STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

February 1, 2014

Mr. Patrick C. Finney
Site Leader
e-copy: p.finney@hscpoly.com
Hemlock Semiconductor, L.L.C.
1000 Solar Way
Clarksville, TN 37040

Subject: **NPDES Permit No. TN0080845**
Hemlock Semiconductor, LLC
Clarksville, Montgomery County, Tennessee

Dear Mr. Finney:

In accordance with the provisions of the Tennessee Water Quality Control Act, Tennessee Code Annotated (T.C.A.), Sections 69-3-101 through 69-3-120, the Division of Water Resources hereby issues the enclosed NPDES Permit. The continuance and/or reissuance of this NPDES Permit is contingent upon your meeting the conditions and requirements as stated therein.

Please be advised that a petition for permit appeal may be filed, pursuant to T.C.A. Section 69-3-105, subsection (i), by the permit applicant or by any aggrieved person who participated in the public comment period or gave testimony at a formal public hearing whose appeal is based upon any of the issues that were provided to the commissioner in writing during the public comment period or in testimony at a formal public hearing on the permit application. Additionally, for those permits for which the department gives public notice of a draft permit, any permit applicant or aggrieved person may base a permit appeal on any material change to conditions in the final permit from those in the draft, unless the material change has been subject to additional opportunity for public comment. Any petition for permit appeal under this subsection (i) shall be filed with the Technical Secretary of the Water Quality, Oil and Gas Board within thirty (30) days after public notice of the commissioner's decision to issue or deny the permit. A copy of the filing should also be sent to TDEC's Office of General Counsel.

If you have questions, please contact the Nashville Environmental Field Office at 1-888-891-TDEC; or, at this office, please contact Ms. Erin O'Brien at (615) 253-2245 or by E-mail at *Erin.O'Brien@tn.gov*.

Sincerely,

Vojin Janjić
Manager, Water-Based Systems

Enclosure

cc: Permit File
Nashville Environmental Field Office
Mr. Jason Mennino, Environmental Specialist, Hemlock Semiconductor, L.L.C., jason.mennino@hscpoly.com

STATE OF TENNESSEE

NPDES PERMIT

No. TN0080845

Authorization to discharge under the
National Pollutant Discharge Elimination System (NPDES)

Issued By

State of Tennessee
Department of Environment and Conservation
Division of Water Resources
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

Under authority of the Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101 et seq.) and the delegation of authority from the United States Environmental Protection Agency under the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 (33 U.S.C. 1251, et seq.)

Discharger:	**Hemlock Semiconductor, LLC**
is authorized to discharge:	**Stormwater runoff from construction activities**
from a facility located:	**in Clarksville, Montgomery County, Tennessee**
to receiving waters named:	**Spring Creek and various wet weather conveyances and unnamed tributaries**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on:	**March 1, 2014**
This permit shall expire on:	**January 31, 2019**
Issuance date:	**February 1, 2014**

for Sandra K. Dudley, Ph.D., P.E.
Director

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PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Hemlock Semiconductor, LLC is authorized to discharge stormwater runoff from construction activities to Spring Creek and various wet weather conveyances and unnamed tributaries.

This permit authorizes point source discharges of stormwater from construction activities including clearing, grading, filling and excavating (including borrow pits and stockpile/material storage areas containing erodible material), or other similar construction activities. This permit also authorizes stormwater discharges from support activities (e.g., silviculture or timbering, concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) provided all of the following are met:

1. The support activity is primarily related to the construction site that is covered under this permit;
2. The operator of the support activity is the same as the operator of the construction site;
3. The support activity is not a commercial operation serving multiple unrelated construction projects by different operators;
4. The support activity does not operate beyond the completion of the construction activity at this site; and
5. Support activities are identified in the permit application and appropriate controls and measures are described in a comprehensive stormwater pollution prevention plan (SWPPP) covering the discharges from the support activity areas.

Stormwater discharges associated with support activities that have been issued a separate individual permit or an alternative general permit are not authorized by this permit. This permit does not authorize any process wastewater discharges from support activities. Process wastewater discharges from support activities must be authorized by an individual permit or appropriate general permit.

These discharges shall be limited and monitored by the permittee as specified below:

External Outfalls: SW1, SW4, SW13, SW14, SWMB
Internal Monitoring Point: IMP1

Monitoring : Effluent Gross; Season : All Year

Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
Floating solids or visible foam-visual	Report	-	Y=1;N=0	Visual	Monthly	Value
Flow	Report	-	Mgal/d	Estimate	Monthly	Daily Maximum
Flow	Report	-	Mgal/d	Estimate	Monthly	Monthly Average
Nitrogen, total (as N)	Report	-	mg/L	Grab	Monthly	Daily Maximum
Nitrogen, total (as N)	Report	-	mg/L	Grab	Monthly	Monthly Average
Phosphorus, total (as P)	Report	-	mg/L	Grab	Monthly	Daily Maximum
Phosphorus, total (as P)	Report	-	mg/L	Grab	Monthly	Monthly Average
Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Monthly	Monthly Average
Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Monthly	Daily Maximum
Turbidity, lab, NTU	Report	-	NTU	Grab	Monthly	Daily Maximum
Turbidity, lab, NTU	Report	-	NTU	Grab	Monthly	Monthly Average

The permittee shall maintain a log of rainfall events including date, estimated duration (in hours), and total estimated rainfall per calendar day. For sampling events, the permittee shall provide an estimate of the total volume of the discharge sampled per outfall and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event.

Soil analysis must be performed prior to the application of fertilizer to any portion of the site. Soil analysis shall include soil pH, buffer value, phosphorus, potassium, calcium, magnesium, calculated CEC and base saturation at a minimum. Soil samples should be representative of the area for which fertilizer will be applied. Sample type should be composite and should be collected in accordance with the guidance provided in the University of Tennessee Extension "Soil Testing" brochure PB1061, available at: http://utextension.tennessee.edu/publications/Documents/PB1061.pdf. Soil analysis results shall be used to determine correct fertilizer application rates to prevent the over-application of fertilizer to the site.

Additional monitoring requirements and conditions applicable to Outfalls SW1, SW4, SW12, SW13, SW14 and SWMB and to Internal Monitoring Point IMP1 include:

The permittee shall report the estimated total drainage area and estimated acreage of land disturbance in the drainage area for each outfall or internal monitoring point for each sampling event. Record of the estimated drainage area and amount of land disturbance for a given sample event shall be reported in the notes section of the Discharge Monitoring Report (DMR, see section I.F.1 below).

The construction activity shall be carried out in such a manner that will prevent violations of water quality criteria as stated in the TDEC Rules, Chapter 1200-04-03-.03. This includes,

but is not limited to, a requirement that there shall be no distinctly visible floating solids, scum, foam, oily slick, or the formation of slimes, bottom deposits or sludge banks of such size or character that may be detrimental to fish and aquatic life.

The stormwater discharges shall not contain pollutants in quantities that will be hazardous or otherwise detrimental to humans, livestock, wildlife, plant life, or fish and aquatic life in the receiving stream.

The stormwater discharge must not cause an objectionable color contrast in the receiving stream.

Sludge or any other material removed by any treatment works must be disposed of in a manner which prevents its entrance into or pollution of any surface or subsurface waters. Additionally, the disposal of such sludge or other material must be in compliance with the Tennessee Solid Waste Disposal Act, TCA 68-31-101 et seq. and the Tennessee Hazardous Waste Management Act, TCA 68-46-101 et seq.

B. PROHIBITED DISCHARGES

The following discharges are prohibited:

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

Note: Any discharge of stormwater or other fluid to an improved sinkhole or other injection well, as defined, must be authorized by permit or rule as a Class V underground injection well under the provisions of TDEC Rules, Chapter 1200-04-06.

C. MONITORING PROCEDURES

1. Representative Sampling

Samples and measurements taken in compliance with the monitoring requirements specified herein shall be representative of the volume and nature of the monitored discharge, and shall be taken after treatment and:

- prior to mixing with uncontaminated stormwater runoff or the receiving stream;
- prior to effluent leaving the construction site boundary.

2. Sampling Frequency

The permittee should mark the 'No Discharge' box on the Discharge Monitoring Report form only if a permitted outfall or internal monitoring point does not discharge at any time during the monitoring period. If the outfall or internal monitoring point discharges effluent at any time

during the monitoring period, the permittee must provide at least one sampling result from the effluent of that outfall or internal monitoring point.

Sampling requirements will start as soon as the area within an outfall is disturbed and will continue until an outfall is determined to be final stabilized. Sampling requirements do not apply to outfalls that have not been disturbed or have been finally stabilized, as described in subpart IV.A.

3. Test Procedures

a. Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304 (h) of the Clean Water Act (the "Act"), as amended, under which such procedures may be required.

b. Unless otherwise noted in the permit, all pollutant parameters shall be determined according to methods prescribed in Title 40, CFR Part 136, as amended, promulgated pursuant to Section 304 (h) of the Act.

4. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date and time of sampling;
b. The exact person(s) collecting samples;
c. The dates and times the analyses were performed;
d. The person(s) or laboratory who performed the analyses;
e. The analytical techniques or methods used, and;
f. The results of all required analyses.

5. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation, shall be retained for a minimum of three years, or longer, if requested by the Division of Water Resources (division).

The permittee shall retain copies of the stormwater pollution prevention plan (SWPPP), as described in part IV of this permit, and all reports required by this permit, and records of all data used to complete the permit application, for a period of at least one year from the date the notice of termination is filed. This period may be extended by written request of the director.

The permittee shall retain a copy of the SWPPP required by this permit (including a copy of the permit) at the construction site (or other local location accessible to the director and the public) from the date construction commences to the date of termination of permit coverage. Permittees with day-to-day operational control over pollution prevention plan implementation shall have a copy of the SWPPP available at a central location onsite for the use of all operators and those identified as having responsibilities under the plan whenever they are on the construction site. Once coverage is terminated, the permittee shall maintain a copy of all records for a period of three years.

D. DEFINITIONS

For the purpose of this permit, ***Annually*** is defined as a monitoring frequency of once every twelve (12) months beginning with the date of issuance of this permit so long as the following set of measurements for a given 12 month period are made approximately 12 months subsequent to that time.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the state. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Borrow Pit is an excavation from which erodible material (typically soil) is removed to be fill for another site. There is no processing or separation of erodible material conducted at the site. Given the nature of activity and pollutants present at such excavation, a borrow pit is considered a construction activity for the purpose of this permit.

Buffer Zone is a strip of dense undisturbed perennial native vegetation, either original or re-established, that borders streams and rivers, ponds and lakes, wetlands, and seeps. Buffer zones are established for the purposes of slowing water runoff, enhancing water infiltration, and minimizing the risk of any potential nutrients or pollutants from leaving the upland area and reaching surface waters. Buffer zones are most effective when stormwater runoff is flowing into and through the buffer zone as shallow sheet flow, rather than in concentrated form such as in channels, gullies, or wet weather conveyances. Therefore, it is critical that the design of any development include management practices, to the maximum extent practical, that will result in stormwater runoff flowing into and through the buffer zone as shallow sheet flow. Buffer zones are established for the primary purpose of protecting water quality and maintaining a healthy aquatic ecosystem in receiving waters.

