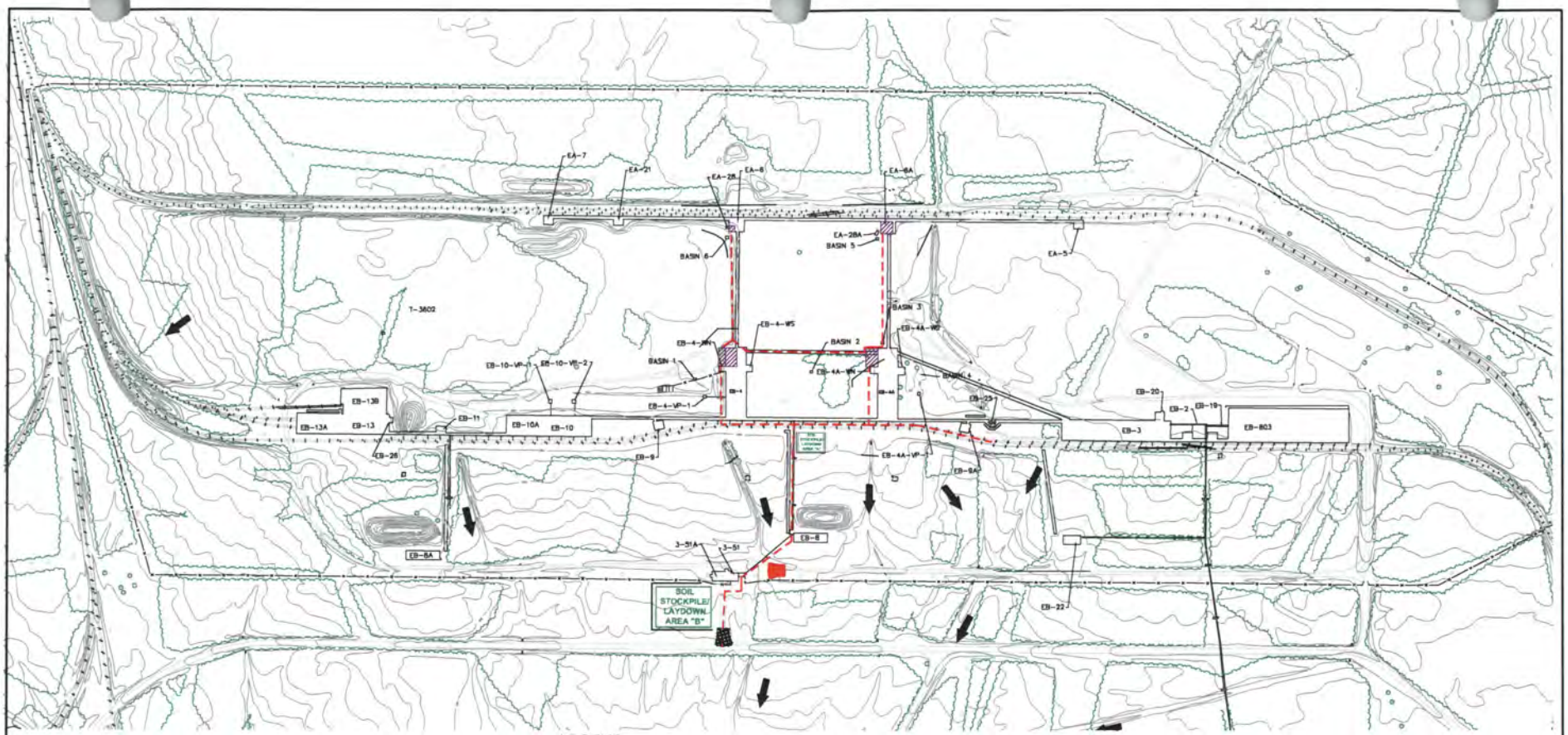
URS

RAVENNA ARMY AMMUNITION PLANT
RAVENNA, OHIO

STORM WATER POLLUTION PREVENTION PLAN OVERVIEW
LOAD LINE 2

DRAWN BY:	CHECKED BY:	PROJECT No:	DATE:	FIGURE No:
JSC	SL	13812319	02/04/10	B-3

K:\Projects\R\Ravenna AAP\13812319\DWGs\Figures\SWPPP\Ravenna-Figure B-3 SWPPP Overview Area LL2.dwg User: jessica_cotton Mar 15, 2010 - 3:14pm