A ***bypass*** is defined as the intentional diversion of waste streams from any portion of a treatment facility.

A ***calendar day*** is defined as the 24-hour period from midnight to midnight or any other 24-hour period that reasonably approximates the midnight to midnight time period.

Clearing in the definition of discharges associated with construction activity, typically refers to removal of vegetation and disturbance of soil prior to grading or excavation in anticipation of construction activities. Clearing may also refer to wide area land disturbance in anticipation of non-construction activities; for instance, clearing forested land in order to convert forest land to pasture for wildlife management purposes. Clearing, grading and excavation do not refer to clearing of vegetation along existing or new roadways, highways, dams or power lines for sight distance or other maintenance and/or safety concerns, or cold planing, milling, and/or removal of concrete and/or bituminous asphalt roadway pavement surfaces. The clearing of land for agricultural purposes is exempt from federal stormwater NPDES permitting in accordance with Section 401(1)(1) of the 1987 Water Quality Act and state stormwater

NPDES permitting in accordance with the Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101 et seq.).

***Commencement of construction* -** The initial disturbance of soils associated with clearing, grading, or excavating activities or other construction activities.

A ***Composite Sample***, for the purposes of this permit, is a sample collected continuously over a period of 24-hours at a rate proportional to the flow. The composite sample should be a combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24-hour period.

Continuous monitoring, for the purposes of this permit, is the measurement of flow and turbidity at a frequency that will accurately characterize the nature of discharges from the site and water in the receiving stream. Samples collected continuously shall be at a frequency of not less than once every fifteen minutes for flow, and not less than once per hour for turbidity.

A ***Contractor*** is a person/company that has day-to-day operational control of those activities at a project which are necessary to ensure compliance with a SWPPP for the site or other permit conditions (e.g., contractor is authorized to direct workers at a site to carry out activities required by the SWPPP or comply with other permit conditions). A contractor is typically hired by the operator. This person may include, but is not limited to a general contractor, grading contractor, erosion control contractor, sub-contractor responsible for any land disturbing activities and/or erosion prevention and sediment control (EPSC) implementation/maintenance, etc. The contractor must sign a certification as shown in section IV.B.1 of this permit.

***Control measure* -** As used in this permit, refers to any Best Management Practice (BMP) or other method used to prevent or reduce the discharge of pollutants to waters of the state.

CWA means the Clean Water Act of 1977 or the Federal Water Pollution Control Act (33 U.S.C. 1251, et seq.)

The ***Daily Maximum Concentration*** is a limitation on the average concentration, in milligrams per liter (mg/L), of the discharge during any calendar day. When a proportional-to-flow composite sampling device is used, the daily concentration is the concentration of that 24-hour composite; when other sampling means are used, the daily concentration is the arithmetic mean of the concentrations of equal volume samples collected during any calendar day or sampling period.

De Minimis – Alterations, other than those resulting in the condition of pollution or new domestic wastewater discharges, that represent either a small magnitude or a short duration shall be considered a *de minimis* impact and will not be considered degradation for purposes of implementing the antidegradation policy. Discharges other than domestic wastewater will be considered *de minimis* if they are temporary or use less than five percent of the available assimilative capacity for the substance being discharged. If more than one activity has been authorized in a segment and the total of the impacts uses no more than ten percent of the assimilative capacity, available habitat, or 7Q10 low flow, they are presumed to be *de minimis*. Where total impacts use more than ten percent of the assimilative capacity, available habitat, or

7Q10 low flow they may be treated as *de minimis* provided that the division finds on a scientific basis that the additional degradation has an insignificant effect on the resource and that no single activity is allowed to consume more than five percent of the assimilative capacity, available habitat or 7Q10 low flow.

Degradation means the alteration of the properties of waters by the addition of pollutants or removal of habitat.

Department means the Department of Environment and Conservation.

Director means the director, or authorized representative, of the Division of Water Resources of the State of Tennessee, Department of Environment and Conservation.

Discharge or "discharge of a pollutant" refers to the addition of pollutants to waters from a source.

Discharge of stormwater associated with construction activity - As used in this permit, refers to stormwater point source discharges from areas where soil disturbing activities (e.g., clearing, grading, excavation, etc.), or construction materials or equipment storage or maintenance (e.g., earth fill piles, fueling, waste material etc.) are located.

Division means the Division of Water Resources of the State of Tennessee, Department of Environment and Conservation.

Dry Weather Flow shall be construed to represent discharges consisting of process and/or non-process wastewater only.

An ***ecoregion*** is a relatively homogeneous area defined by similarity of climate, landform, soil, potential natural vegetation, hydrology, or other ecologically relevant variables.

Final stabilization means that all soil disturbing activities at the site have been completed, and that a perennial vegetative cover sufficient to prevent erosion has been well established on all unpaved areas and areas not covered by permanent structures, and/or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

A ***Grab Sample***, for the purposes of this permit, is defined as a single effluent sample of at least 100 milliliters (sample volumes <100 milliliters are allowed when specified per standard methods, latest edition) collected at a randomly selected time over a period not exceeding 15 minutes. The sample(s) shall be collected at the period(s) most representative of the total discharge.

The ***Instantaneous Concentration*** is a limitation on the concentration, in milligrams per liter (mg/L), of any pollutant contained in the discharge determined from a grab sample taken at any point in time.

A ***Linear Project*** is a land disturbing activity from the construction and installation of utilities/infrastructure/etc. conducted by publicly or privately owned underground/overhead utility or highway or transportation department. Activities include, but not limited to, any cable line or

wire for the transmission of electrical energy; any conveyance pipeline for transportation of gaseous or liquid substance; any cable line or wire for communications; or any other energy resource transmission ROW or utility infrastructure, e.g., roads and highways. Linear project activities also include the construction of access roads, staging areas, and borrow/spoil sites associated with the linear project.

Municipal Separate Storm Sewer System or ***MS4*** is defined at 40 CFR §122.26(b)(8) to mean a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

1. Owned and operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
2. Designed or used for collecting or conveying stormwater;
3. Which is not a combined sewer; and
4. Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR §122.2.

The ***monthly average concentration***, other than for *E. coli* bacteria, is the arithmetic mean of all the composite or grab samples collected in a one-calendar month period.

A ***one week period*** (or ***calendar-week***) is defined as the period from Sunday through Saturday. For reporting purposes, a calendar week that contains a change of month shall be considered part of the latter month.

Pollutant means sewage, industrial wastes, or other wastes.

A **Qualifying Storm Event** is one which is greater than 0.1 inches and that occurs after a period of at least 72 hours after any previous storm event with rainfall of 0.1 inches or greater.

For the purpose of this permit, a ***Quarter*** is defined as any one of the following three month periods: January 1 through March 31, April 1 through June 30, July 1 through September 30, or October 1 through December 31.

A ***rainfall event*** is defined as any occurrence of rain, preceded by 10 hours without precipitation that results in an accumulation of 0.01 inches or more. Instances of rainfall occurring within 10 hours of each other will be considered a single rainfall event.

A ***rationale*** (or “fact sheet”) is a document that is prepared when drafting an NPDES permit or permit action. It provides the technical, regulatory and administrative basis for an agency’s permit decision.

A ***reference site*** means least impacted waters within an ecoregion that have been monitored to establish a baseline to which alterations of other waters can be compared.

A ***reference condition*** is a parameter-specific set of data from regional reference sites that establish the statistical range of values for that particular substance at least-impacted streams.

A **Registered Engineer** is an engineer certified and registered by the State Board of Architectural and Engineer Examiners pursuant to Section 62-202, Tennessee Code Annotated, to practice in Tennessee.

Runoff coefficient means the fraction of total rainfall that will appear at the conveyance as runoff. Runoff coefficient is also defined as the ratio of the amount of water that is NOT absorbed by the surface to the total amount of water that falls during a rainstorm.

Sediment means solid material, both inorganic (mineral) and organic, that is in suspension, is being transported, or has been moved from the site of origin by wind, water, gravity, or ice as a product of erosion.

Sediment basin - A temporary basin consists of an embankment constructed across a drainage way, or an excavation that creates a basin, or by combination of both. A sediment basin typically consists of an impoundment, a dam, a riser pipe outlet, and an emergency spillway. The size of the structure will depend upon the location, size of the drainage area, soil type land cover/use, rainfall amount, and any unique site conditions favorable to producing high runoff volume, velocity, or sediment. Retention and detention ponds are both designed and constructed for the purpose of managing the runoff from a development. A retention pond retains most of sediment in the pond. A detention pond detains the higher flows and releases the flow over a longer time and at a reduced rate; it may or may not offer any sediment control.

Sedimentation means the action or process of forming or depositing sediment.

For the purpose of this permit, ***Semi-annually*** means the same as "once every six months." Measurements of the effluent characteristics concentrations may be made anytime during a 6 month period beginning from the issuance date of this permit so long as the second set of measurements for a given 12 month period are made approximately 6 months subsequent to that time, if feasible.

Significant contributor of pollutants to waters of the state means any discharge containing pollutants that are reasonably expected to cause or contribute to an impairment of receiving stream water quality or designated uses.

Soil means the unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of plants.

Steep Slope means a natural or created slope of 20% grade or greater and an elevation change of 20 feet or more. Designers of sites with steep slopes must pay special attention to stormwater management in the SWPPP to engineer runoff non-erosively around or over a steep slope. In addition, site managers should focus on erosion prevention on the slope(s) and stabilize the slope(s) as soon as practicable to prevent slope failure and/or sediment discharges from the project.

Stormwater means rain fall runoff, snow melt runoff, and surface runoff and drainage.

Stormwater associated with industrial activity is defined at 40 CFR 122.26(b)(14) and incorporated here by reference. Most relevant to this permit is 40 CFR 122.26(b)(14)(x), which relates to construction activity including clearing, grading, filling and excavation activities (including borrow pits containing erodible material). Disturbance of soil for the purpose of crop production is exempted from permit requirements, but stormwater discharges from agriculture-related activities which involve construction of structures (e.g., barn construction, road construction, pond construction, etc.) are considered associated with industrial activity. Maintenance performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility, e.g. re-clearing, minor excavation performed around an existing structure necessary for maintenance or repair, and repaving of an existing road, is not considered a construction activity for the purpose of this permit.

Stormwater discharge-related activities include: activities which cause, contribute to, or result in point source stormwater pollutant discharges, including but not limited to: excavation, site development, grading and other surface disturbance activities; and measures to control stormwater including the siting, construction and operation of best management practices (BMPs) to control, reduce or prevent stormwater pollution.

Stormwater Pollution Prevention Plan (SWPPP): A written plan required by this permit that includes site map(s), an identification of construction/contractor activities that could cause pollutants in the stormwater, and a description of measures or practices to control these pollutants. It must be prepared and approved before construction begins. In order to effectively reduce erosion and sedimentation impacts, Best Management Practices (BMPs) must be designed, installed, and maintained during land disturbing activities. The SWPPP should be prepared in accordance with the latest edition of the Tennessee Erosion and Sediment Control Handbook. The handbook is designed to provide information to planners, developers, engineers, and contractors on the proper selection, installation, and maintenance of BMPs. The handbook is intended for use during the design and construction of projects that require erosion and sediment controls to protect waters of the state. It also aids in the development of SWPPPs and other reports, plans, or specifications required when participating in Tennessee's water quality regulations.

A ***subecoregion*** is a smaller, more homogenous area that has been delineated within an ecoregion.

Temporary stabilization is achieved when vegetation and/or a non-erodible surface have been established on the area of disturbance and construction activity has temporarily ceased. Under certain conditions, temporary stabilization is required when construction activities temporarily cease. However, if future construction activity is planned, permit coverage continues.

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

Waters means any and all water, public or private, on or beneath the surface of the ground, which are contained within, flow through, or border upon Tennessee or any portion thereof except those bodies of water confined to and retained within the limits of private property in single ownership which do not combine or effect a junction with natural surface or underground waters.

Waste site is an area where material from a construction site is disposed of. When the material is erodible, such as soil, the site must be treated as a construction site.

Wet weather conveyances are man-made or natural watercourses, including natural watercourses that have been modified by channelization, that flow only in direct response to precipitation runoff in their immediate locality and whose channels are above the groundwater table and which do not support fish or aquatic life and are not suitable for drinking water supplies. (Rules and Regulations of the State of Tennessee, Chapter 1200-04-03-.04(3)).

Wet Weather Flow shall be construed to represent stormwater runoff which, in combination with all process and/or non-process wastewater discharges, as applicable, is discharged during a qualifying storm event.

E. ACRONYMS AND ABBREVIATIONS

1Q10 – 1-day minimum, 10-year recurrence interval
30Q20 – 30-day minimum, 20-year recurrence interval
7Q10 – 7-day minimum, 10-year recurrence interval
ARAP – Aquatic Resource Alteration Permit
BAT – best available technology economically achievable
BCT – best conventional pollutant control technology
BDL – below detection level
BMP – best management practice
BOD_5 – five day biochemical oxygen demand
BPT – best practicable control technology currently available
$CBOD_5$ – five day carbonaceous biochemical oxygen demand
CEI – compliance evaluation inspection
CFR – code of federal regulations
CFS – cubic feet per second
CFU – colony forming units
CIU – categorical industrial user
CPESC – Certified Professional in Erosion and Sediment Control
CSO – combined sewer overflow
CWA – Clean Water Act
DMR – discharge monitoring report
D.O. – dissolved oxygen
E. coli – Escherichia coli

EFO – environmental field office

EPA – (U.S.) Environmental Protection Agency

EPSC – erosion prevention and sediment control

LB(lb) - pound

IC_{25} – inhibition concentration causing 25% reduction in survival, reproduction and growth of the test organisms

IU – industrial user

IWS – industrial waste survey

LC_{50} – acute test causing 50% lethality

MDL – method detection level

MGD – million gallons per day

MG/L(mg/l) – milligrams per liter

ML – minimum level of quantification

ml – milliliter

MLSS – mixed liquor suspended solids

MOR – monthly operating report

MS4 – municipal separate storm sewer system

NODI – no discharge

NOEC – no observed effect concentration

NPDES – national pollutant discharge elimination system

PL – permit limit

POTW – publicly owned treatment works

RDL – required detection limit

SAR – semi-annual [pretreatment program] report

SIU – significant industrial user

SSO – sanitary sewer overflow

STP – sewage treatment plant

SWPPP – stormwater pollution prevention plan

TCA – Tennessee code annotated

TDEC – Tennessee Department of Environment and Conservation

TIE/TRE – toxicity identification evaluation/toxicity reduction evaluation

TMDL – total maximum daily load

TRC – total residual chlorine

TSS – total suspended solids

TWQCA – Tennessee Water Quality Control Act

WQBEL – water quality based effluent limit

F. REPORTING

1. Monitoring Results

Monitoring results shall be recorded monthly and submitted monthly using Discharge Monitoring Report (DMR) forms supplied by the Division of Water Resources. Submittals shall be postmarked no later than 15 days after the completion of the reporting period. A completed DMR with an original signature shall be submitted to the following address:

TENNESSEE DEPT. OF ENVIRONMENT & CONSERVATION
DIVISION OF WATER RESOURCES
WILLIAM R. SNODGRASS - TENNESSEE TOWER
312 ROSA L. PARKS AVENUE, 11TH FLOOR
NASHVILLE, TENNESSEE 37243-1102

A copy of the completed and signed DMR shall be mailed to the Nashville Environmental Field Office (EFO) at the following address:

TENNESSEE DEPT. OF ENVIRONMENT & CONSERVATION
DIVISION OF WATER RESOURCES
NASHVILLE ENVIRONMENTAL FIELD OFFICE
711 R.S. GASS BOULEVARD
NASHVILLE TN 37243

A copy should be retained for the permittee's files. In addition, any communication regarding compliance with the conditions of this permit must be sent to the two offices listed above.

The first DMR is due on the 15th of the month following the effective date of the permit.

DMRs and any other information or report must be signed and certified by a responsible corporate officer as defined in 40 CFR 122.22, a general partner or proprietor, or a principal municipal executive officer or ranking elected official, or his duly authorized representative. Such authorization must be submitted in writing and must explain the duties and responsibilities of the authorized representative.

The electronic submission of DMR data will be accepted only if formally approved beforehand by the division. For purposes of determining compliance with this permit, data approved by the division to be submitted electronically is legally equivalent to data submitted on signed and certified DMR forms.

2. Additional Monitoring by Permittee

If the permittee monitors any pollutant specifically limited by this permit more frequently than required at the location(s) designated, using approved analytical methods as specified herein, the results of such monitoring shall be included in the calculation and reporting of the values required in the DMR form. Such increased frequency shall also be indicated on the form.

3. Falsifying Results and/or Reports

Knowingly making any false statement on any report required by this permit or falsifying any result may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Water Pollution Control Act, as amended, and in Section 69-3-115 of the Tennessee Water Quality Control Act.

4. Outlier Data

Outlier data include analytical results that are probably false. The validity of results is based on operational knowledge and a properly implemented quality assurance program. False results may include laboratory artifacts, potential sample tampering, broken or suspect sample containers, sample contamination or similar demonstrated quality control flaw.

Outlier data are identified through a properly implemented quality assurance program, and according to ASTM standards (e.g. Grubbs Test, ‘h’ and ‘k’ statistics). Furthermore, outliers should be verified, corrected, or removed, based on further inquiries into the matter. If an outlier was verified (through repeated testing and/or analysis), it should remain in the preliminary data set. If an outlier resulted from a transcription or similar clerical error, it should be corrected and subsequently reported.

Therefore, only if an outlier was associated with problems in the collection or analysis of the samples and as such does not conform with the Guidelines Establishing Test Procedures for the Analysis of Pollutants (40 CFR §136), it can be removed from the data set and not reported on the Discharge Monitoring Report forms (DMRs). Otherwise, all results (including monitoring of pollutants more frequently than required at the location(s) designated, using approved analytical methods as specified in the permit) should be included in the calculation and reporting of the values required in the DMR form. You are encouraged to use “comment” section of the DMR form (or attach additional pages), in order to explain any potential outliers or dubious results.

G. SCHEDULE OF COMPLIANCE

Full compliance and operational levels shall be attained from the effective date of this permit.

PART II

A. GENERAL PROVISIONS

1. Duty to Reapply

Permittee is not authorized to discharge after the expiration date of this permit. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit such information and forms as are required to the Director of Water Pollution Control (the "Director") no later than 180 days prior to the expiration date. Such applications must be properly signed and certified.

2. Right of Entry

The permittee shall allow the Director, the Regional Administrator of the U.S. Environmental Protection Agency, or their authorized representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or where records are required to be kept under the terms and conditions of this permit, and at reasonable times to copy these records;

b. To inspect at reasonable times any monitoring equipment or method or any collection, treatment, pollution management, or discharge facilities required under this permit; and

c. To sample at reasonable times any discharge of pollutants.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Water Pollution Control Act, as amended, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Division of Water Resources. As required by the Federal Act, effluent data shall not be considered confidential.

4. Proper Operation and Maintenance

a. The permittee shall at all times properly operate and maintain all facilities and systems (and related appurtenances) for collection and treatment which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory and process controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems, which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit. Backup continuous pH and flow monitoring equipment are not required.

b. Dilution water shall not be added to comply with effluent requirements to achieve BCT, BPT, BAT and or other technology-based effluent limitations such as those in State of Tennessee Rule 1200-4-5-.09.

5. Treatment Facility Failure

The permittee, in order to maintain compliance with this permit, shall control production, all discharges, or both, upon reduction, loss, or failure of the treatment facility, until the facility is restored or an alternative method of treatment is provided. This requirement applies in such situations as the reduction, loss, or failure of the primary source of power.

6. Property Rights

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

7. Severability

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

8. Other Information

If the permittee becomes aware that he failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, then he shall promptly submit such facts or information.

9. Signatories to permit applications and reports[1]

a. Applications. All permit applications shall be signed as follows:
   i. For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
      1) 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
      2) 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

[1] As specified in 40 CFR 122.22 [48 FR 14153, Apr. 1, 1983, as amended at 48 FR 39619, Sept. 1, 1983; 49 FR 38047, Sept. 29, 1984; 50 FR 6941, Feb. 19, 1985; 55 FR 48063, Nov. 16, 1990; 65 FR 30907, May 15, 2000]

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.

NOTE: The division does not require specific assignments or delegations of authority to responsible corporate officers. The division will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

ii. For a partnership or sole proprietorship. By a general partner or the proprietor, respectively; or

iii. 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 EPA).

b. Reports. All reports required by permits, and other information requested by the director shall be signed by a person described in paragraph a. of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

i. The authorization is made in writing by a person described in paragraph a. of this section;

ii. 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 plant manager, operator of a well or a 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,

iii. The written authorization is submitted to the director.

c. Changes to authorization. If an authorization under paragraph (b) of this section 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 paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

d. Certification. Any person signing a document under paragraph (a) or (b) of 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 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."

B. CHANGES AFFECTING THE PERMIT

1. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).

2. Permit Modification, Revocation, or Termination

a. This permit may be modified, revoked and reissued, or terminated for cause as described in 40 CFR 122.62 and 122.64, Federal Register, Volume 49, No. 188 (Wednesday, September 26, 1984), as amended.

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

c. If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established for any toxic pollutant under Section 307(a) of the Federal Water Pollution Control Act, as amended, the Director shall modify or revoke and reissue the permit to conform to the prohibition or to the effluent standard, providing that the effluent standard is more stringent than the limitation in the permit on the toxic pollutant. The permittee shall comply with these effluent standards or prohibitions within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified or revoked and reissued to incorporate the requirement.

d. The filing of a request by the permittee for a modification, revocation, reissuance, termination, or notification of planned changes or anticipated noncompliance does not halt any permit condition.