LEGEND

- BUILDING FOOTPRINT AND WALKWAY
- ASPHALT ROAD
- GRAVEL ROAD
- RAILROAD TRACKS
- FENCE LINE
- CONTOUR (2 FT. INTERVAL)
- CONTOUR (10 FT. INTERVAL)
- TREE OR TREELINE
- STEAM STANCHION
- OVERHEAD STEAM LINE
- AREA OF SOIL REMEDIATION
- SILT FENCE/STRAW BALES BARRIER
- VEHICLE DECONTAMINATION STATION
- STORM WATER FLOW DIRECTION
- HAUL ROUTES
- STABILIZED CONSTRUCTION ENTRANCE

NOTE:
1. INLETS TO BE PROTECTED WITH STRAW BALES

US Army Corps of Engineers

0 150 300 600
SCALE 1" ~ 600'

Contacts for Underslab Remediation Project

Facility: Jim McGee, VistaSciences Corp. (330-358-3005)

Construction: Stan Levenger, URS (614-787-4711)
JoAnn Bartsch, URS (216-622-2229)

URS

RAVENNA ARMY AMMUNITION PLANT
RAVENNA, OHIO

STORM WATER POLLUTION PREVENTION PLAN OVERVIEW
LOAD LINE 3

DRAWN BY:	CHECKED BY:	PROJECT No:	DATE:	FIGURE No:
JSC	SL	13812319	02/04/10	B-5

K:\Projects\R\Ravenna AAP\13812319\DWGs\Figures\SWPPP\Ravenna-Figure B-5 SWPPP Overview Area LL3.dwg User: jessica_cotton Mar 15, 2010 - 3:20pm

APPENDIX C

Inspection and Maintenance Form

Ravenna Army Ammunition Plant
Storm Water Pollution Prevention Plan
Inspection and Maintenance Report Form
Load Lines 1, 2, and 3

To be completed every 7 days and within 24 hours of a rainfall event of 0.5 inches or more.

Inspector: _____

Date: _____

Days since last rainfall: _____

Amount of last rainfall: _____ inches

Stabilization Measures

Drainage Area	Date Since Last Disturbance	Date of Next Disturbance	Stabilized (Yes/No)	Stabilized With	Condition
Load Line 1					
Melt Pour Complex (CB-4, 4-WN, 4A, 4A-WS)					
Perimeter Areas/Misc.					
Stockpile Area					
Load Line 2					
Melt Pour Complex (DB-4, DB-4-WN)					
Explosive Handling Area (DB-10, 10-VP2)					
Perimeter/Miscellaneous Areas					
Stockpile Area					
Load Line 3					
Melt Pour Complex (EB-4, EB-4A, EB-4WN, EB-4A-WN)					
Explosive Handling Area (EA-6, EA-6A, EB-25)					
Perimeter/Miscellaneous Areas					
Stockpile Area					

Stabilization required:

_____

_____

_____

To be performed by: _____ On or before: _____

Ravenna Army Ammunition Plant
Storm Water Pollution Prevention Plan
Inspection and Maintenance Report Form
Load Lines 1, 2, and 3

Inspector: _____

Date: _____

Stabilized Construction Entrances

Construction Entrance Location	Does Mud Get Tracked onto Road?	Is the Gravel Clean or is it Filled with Sediment?	Does all Traffic use the Stabilized Entrance to Leave the Site?	Is the Culvert Beneath the Entrance Working?
Load Line 1				
Load Line 2				
Load Line 3				

Stabilization required:

_____

_____

_____

To be performed by: _____ On or before: _____

Ravenna Army Ammunition Plant
Storm Water Pollution Prevention Plan
Inspection and Maintenance Report Form
Load Lines 1, 2, and 3

Inspector: _____

Date: _____

Silt Fence and Straw Bales

Drainage Area Perimeter	Has Silt Fence Reached 1/3 of Fence Height?	Is Fence Properly Secured?	Is There Evidence of Washout or Topping Over?	Comment
Load Line 1				
Melt Pour Complex (CB-4, 4-WN, 4A, 4A-WS)				
Perimeter Areas/Misc.				
Stockpile Area				
Load Line 2				
Melt Pour Complex (DB-4, DB-4-WN)				
Explosive Handling Area (DB-10, 10-VP2)				
Perimeter/Miscellaneous Areas				
Stockpile Area				
Load Line 3				
Melt Pour Complex (EB-4, EB-4A, EB-4WN, EB-4A-WN)				
Explosive Handling Area (EA-6, EA-6A, EB-25)				
Perimeter/Miscellaneous Areas				
Stockpile Area				

Maintenance required for silt fence and straw bales:

_____

_____

_____

To be performed by: _____ On or before: _____