3. Change of Ownership

This permit may be transferred to another party (provided there are neither modifications to the facility or its operations, nor any other changes which might affect the permit limits and conditions contained in the permit) by the permittee if:

a. The permittee notifies the Director of the proposed transfer at least 30 days in advance of the proposed transfer date;

b. The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage, and liability between them; and

c. The Director, within 30 days, does not notify the current permittee and the new permittee of his intent to modify, revoke or reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

Pursuant to the requirements of 40 CFR 122.61, concerning transfer of ownership, the permittee must provide the following information to the division in their formal notice of intent to transfer ownership: 1) the NPDES permit number of the subject permit; 2) the effective date of the proposed transfer; 3) the name and address of the transferor; 4) the name and address of the transferee; 5) the names of the responsible parties for both the transferor and transferee; 6) a statement that the transferee assumes responsibility for the subject NPDES permit; 7) a statement that the transferor relinquishes responsibility for the subject NPDES permit; 8) the signatures of the responsible parties for both the transferor and transferee pursuant to the requirements of 40 CFR 122.22(a), “Signatories to permit applications”; and, 9) a statement regarding any proposed modifications to the facility, its operations, or any other changes which might affect the permit limits and conditions contained in the permit.

4. Change of Mailing Address

The permittee shall promptly provide to the Director written notice of any change of mailing address. In the absence of such notice the original address of the permittee will be assumed to be correct.

C. NONCOMPLIANCE

1. Effect of Noncompliance

All discharges shall be consistent with the terms and conditions of this permit. Any permit noncompliance constitutes a violation of applicable State and Federal laws and is grounds for enforcement action, permit termination, permit modification, or denial of permit reissuance.

2. Reporting of Noncompliance

a. 24-Hour Reporting

In the case of any noncompliance which could cause a threat to public drinking supplies, or any other discharge which could constitute a threat to human health or the environment, the required notice of non-compliance shall be provided to the Division of Water Resources in the appropriate regional Field Office within 24-hours from the time the permittee becomes aware of the circumstances. (The regional Field Office should be contacted for names and phone numbers of environmental response personnel).

A written submission must be provided within five calendar days of the time the permittee becomes aware of the circumstances, unless this requirement is waived by the Director on a case-by-case basis. The permittee shall provide the Director with the following information:

i. A description of the discharge and cause of noncompliance;

ii. The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and

iii. The steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.

b. Scheduled Reporting

For instances of noncompliance which are not reported under subparagraph 2.a. above, the permittee shall report the noncompliance on the Discharge Monitoring Report. The report shall contain all information concerning the steps taken, or planned, to reduce, eliminate, and prevent recurrence of the violation and the anticipated time the violation is expected to continue.

3. Sanitary Sewer Overflow

a. "***Sanitary Sewer Overflow***" means the discharge to land or water of wastes from any portion of the collection, transmission, or treatment system other than through permitted outfalls.

b. Sanitary Sewer Overflows are prohibited.

c. The permittee shall operate the collection system so as to avoid sanitary sewer overflows. No new or additional flows shall be added upstream of any point in the collection system, which experiences chronic sanitary sewer overflows (greater than 5 events per year) or would otherwise overload any portion of the system.

d. Unless there is specific enforcement action to the contrary, the permittee is relieved of this requirement after: 1) an authorized representative of the Commissioner of the Department of Environment and Conservation has approved an engineering report and construction plans and specifications prepared in accordance with accepted engineering practices for correction of the problem; 2) the correction work is underway; and 3) the cumulative, peak-design,

flows potentially added from new connections and line extensions upstream of any chronic overflow point are less than or proportional to the amount of inflow and infiltration removal documented upstream of that point. The inflow and infiltration reduction must be measured by the permittee using practices that are customary in the environmental engineering field and reported in an attachment to a Monthly Operating Report submitted to the regional TDEC Field Office. The data measurement period shall be sufficient to account for seasonal rainfall patterns and seasonal groundwater table elevations.

e. In the event that more than five (5) sanitary sewer overflows have occurred from a single point in the collection system for reasons that may not warrant the self-imposed moratorium or completion of the actions identified in this paragraph, the permittee may request a meeting with the Division of Water Resources field office staff to petition for a waiver based on mitigating evidence.

4. Upset

a. "***Upset***" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

i. An upset occurred and that the permittee can identify the cause(s) of the upset;

ii. The permitted facility was at the time being operated in a prudent and workman-like manner and in compliance with proper operation and maintenance procedures;

iii. The permittee submitted information required under "Reporting of Noncompliance" within 24-hours of becoming aware of the upset (if this information is provided orally, a written submission must be provided within five days); and

iv. The permittee complied with any remedial measures required under "Adverse Impact."

5. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the waters of Tennessee resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge. It shall not be a defense for the 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.

6. Bypass

a. "***Bypass***" is the intentional diversion of wastewater away from any portion of a treatment facility. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypasses are prohibited unless the following 3 conditions are met:

   i. The bypass is unavoidable to prevent loss of life, personal injury, or severe property damage;

   ii. There are not feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment down-time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass, which occurred during normal periods of equipment down-time or preventative maintenance;

   iii. The permittee submits notice of an unanticipated bypass to the Division of Water Resources in the appropriate environmental assistance center within 24-hours of becoming aware of the bypass (if this information is provided orally, a written submission must be provided within five days). When the need for the bypass is foreseeable, prior notification shall be submitted to the Director, if possible, at least 10 days before the date of the bypass.

c. Bypasses not exceeding limitations are allowed **only** if the bypass is necessary for essential maintenance to assure efficient operation. All other bypasses are prohibited. Allowable bypasses not exceeding limitations are not subject to the reporting requirements of 6.b.iii, above.

7. Washout

a. For domestic wastewater plants only, a "washout" shall be defined as loss of Mixed Liquor Suspended Solids (MLSS) of 30.00% or more. This refers to the MLSS in the aeration basin(s) only. This does not include MLSS decrease due to solids wasting to the sludge disposal system. A washout can be caused by improper operation or from peak flows due to infiltration and inflow.

b. A washout is prohibited. If a washout occurs the permittee must report the incident to the Division of Water Resources in the appropriate regional Field Office within 24-hours by telephone. A written submission must be provided within 5 days. The washout must be noted on the discharge monitoring report. Each day of a washout is a separate violation.

D. LIABILITIES

1. Civil and Criminal Liability

Except as provided in permit conditions for "**Bypassing,**" "**Overflow,**" and "**Upset,**" nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Notwithstanding this permit, the permittee shall remain liable for any damages sustained by the State of Tennessee, including but not limited to fish kills and losses of aquatic life and/or wildlife, as a result of the discharge of wastewater to any surface or subsurface waters. Additionally, notwithstanding this Permit, it shall be the responsibility of the permittee to conduct its wastewater treatment and/or discharge activities in a manner such that public or private nuisances or health hazards will not be created.

2. Liability Under State Law

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 established pursuant to any applicable State law or the Federal Water Pollution Control Act, as amended.

PART III

OTHER REQUIREMENTS

A. TOXIC POLLUTANTS

The permittee shall notify the Division of Water Resources as soon as it knows or has reason to believe:

1. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic substance(s) (listed at 40 CFR 122, Appendix D, Table II and III) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

    a. One hundred micrograms per liter (100 ug/l);

    b. Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;

    c. Five (5) times the maximum concentration value reported for that pollutant(s) in the permit application in accordance with 122.21(g)(7); or

    d. The level established by the Director in accordance with 122.44(f).

2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

    a. Five hundred micrograms per liter (500 ug/l);

    b. One milligram per liter (1 mg/L) for antimony;

    c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 122.21(g)(7); or

    d. The level established by the Director in accordance with 122.44(f).

B. RELEASES IN EXCESS OF REPORTABLE QUANTITIES

The discharge of hazardous substances or oil in the stormwater discharge(s) from a facility shall be prevented or minimized in accordance with the applicable stormwater pollution prevention plan for the facility. This permit does not relieve the permittee of the reporting requirements of 40 CFR 117 and 40 CFR 302. Where a release containing a hazardous

substance in an amount equal to or in excess of a reportable quantity established under either 40 CFR 117 or 40 CFR 302 occurs during a 24 hour period:

a. the permittee is required to notify the National Response Center (NRC) (800-424-8802) and the Tennessee Emergency Management Agency (emergencies: 800-262-3300; non-emergencies: 800-262-3400) in accordance with the requirements of 40 CFR 117 or 40 CFR 302 as soon as he or she has knowledge of the discharge;
b. the permittee shall submit, within 14 days of knowledge of the release, a written description of: the release (including the type and estimate of the amount of material released), the date that such release occurred, the circumstances leading to the release, what actions were taken to mitigate effects of the release, and steps to be taken to minimize the chance of future occurrences, to the Nashville Environmental Field Office; and
c. the SWPPP required under part IV of this permit must be updated within 14 days of knowledge of the release: to provide a description of the release, the circumstances leading to the release, and the date of the release. This can be accomplished by including a copy of a written description of the release as described in the paragraph b) above. In addition, the SWPPP must be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan must be modified where appropriate.

C. REOPENER CLAUSE

If an applicable standard or limitation is promulgated under Sections 301(b)(2)(C) and (D), 304(B)(2), and 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked and reissued to conform to that effluent standard or limitation. Additionally, the effectiveness of the Stormwater Pollution Prevention Plan (SWPPP) required under part IV of this permit will be investigated after the results of the stormwater runoff monitoring from Outfalls SW1, SW4, SW13, SW14 and SWMB and Internal Monitoring Point IMP1 (subpart I.A.) have been submitted. At that time, should the results so dictate, the division maintains the authority to institute specific numeric limitations for the monitored parameters or other appropriate control measures. The division also maintains the authority to require the permittee to review its SWPPP and make any modifications or additions to the SWPPP which would assist in reducing effluent concentrations, including a timetable for implementation. If required, the permittee must submit to the Nashville EFO a brief summary of the proposed SWPPP modifications (including a timetable for implementation). The division may also modify the permit to add additional requirements to comply with a new wasteload allocation if a sediment TMDL is developed and approved prior to permit expiration. Permit modification or revocation and reissuance shall follow standard permitting procedures as shown in TDEC Rule 1200-04-05.

D. PLACEMENT OF SIGNS

The permittee shall place a sign at an outfall or permitted internal monitoring point seven days prior to the commencement of any construction activity in the outfall's drainage area. These signs shall be clearly visible to on-site personnel and must clearly list the Outfall or Internal Monitoring Point number. These signs must be maintained and relocated as needed to mark the correct location of the outfall or internal monitoring point. A sign may be removed from temporary outfalls/internal monitoring points once the permitted feature has been eliminated.

Within sixty days of the effective date of this permit a sign shall be placed at each public right-of-way and at locations where receiving streams leave the permittee's property. These sign(s) should be clearly visible to the public from the bank and the receiving stream or from the nearest public property/right-of-way, if applicable. The minimum sign size should be two feet by two feet (2' x 2') with one inch (1") letters. The sign should be made of durable material and have a white background with black letters. These signs are to provide notice to the public as to the nature of the discharge and, in the case of the permitted outfalls, that the discharge is regulated by the Tennessee Department of Environment and Conservation, Division of Water Resources. The following is given as an example of the minimal amount of information that must be included on the sign:

Construction Stormwater Runoff
Hemlock Semiconductor, LLC
(Permittee's Phone Number)
NPDES Permit No. TN0080845
Tennessee Division of Water Resources
1-888-891-8332 Environmental Field Office - Nashville

Signs may be removed once all outfalls served by a sign have been eliminated.

E. ANTIDEGRADATION

Pursuant to the Rules of the Tennessee Department of Environment and Conservation, Chapter 1200-04-03-.06, titled "Tennessee Antidegradation Statement," and in consideration of the Department's directive in attaining the greatest degree of effluent reduction achievable in municipal, industrial, and other wastes, the permittee shall further be required, pursuant to the terms and conditions of this permit, to comply with the effluent limitations and schedules of compliance required to implement applicable water quality standards, to comply with a State Water Quality Plan or other State or Federal laws or regulations, or where practicable, to comply with a standard permitting no discharge of pollutants.

PART IV

STORMWATER POLLUTION PREVENTION PLAN

A. GENERAL PURPOSE

A comprehensive SWPPP must be prepared and submitted to the division's Nashville Central Office and to the Nashville Environmental Field Office for review at least 30 days prior to recommencing construction. Unless the permittee receives notification of SWPPP deficiencies, the permittee must implement the SWPPP as written from commencement of construction activity until final stabilization is complete. The permittee must submit a written letter requesting permit termination, per the requirements of section II.B.2 above, to terminate this permit.

The SWPPP must be prepared in accordance with good engineering practices and the latest edition of the Tennessee Erosion and Sediment Control Handbook. The handbook is designed to provide information to planners, developers, engineers, and contractors on the proper selection, installation, and maintenance of Best Management Practices (BMPs). The SWPPP must:

- identify all potential sources of pollution which are likely to affect the quality of stormwater discharges from the construction site;
- describe practices to be used to reduce pollutants in stormwater discharges from the construction site; and
- assure compliance with the terms and conditions of this permit.

Once a definable area has been finally stabilized, the permittee shall make note of this in their SWPPP and shall include a detailed description of those areas; once documented, no further SWPPP or inspection requirements apply to that portion of the site (e.g., earth-disturbing activities around one of three buildings in a complex are done and the area is finally stabilized, one mile of a roadway or pipeline project is done and finally stabilized, etc).

B. SIGNATURE REQUIREMENTS, PLAN REVIEW AND MAKING PLANS AVAILABLE

1. Signature requirements for the SWPPP

All operator(s) shall review the current SWPPP and sign 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 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."

All contractor(s) shall review the current SWPPP and sign the following certification:

> "I certify under penalty of law that I have reviewed NPDES permit number TN0080845, any attachments, and this SWPPP. Based on my inquiry of the construction site owner/developer and/or my inquiry of the person directly responsible for assembling the permit application and SWPPP, I believe the information submitted is accurate. I am aware that this certification is required by NPDES permit number TN0080845, and that certain of my activities on-site are thereby regulated. I am aware that there are significant penalties, including the possibility of fine and imprisonment for knowing violations, and for failure to comply with these permit requirements."

Records of SWPPP certifications shall be kept on site with the SWPPP and in accordance with the requirements of section I.C.5 above of this permit.

2. SWPPP recordkeeping

A copy of the SWPPP shall be retained on-site at the location which generates the stormwater discharge in accordance with section I.C.5 above of this permit. If the site is inactive or does not have an onsite location adequate to store the SWPPP, the location of the SWPPP, along with a contact phone number, shall be posted on site. If the SWPPP is located offsite, reasonable local access to the plan, during normal working hours, must be provided as described in section IV.B.3 below.

The permittee shall make updated plans and inspection reports available upon request to the director, local agency approving erosion prevention and sediment control plan, grading plans, or stormwater management plans, or the operator of an MS4.

3. Posting information at the construction site

The permittee shall post a notice near the main entrance of the construction site accessible to the public with the following information:

a. a copy of the cover page from this individual NPDES permit;
b. name, company name, E-mail address (if available), telephone number and address of the project site owner or a local contact person;
c. a brief description of the project; and
d. the location of the SWPPP if the site is inactive or does not have an on-site location to store the plan.

The notice must be maintained in a legible condition. If posting this information near a main entrance is infeasible due to safety concerns, or not accessible to the public, the notice shall be posted in a local public building. This permit does not provide the public with any right to trespass on a construction site for any reason, including inspection of a site. This permit does not require that permittees allow members of the public access to a construction site.

C. REGISTERED ENGINEER OR LANDSCAPE ARCHITECT REQUIREMENT

The narrative portion of the SWPPP may be prepared or updated by an individual that has a working knowledge of erosion prevention and sediment controls, such as a Certified Professional in Erosion and Sediment Control (CPESC). The SWPPP must be prepared by a person who, at a minimum, has completed the department's Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites course. Any plans and specifications for any building or structure, including the design of sediment basins or other sediment controls involving structural, hydraulic, hydrologic or other engineering calculations, must be prepared by a licensed professional engineer or landscape architect and stamped and certified in accordance with the Tennessee Code Annotated, Title 62, Chapter 2 (see part I.D above) and the rules of the Tennessee Board of Architectural and Engineering Examiners. Engineering design of sediment basins and other sediment controls must be included in SWPPPs for construction sites involving drainage to an outfall totaling 5 or more acres (see subsection IV.E.3.c below).

A licensed professional engineer or landscape architect shall perform quality assurance of erosion prevention and sediment controls by performing a site assessments. The site assessments shall be conducted on a monthly basis. As a minimum, site assessments should be performed to verify the functionality and performance of the EPSC measures described in the SWPPP. Site assessments should be performed with the site inspector, and should include a review and update (if applicable) of the field SWPPP. Quality assurance site assessments shall be documented and the documentation kept with the SWPPP at the site. Quality assurance site assessment can take the place of one of the twice weekly inspections requirement from subsection IV.E.8.b below.

D. KEEPING PLANS CURRENT

The permittee must modify and update the SWPPP if any of the following are met:

a. whenever there is a change in the scope of the project, which would be expected to have a significant effect on the discharge of pollutants to the waters of the state and which has not otherwise been addressed in the SWPPP;
b. whenever inspections or investigations by site operators, local, state or federal officials indicate the SWPPP is proving ineffective in eliminating or significantly minimizing pollutants from sources identified under section IV.E.2 below of this permit, or is otherwise not achieving the general objectives of controlling pollutants in stormwater discharges associated with construction activity;
c. to identify any new operator (typically contractor and/or subcontractor) as needed to reflect operational or design control that will implement a measure of the SWPPP (see section IV.B.1 above for certification requirements); and
d. to include measures necessary to prevent a negative impact to legally protected state or federally listed fauna or flora (or species proposed for such protection). Amendments to the SWPPP may be reviewed by the division, a local MS4, the EPA or an authorized regulatory agency.

Any modifications to sediment controls involving structural, hydraulic, hydrologic or other engineering calculations shall be prepared by a licensed professional engineer in accordance

with the Tennessee Code Annotated, Title 62, Chapter 2 (see subpart I.D above) and the rules of the Tennessee Architectural and Engineering Examiners Board.

E. COMPONENTS OF THE SWPPP

The SWPPP shall include the following items, as described in sections IV.E.1. to IV.E.10 below: site description, description of stormwater runoff controls, erosion prevention and sediment controls, stormwater management, description of the items needing control, approved local government sediment and erosion control requirements, maintenance, inspections, pollution prevention measures, and non-stormwater discharges.

1. Site description

Each plan shall provide a description of pollutant sources and other information as indicated below:

a. a description of all construction activities at the site (not just grading and street construction);
b. the intended sequence of major activities which disturb soils for major portions of the site (e.g., grubbing, excavation, grading, utilities and infrastructure installation, etc.);
c. estimates of the total area of the site and the total area that is expected to be disturbed by excavation, grading, filling, or other construction activities;
d. a description of the topography of the site including an estimation of the percent slope and the variation in percent slope found on the site; such estimation should be on a basis of a drainage area serving each outfall, rather than an entire project;
e. any data describing the soil (data may be referenced or summarized) and how the soil type will dictate the needed control measures and the expected quality of any discharge from the site;
f. an estimate of the runoff coefficient of the site after construction activities are completed and how the runoff will be handled to prevent erosion at the permanent outfall and receiving stream;
g. an erosion prevention and sediment control plan of the site with the proposed construction area clearly outlined. The plan should indicate the boundaries of the permitted area, drainage patterns and approximate slopes anticipated after major grading activities, areas of soil disturbance, an outline of areas which are not to be disturbed, the location of major structural and nonstructural controls identified in the SWPPP, the location of areas where stabilization practices are expected to occur, surface waters including wetlands, sinkholes, and careful identification on the site map of stormwater outfall points covered under this permit. The erosion control plan must meet the requirements stated in section IV.E.2 below;
h. a description of any discharge associated with industrial activity other than construction stormwater that originates on site and the location of that activity and its permit number;
i. identification of any stream or wetland on or adjacent to the project, a description of any anticipated alteration of these waters and the permit number or the tracking number of the Aquatic Resources Alteration Permit or Section 401 Certification issued for the alteration;

j. the name of the receiving water(s), and approximate size and location of affected wetland acreage at the site;
k. identify and outline the buffer zones established to protect waters of the state located within the boundaries of the project;
l. if the projects will be subdivided, such as residential or commercial subdivisions and/or developments or industrial parks, the developer/owner must describe how he will prevent erosion and/or control any sediment from portions of the property that will be sold prior to completion of construction; once the property is sold, new operator must obtain coverage under this permit, and assume operational control and responsibility of that portion of the site;
m. if only a portion of the total acreage of the construction site is to be disturbed, then the protections employed to limit the disturbance must be discussed, i.e., caution fence, stream side buffer zones, etc. Limits of disturbance shall be clearly marked in the SWPPP and areas to be undisturbed clearly marked in the field before construction activities begin.

2. Description of stormwater runoff controls

The SWPPP shall include a description of appropriate erosion prevention and sediment controls and other Best Management Practices (BMPs) that will be implemented at the construction site. The SWPPP must clearly describe each major activity which disturbs soils for major portions of the site (e.g., grubbing, excavation, grading, utilities and infrastructure installation, etc.):

a. appropriate control measures and the general timing for the measures to be implemented during construction activities; and
b. which operator is responsible for implementation of which controls.

The SWPPP must include erosion control drawings showing the approximate location of each control measure along with a description of the timing during the construction process for implementing each measure (e.g., prior to the start of earth disturbance, as the slopes are altered and after major grading is finished).

At least three separate EPSC plan sheets shall be developed. Three phases shall be identified. The first plan sheet should reflect the conditions and EPSC measures necessary to manage stormwater runoff, during the initial land disturbance (initial grading). The second plan sheet shall reflect the conditions and the EPSC measures necessary to manage stormwater runoff from interim land disturbance activities. The third plan sheet shall reflect the conditions and EPSC measures necessary to manage stormwater runoff, erosion and sediment at final grading.

The description and implementation of controls shall address the following minimum components, as described in sections IV.E.3, IV.E.4 and IV.E.5 below. Additional controls may be necessary to comply with subpart I.A above.

3. Erosion prevention and sediment controls

a. General criteria and requirements

Design, install and maintain effective erosion prevention and sediment controls to minimize the discharge of pollutants.

i. Control stormwater volume and velocity within the site to minimize soil erosion. Controls shall be designed to minimize the dislodging and suspension of soil in water. Sediment controls shall be designed to retain mobilized sediment on site.
ii. Control stormwater discharges, including both peak flow rates and total stormwater volume, to minimize erosion at outlets and to minimize down-stream channel and streambank erosion.
iii. Disturbance of steep slopes must be minimized.
iv. Sediment discharges from the site must be minimized. The design, installation and maintenance of erosion prevention and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site.
v. The design, inspection and maintenance of Best Management Practices (BMPs) described in SWPPP must be prepared in accordance with good engineering practices and at a minimum shall be consistent with the requirements and recommendations contained in the current edition of the Tennessee Erosion and Sediment Control Handbook. In addition, all control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications (where applicable) and good engineering practices. All control measures selected must be able to slow runoff so that rill and gully formation is prevented. When steep slopes and/or fine particle soils are present at the site, additional physical or chemical treatment of stormwater runoff may be required. Proposed physical and/or chemical treatment must be researched and applied according to the manufacturer's guidelines and fully described in the SWPPP. If periodic inspections or other information indicates a control has been used inappropriately, or incorrectly, the permittee must replace or modify the control for relevant site situations.
vi. Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible.
vii. If permanent or temporary vegetation is to be used as a control measure, then the timing of the planting of the vegetation cover must be discussed in the SWPPP. Delay in planting cover vegetation until winter months or dry months should be avoided, if possible.
viii. If sediment escapes the construction site, off-site accumulations of sediment that have not reached a stream must be removed at a frequency sufficient to minimize offsite impacts (e.g., fugitive sediment that has escaped the construction site and has collected in a street must be removed so that it is not subsequently washed into storm sewers and streams by the next rain and/or so that it does not pose a safety hazard to users of public streets). Permittees shall not initiate remediation/restoration of a stream without consulting the division first. This permit does not authorize access to private property. Arrangements concerning removal of sediment on adjoining property must be settled by the permittee with the adjoining landowner.
ix. Sediment should be removed from sediment traps, silt fences, sedimentation ponds, and other sediment controls as necessary, and

must be removed when design capacity has been reduced by 50% or more.

x. Litter, construction debris, and construction chemicals exposed to stormwater shall be picked up prior to anticipated storm events or before being carried off of the site by wind (e.g., forecasted by local weather reports), or otherwise prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, daily pick-up, etc.). After use, materials used for erosion prevention and sediment control, such as silt fence, should be removed or otherwise prevented from becoming a pollutant source for stormwater discharges.

xi. Erodible material storage areas (including but not limited to overburden and stockpiles of soil, etc.) and borrow pits used primarily for the permitted project and which are contiguous to the site are considered a part of the site and shall be identified in the SWPPP.

xii. Pre-construction vegetative ground cover shall not be destroyed, removed or disturbed more than 10 days prior to grading or earth moving unless the area is seeded and/or mulched or other temporary cover is installed.

xiii. Clearing and grubbing must be held to the minimum necessary for grading and equipment operation. Existing vegetation at the site should be preserved to the maximum extent practicable.

xiv. Minimize soil compaction and, unless infeasible, preserve topsoil.

xv. Construction must be sequenced to minimize the exposure time of graded or denuded areas. Controls must also be implemented to minimize the amount of soil exposed during construction activity.

xvi. Erosion prevention and sediment control measures must be in place and functional before earth moving operations begin, and must be constructed and maintained throughout the construction period. Temporary measures may be removed at the beginning of the workday, but must be replaced at the end of the workday.

xvii. Off-site vehicle tracking of sediments and the generation of dust shall be minimized. A stabilized construction access (a point of entrance/exit to a construction site) shall be described and implemented, as needed, to reduce the tracking of mud and dirt onto public roads by construction vehicles.

xviii. Permittees shall maintain a rain gauge and daily rainfall records at the site.

b. Stabilization practices

The SWPPP shall include a description of interim and permanent stabilization practices, including site-specific scheduling of the implementation of the practices. Site plans should ensure that existing vegetation is preserved where attainable and that disturbed portions of the site are stabilized. Site plans should comply with buffer zone requirements (see subsection IV.E.3.e below), if applicable, in which construction activities, borrow and/or fill are prohibited. Stabilization practices may include: temporary seeding, permanent seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Use of impervious surfaces for final stabilization in lieu of a permanent vegetative cover should be avoided where practicable. No stabilization, erosion control or sediment treatment measures are to be installed in a stream without obtaining an Aquatic Resource Alteration Permit (ARAP).

Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. Temporary or permanent soil stabilization at the construction site (or a phase of the project) must be completed no later than 15 days after the construction activity in that portion of the site has temporarily or permanently ceased. In arid, semiarid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures (such as, but not limited to: properly anchored mulch, soil binders, matting) must be employed.

Steep slopes (see subpart I.D. above) shall be stabilized not later than seven days after construction activity on the slope has temporarily or permanently ceased.

Permanent stabilization with perennial vegetation (using native herbaceous and woody plants where practicable) or other permanently stable, non-eroding surface shall replace any temporary measures as soon as practicable. Unpacked gravel containing fines (silt and clay sized particles) or unpacked crusher runs will not be considered a non-eroding surface.

c. Structural practices

The SWPPP shall include a description of structural practices to divert flows from exposed soils, store flows or otherwise limit runoff and discharge of pollutants from exposed areas of the site. Such practices may include silt fences, earth dikes, drainage swales, sediment traps, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins. Structural controls shall not be placed in streams or wetlands except as authorized by a section 404 permit and/or Aquatic Resource Alteration Permit.

Erosion prevention and sediment control measures must be prepared in accordance with good engineering practices and the latest edition of the Tennessee Erosion and Sediment Control Handbook. In addition, erosion prevention and sediment controls shall be designed to minimize erosion and maximize sediment removal resulting from a 5-year, 24-hour storm (the design storm), as a minimum. When clay and other fine particle soils are present at the construction site, chemical treatment may be used to minimize amount of sediment being discharged.

For an outfall in a drainage area of a total of 5 or more acres, a temporary (or permanent) sediment basin that provides storage for a calculated volume of runoff from a 5-year, 24-hour storm and runoff from each acre drained, or equivalent control measures, shall be provided until final stabilization of the site. Where an equivalent control measure is substituted for a sediment retention basin, the equivalency must be justified to the division. Runoff from any undisturbed acreage should be diverted around the disturbed area and the sediment basin. Diverted runoff can be omitted from the volume calculation. Sediment storage expected from the disturbed areas must be included and a marker installed signifying the need for cleanout of the basin.

All calculations of drainage areas, runoff coefficients and basin volumes must be provided in the SWPPP. The discharge structure from a sediment basin must be designed to retain sediment during the lower flows. Muddy water to be pumped from excavation and work areas must be held in settling basins or filtered or chemically treated prior to its discharge into surface waters. Water must be discharged through a pipe, well-grassed or lined channel or

other equivalent means so that the discharge does not cause erosion and sedimentation. Discharged water must not cause an objectionable color contrast with the receiving stream.

d. Surface Outlets

When discharging from basins and impoundments, utilize outlet structures that only withdraw water from near the surface of the basin or impoundment.

e. Buffer Zones

A 60-foot natural riparian buffer zone adjacent to all waters of the state (e.g., perennial and intermittent streams, rivers, lakes, wetlands) at the construction site shall be preserved, to the maximum extent practicable, during construction activities at the site. The water quality buffer zone is required to protect waters of the state located within or immediately adjacent to the boundaries of the project, as identified on a 7.5-minute USGS quadrangle map, or as determined by the director. Buffer zones are not sediment control measures and should not be relied on as such. Rehabilitation and enhancement of a natural buffer zone is encouraged, if necessary, for improvement of its effectiveness of protection of the waters of the state.

The natural buffer zone should be established between the top of stream bank and the disturbed construction area. The 60-feet criterion for the width of the buffer zone can be established on an average width basis at a project, as long as the minimum width of the buffer zone is more than 30 feet at any measured location.

Every attempt should be made for construction activities not to take place within the buffer zone. BMPs providing equivalent protection to a receiving stream as a natural riparian zone may be used at a construction site. Such equivalent BMPs shall be designed to be as effective in protecting the receiving stream from effects of stormwater runoff as a natural buffer zone. A justification for use and a design of equivalent BMPs shall be included in the SWPPP. Such equivalent BMPs are expected to be routinely used at construction projects typically located adjacent to surface waters. These projects include, but are not limited to: sewer line construction, roadway construction, utility line or equipment installation, greenway construction, construction of a permanent outfall or a velocity dissipating structure, etc.

This requirement does not apply to an area that is being altered under the authorization of a valid Aquatic Resource Alteration Permit (ARAP), or equivalent permits issued by federal authorities. Additional natural buffer zone requirements may be established by the local MS4 program.

f. Buffer zone exemption based on existing uses

Buffer zones as described in subsection IV.E.3.e above shall not be required to portions of the buffer where certain land uses exist and are to remain in place according to the following:

i. A use shall be considered existing if it was present within the buffer zone as of the date of the permit application. Existing uses shall include, but not be limited to, buildings, parking lots, roadways, utility lines and on-site sanitary sewage systems. Only the portion of the buffer zone that contains the footprint of the existing land use is exempt from buffer

zones. Activities necessary to maintain uses are allowed provided that no additional vegetation is removed from the buffer zone.

ii. If an area with an existing land use is proposed to be converted to another use or the impervious surfaces located within the buffer area are being removed, buffer zone requirements shall apply.

g. Dewatering

Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited unless managed by appropriate controls. Appropriate controls include, but are not limited to, weir tank, dewatering tank, gravity bag filter, sand media particulate filter, pressurized bag filter, cartridge filter or other control units providing the level of treatment necessary to comply with permit requirements.

Discharges from dewatering temporary sediment basins are prohibited unless managed by controls providing equivalent level of treatment.

4. Stormwater management

The SWPPP shall include a description of measures that will be installed during the construction process to control pollutants in stormwater discharges that will occur after construction operations have been completed.

The SWPPP shall include a description of measures that will be installed during the construction process to control pollutants and any increase in the volume of stormwater discharges that will occur after construction operations have been completed. For steep slope sites, the SWPPP shall also include a description of measures that will be installed to dissipate the volume and energy of the stormwater runoff to pre-development levels.

This permit only addresses the installation of stormwater management measures, and not the ultimate operation and maintenance of such structures after the construction activities have been completed, the site has undergone final stabilization, and the permit has been terminated. Permittees are only responsible for the installation and maintenance of stormwater management measures prior to final stabilization of the site, and are not responsible for maintenance after stormwater discharges associated with construction activity have been eliminated from the site. All permittees are encouraged to limit the amount of post construction runoff, if not required by local building regulations or local MS4 program requirements, in order to minimize in-stream channel erosion in the receiving stream.

Construction stormwater runoff management practices may include: stormwater detention structures (including wet ponds); stormwater retention structures; flow attenuation by use of open vegetated swales and natural depressions; infiltration of runoff onsite; and sequential systems (which combine several practices).

Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel to provide a non-erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (no significant changes in the hydrological regime of the receiving water). The SWPPP shall include an explanation of the technical basis used to select the practices to control pollution where flows exceed pre-development levels. The Tennessee Erosion and Sediment Control Handbook provides measures that can be incorporated into the design or implemented on site to decrease erosive velocities. An Aquatic Resources Alteration Permit

(ARAP) may be required if such velocity dissipation devices installed would alter the receiving stream and/or its banks.

5. Other items needing control

a. No solid materials, including building materials, shall be placed in waters of the state, except as authorized by a section 404 permit and/or Aquatic Resource Alteration Permit.
b. Off-site vehicle tracking of sediments and the generation of dust shall be minimized. A stabilized construction access (a point of entrance/exit to a construction site) shall be described and implemented, as needed, to reduce the tracking of mud and dirt onto public roads by construction vehicles.
c. For installation of any waste disposal systems on site, or sanitary sewer or septic system, the SWPPP shall identify these systems and provide for the necessary controls. Permittees must also comply with applicable state and/or local waste disposal, sanitary sewer or septic system regulations for such systems to the extent these are located within the permitted area.
d. The SWPPP shall include a description of construction and waste materials expected to be stored on-site. The SWPPP shall also include a description of controls used to reduce pollutants from materials stored on site, including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response.
e. The SWPPP shall include a description of stormwater sources from areas other than construction and a description of controls and measures that will be implemented at those sites.
f. A description of measures necessary to prevent “taking” of legally protected state or federal listed threatened or endangered aquatic fauna and/or critical habitat (if applicable). The permittee must describe and implement such measures to remain in compliance with this permit.

6. Approved local government sediment and erosion control requirements

The permittees should comply with any additional erosion prevention, sediment controls and stormwater management measures required by a local municipality or permitted MS4 program.

7. Maintenance

The SWPPP shall describe procedures to ensure that vegetation, erosion and sediment control measures, buffer zones, and other protective measures identified in the site plan are kept in good and effective operating condition. Maintenance needs identified in inspections or by other means shall be accomplished before the next storm event, but in no case more than seven days after the need is identified.

8. Inspections and Site Assessments

a. Inspector training and certification

Inspectors performing the required twice weekly inspections must have an active certification by completing the “Fundamentals of Erosion Prevention and Sediment Control Level I” course. An engineer that prepared the drainage and structure design portion of the

SWPPP must also have successfully completed the “Fundamentals of Erosion Prevention and Sediment Control Level II” course if they are to conduct the required inspections. A copy of the certification or training record for inspector certification should be kept on site.

Quality assurance of erosion prevention and sediment controls shall be done by performing site assessment(s) at the Hemlock Semiconductor, LLC project site. The site assessment(s) shall be conducted whenever structural controls for erosion prevention and sediment control are installed, within a month of construction commencing or recommencing. The site assessment shall be performed by individuals with the following qualifications:

- a licensed professional engineer or landscape architect,
- a Certified Professional in Erosion and Sediment Control (CPESC), or
- a person that successfully completed the “Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites” course.

If requested by the Nashville EFO or indicated by site conditions, the frequency of site assessments will be increased to address the deficiency. At a minimum, site assessments shall be performed to verify the functionality and performance of the EPSC measures described in the SWPPP for all outfalls draining 5 acres or more. Site assessments should be performed with the site inspector, and should include a review and update (if applicable) of the site SWPPP. Quality assurance site assessments and inspections shall be documented according to the requirements of subsection IV.D.8.b.vii below. A monthly inspection/site assessment report shall be submitted to the Nashville EFO with the certification required under IV.D.8.c below, a copy should also be kept with the SWPPP at the site; the monthly report shall include a summary of all required inspections and site assessments from the previous month.

b. Schedule of inspections

i. Inspections described in paragraphs ii, iii, and iv below, shall be performed at least twice every calendar week. Inspections shall be performed at least 72 hours apart. Where sites or portion(s) of construction sites have been temporarily stabilized, or runoff is unlikely due to winter conditions (e.g., site covered with snow or ice), such inspection only has to be conducted once per month until thawing results in runoff or construction activity resumes. Inspections requirements do not apply to definable areas that have been finally stabilized, as described in subpart IV.A above. Written notification of the intent to conduct only monthly inspections and the justification for such request must be submitted to the Nashville Environmental Field Office. Should the division discover that monthly inspections of the site are not appropriate due to insufficient stabilization measures or otherwise, twice weekly inspections shall resume. The division may inspect the site to confirm or deny the notification to conduct monthly inspections.

ii. Qualified personnel (provided by the permittee) shall inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, locations where vehicles enter or exit the site, and each outfall.

iii. 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 site’s drainage system. Erosion prevention and

sediment control measures identified in the SWPPP shall be observed to ensure that they are operating correctly.

iv. Outfalls and their structures shall be inspected to determine whether erosion prevention and sediment control measures are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby down-stream locations shall be inspected. Locations where vehicles enter or exit the site shall be inspected for evidence of offsite sediment tracking.

v. Based on the results of the inspection, any inadequate control measures or control measures in disrepair shall be replaced or modified, or repaired as necessary, before the next rain event if possible, but in no case more than seven days after the need is identified.

vi. Based on the results of the inspection, the site description identified in the SWPPP in accordance with section IV.E.1 above of this permit and pollution prevention measures identified in the SWPPP in accordance with section IV.E.2 above of this permit shall be revised as appropriate, but in no case later than seven days following the inspection. Such modifications shall provide for timely implementation of any changes to the SWPPP, but in no case later than 14 days following the inspection.

vii. Inspections and site assessments shall be documented and include the scope of the inspection/site assessment, name(s) and title of personnel making the inspection/site assessment, the date(s) of the inspection/site assessment, major observations relating to the implementation of the SWPPP (including the location(s) of discharges of sediment or other pollutants from the site and of any control device that failed to operate as designed or proved inadequate for a particular location), and actions taken in accordance with section IV.E.8 above of this permit. Inspection/site assessment documentation will be maintained on site and made available upon request. Inspection/site assessment reports must be submitted to the division within 10 days of the request.

c. Inspection Certification

The permittee must certify on a bi-weekly basis: i. that the twice weekly inspections of erosion and sediment controls and of outfall points were performed; and ii. whether or not all planned and designed erosion prevention and sediment controls are installed and in working order. The following certification shall be made:

> "I certify under penalty of law that these inspection records 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 information presented. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that inspections of stormwater discharge points (outfalls) and of erosion and sediment controls have been performed as recorded in these records. I certify that erosion prevention and sediment controls in the drainage area of the identified outfall were installed as planned and designed and in working order as recorded in these records. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

The record of certifications must be kept at the construction site with a copy of the SWPPP. For record retention requirements, see section I.C.5 above.

9. Pollution prevention measures

The permittee must design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented and maintained to:

a. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
b. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater; and
c. Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

10. Non-stormwater discharges

Sources of non-stormwater discharges, as listed below, that are combined with stormwater discharges associated with construction activity must be identified in the SWPPP. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Any non-stormwater must be discharged through stable discharge structures.

The following non-stormwater discharges are authorized by this permit provided the non-stormwater component of the discharge is in compliance with this section (Non-stormwater discharges):

a. dewatering of work areas of collected stormwater and ground water;
b. waters used to wash vehicles (of dust and soil, not process materials such as oils, asphalt or concrete) where detergents are not used and detention and/or filtering is provided before the water leaves site;
c. water used to control dust in accordance with section IV.E.5 above;
d. potable water sources including waterline flushings from which chlorine has been removed to the maximum extent practicable;
e. routine external building washdown which does not use detergents or other chemicals;
f. uncontaminated groundwater or spring water; and
g. foundation or footing drains where flows are not contaminated with pollutants (process materials such as solvents, heavy metals, etc.).

All non-stormwater discharges authorized by this permit must be free of sediment or other solids and must not cause erosion of soil or the stream bank, or result in sediment impacts to the receiving stream.

EEO

TN0080845.DOC

ADDENDUM TO RATIONALE

Prepared by: Ms. Erin O'Brien
December 30, 2013

The division received the following comments on the draft permit from Hemlock Semiconductor, LLC.

Comment: Part IV. E. 3. b. – The last paragraph in this section states: "Unpacked gravel containing fines (silt and clay sized particles) or crusher runs will not be considered a non-eroding surface". The statement as written is open to interpretation such that we cannot use crusher runs as final grading. We would like this changed to "…or unpacked crusher runs…".

Response: The requested change has been made to the final permit.

Comment: Part IV. E. 8. a. – The second paragraph requires a "licensed senior professional engineer, a professional geologist, or a landscape architect, licensed in the State of Tennessee, with either the responsibility for the design of the SWPPP or familiar with the overall design and SWPPP, must perform quality assurance of erosion prevention and sediment controls by performing biweekly (one/two weeks) site assessments of the Hemlock Semiconductor, LLC project site". We disagree with the necessity of performing these inspections and ask that they be removed from our permit. Level 1 certified personnel are completing these inspections twice-weekly as required in Section 3.5.8.2 of the General Permit. Section 3.5.8.2 does not require site assessments to be performed. The Site Assessment requirements in Section 3.1.2 require a site assessment (by the aforementioned) "within a month of construction commencing at each portion of the site that drains the qualifying acreage of such portion of the site". The site assessment can take the place of one of the twice weekly inspections but nowhere in the requirements are site assessments to be performed biweekly. Section 5.4.1 includes additional requirements for discharges into impaired or exceptional waters (i.e. Spring Creek) but does not include any site assessment requirements.

Response: Site assessments are intended to ensure that EPSC measures are properly installed. The twice weekly inspections are meant to check to see if the installed EPSC measures are properly functioning and to determine if maintenance or additional controls are necessary. Given that this is an existing construction site the division believes that it is appropriate to only require an assessment of any new structural EPSC measures. This paragraph has been updated to more closely align the requirements with those listed in the General NPDES Permit for Discharges of Stormwater Associated with Construction Activities. It now reads as follows:

Quality assurance of erosion prevention and sediment controls shall be done by performing site assessment(s) at the Hemlock Semiconductor, LLC project site. The site assessment(s) shall be conducted whenever structural controls for erosion prevention and sediment control are installed, within a month

of construction commencing or recommencing. The site assessment shall be performed by individuals with the following qualifications:

- *a licensed professional engineer or landscape architect,*
- *a Certified Professional in Erosion and Sediment Control (CPESC), or*
- *a person that successfully completed the "Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites" course.*

If requested by the Nashville EFO or indicated by site conditions, the frequency of site assessments will be increased to address the deficiency. At a minimum, site assessments shall be performed to verify the functionality and performance of the EPSC measures described in the SWPPP for all outfalls draining 5 acres or more. Site assessments should be performed with the site inspector, and should include a review and update (if applicable) of the site SWPPP. Quality assurance site assessments and inspections shall be documented according to the requirements of subsection IV.D.8.b.vii below. A monthly inspection/site assessment report shall be submitted to the Nashville EFO with the certification required under IV.D.8.c below, a copy should also be kept with the SWPPP at the site; the monthly report shall include a summary of all required inspections and site assessments from the previous month.

RATIONALE

Hemlock Semiconductor, LLC

NPDES Permit No. TN0080845
Clarksville, Montgomery County, Tennessee

Permit Writer: Ms. Erin O'Brien

I. DISCHARGER

Hemlock Semiconductor, LLC
1000 Solar Way
Clarksville, Montgomery County, Tennessee
Site Longitude: -87.26198 Site Latitude: 36.624599

Official Contact Person:
Mr. Patrick C. Finney
Site Leader
(731) 614-1650

Nature of Business:
Stormwater runoff associated with 953 acres of construction activity for an industrial facility

SIC Code(s):	**1629**
Industrial Classification:	**Secondary w/ELG**
Discharger Rating:	**Minor**

II. PERMIT STATUS

Issued March 03, 2009
Last modified July 18, 2011
Expires February 28, 2014
Application for renewal received September 3, 2013
Application complete on September 23, 2013

Watershed Scheduling

Environmental Field Office: Nashville
Primary Outfall Longitude: -87.275301 Primary Outfall Latitude: 36.62145
Hydrocode: 5130206 Watershed Group: 4
Watershed Identification: Red
Target Reissuance Year: 2014

III. FACILITY DISCHARGES AND RECEIVING WATERS

Hemlock Semiconductor, LLC is the operator for this project. Hemlock is constructing a facility that produces/manufactures polycrystalline silicon from raw materials, in Clarksville, Montgomery County, Tennessee.

Hemlock Semiconductor, LLC will discharge stormwater runoff associated with construction activity to Spring Creek and various wet weather conveyances and unnamed tributaries. Appendix 1A summarizes facility discharges and the receiving stream information for Outfalls SW1, SW4, SW12, SW13, SW14 and SWMB. Appendix 1B includes a cross-reference table showing Hemlock's internal designation for the outfalls covered by this permit.

IV. APPLICABLE EFFLUENT LIMITATIONS GUIDELINES

The Standard Industrial Classification (SIC) code for the construction of the Hemlock Semiconductor, LLC is 1629 (Heavy Construction, Not Elsewhere Classified). Construction stormwater discharged through Outfalls SW1, SW4, SW12, SW13, SW14 and SWMB is regulated by 40 CFR Part 450 (Effluent Limitations Guidelines and Standards for the Construction and Development Point Source Category). Subpart B of the Effluent Guideline contains both narrative and numeric requirements. However, on November 5, 2010, EPA published the "Direct Final Rule Staying Numeric Limitation for the Construction and Development Point Source Category," which stayed 40 CFR 450.22(a) and (b) indefinitely.

V. PREVIOUS PERMIT LIMITS AND MONITORING REQUIREMENTS

The previous permit limits and monitoring requirements are shown in Appendix 2.

VI. HISTORICAL MONITORING AND INSPECTION

On May 13, 2009, the division conducted a construction stormwater site inspection at Hemlock. The purpose of the inspection was to review onsite records and observe current site conditions in order to assess the site's overall level of compliance with the permit. The site was in general compliance with the permit, with only a few minor issues being noted.

On May 12, 2010, the division visited the site in response to a notification that stormwater in one of the basins had washed out the outfall structure. The washout was attributed to historic rainfall received in middle Tennessee at the beginning of May 2010.

Construction activities have not occurred at the site since approximately June-July 2013.

The previous permit did not contain numeric effluent limitations, but rather required report only monitoring for the outfalls. As such, there were no effluent limitation violations. Based on monitoring conducted in the past year, Hemlock summarized previous monitoring results for total suspended solids (TSS), total nitrogen, and total phosphorus in their permit application. Those results are summarized in Appendix 3.

VII. NEW PERMIT LIMITS AND MONITORING REQUIREMENTS

The new permit will contain a Stormwater Pollution Prevention Plan (SWPPP) developed to regulate stormwater runoff. This SWPPP is meant to ensure that runoff from the

site is not a significant source of pollution to the receiving stream. Prior to issuance of Hemlock's current permit, the permittee had developed and submitted for review a SWPPP pursuant to the requirements as set forth in the General NPDES Permit for Discharges of Stormwater Associated with Construction Activities, Part 3, "Stormwater Pollution Prevention Plan (SWPPP) Requirements." At present time, construction activities at the site have been put on hold for an indefinite period of time. As such, the division did not require the permittee to submit an updated SWPPP with their permit renewal application. However, Hemlock will be required to submit an updated SWPPP prior to recommencing construction activities.

The Division is not assigning limits at this time since it is the intent of the division that the permittee institutes their SWPPP in order to minimize the discharge of pollutants from their stormwater runoff point source discharge outfalls. It is the opinion of the division that the best method for dealing with potential pollution associated with stormwater discharges from the Hemlock Semiconductor, LLC facility is through implementation of an aggressive SWPPP, coupled with discharge monitoring to verify the effectiveness of their Best Management Practices (BMPs). Monitoring of stormwater runoff point source discharges from all outfalls will be required for Flow, Total Suspended Solids (TSS), Turbidity, Total Nitrogen, Total Phosphorus and Visual Observations. Appendix 4 lists all proposed effluent limitations and monitoring requirements to be included in the new permit.

The effectiveness of Hemlock Semiconductor, LLC's SWPPP will be investigated after the results of the stormwater runoff point source discharge monitoring have been submitted. At that time, should the results so dictate, the division maintains the authority to institute specific numeric limitations for the monitored parameters.

Flow

Monitoring of flow is required to calculate the load of pollutants to the stream. Flow shall be reported in Million Gallons per Day (MGD) and estimated at the time of sample collection.

Total Nitrogen and Total Phosphorus

Application of fertilizer to aid in vegetation establishment is a common form of soil stabilization on construction sites. Total nitrogen and total phosphorus will be monitored by this permit; sample type will be grab.

Total Suspended Solids (TSS)

Total Suspended Solids is a general indicator of the quality of stormwater and will be monitored in this permit. The State of Tennessee Water Quality Standards for the protection of Fish & Aquatic Life [Chapter 1200-04-03-.03(3)(c)] state there shall be no distinctly visible solids, scum, foam, oily slick, or the formation of slimes, bottom deposits or sludge banks of such size or character that may be detrimental to fish and aquatic life in the receiving stream.

Considering the nature of stormwater collection and discharge system, the sample type will be grab.

Turbidity

Turbidity is a general indicator of the quality of stormwater runoff and will be monitored by this permit. The State of Tennessee Water Quality Standards for the protection of Fish &

Aquatic Life [Chapter 1200-04-03-.03(3)(c)] state there shall be no turbidity in such amount or of such character that will materially affect fish and aquatic life. Sample type will be grab.

Visual Observations

According to the State of Tennessee Water Quality Standards for the protection of Fish & Aquatic Life [Chapter 1200-04-03-.03(3) (c)], there shall be no distinctly visible solids, scum, foam, oily slick, or the formation of slimes, bottom deposits or sludge banks of such size or character that may be detrimental to fish and aquatic life in the receiving stream. Sample type will be visual.

IX. ANTIDEGRADATION

Tennessee's Antidegradation Statement is found in the Rules of the Tennessee Department of Environment and Conservation, Chapter 1200-04-03-.06. It is the purpose of Tennessee's standards to fully protect existing uses of all surface waters as established under the Act.

Stream determinations for this permit action are associated with the waterbody segment identified by the division as segment ID# TN05130206039_0150.

The division has made a water quality assessment of the receiving waters associated with the subject discharge(s) and has found the receiving stream to be neither an exceptional nor outstanding national resource water.

Additionally, this water does not support the fish and aquatic life designated use due to alteration in stream-side or littoral vegetation, sedimentation/siltation, nitrate/nitrite (nitrite + nitrate as N), and total phosphorus from non-irrigated crop production, site clearance (land development or redevelopment) and sources outside state jurisdiction or borders. Construction stormwater discharges from the site should not contain significant amounts of sediment if the BMPs required by this permit are properly implemented. In addition, while vegetation establishment using fertilizer is a common form of soil stabilization on construction sites, the permittee will be required to perform a soil analysis prior to applying fertilizer to any portion of the construction site and must use the soil analysis results to determine correct fertilizer application rates. This should prevent the over-application of fertilizer to the site and should minimize the discharge of nutrients from the site, beyond the level that may be naturally occurring in the soil. The division, therefore, considers the potential for degradation to the receiving stream from these discharges to be negligible.

No TMDLs have been developed and approved for this waterbody segment.

X. PERMIT DURATION

The proposed limitations meet the requirements of Section 301(b)(2)(A), (C), (D), (E), and (F) of the Clean Water Act as amended. It is the intent of the division to organize the future issuance and expiration of this particular permit such that other permits located in the same watershed and group within the State of Tennessee will be set for issuance and expiration at the same time. In order to meet the target reissuance date for the Red watershed and following the directives for the Watershed Management Program initiated in January, 1996, the permit will be issued to expire in 2019.

APPENDIX 1A – FACILITY DISCHARGES AND RECEIVING WATERS

Facility Outfalls and Receiving Stream Information

Outfall	Receiving Stream	Stream Segment ID	Effluent Description	Latitude	Longitude
SW1	Spring Creek	TN05130206039_0150	stormwater runoff	36.618138	-87.25599
SW4	wet weather conveyance to unnamed tributary to Spring Creek	TN05130206039_0150	stormwater runoff	36.618629	-87.26674
SW12	Spring Creek	TN05130206039_0150	stormwater runoff	36.63922778	-87.25180556
SW13	Spring Creek	TN05130206039_0150	stormwater runoff	36.63274722	-87.27168333
SW14	Spring Creek	TN05130206039_0150	stormwater runoff	36.62754722	-87.276125
SWMB	Spring Creek	TN05130206039_0150	stormwater runoff	36.62145	-87.275301

Treatment at all outfalls: Sediment basin

RECEIVING STREAM DISCHARGE ROUTE			
Spring Creek and various wet weather conveyances and unnamed tributaries			
STREAM LOW FLOW (CFS) *	**7Q10**	**1Q10**	**30Q5**
	0.0	0.0	0.0
(MGD)	0.0	0.0	0.0

STREAM USE CLASSIFICATIONS (WATER QUALITY)				
FISH & AQUATIC LIFE	RECREATION	IRRIGATION	LIVESTOCK & WILDLIFE	DOMESTIC WATER SUPPLY
X	X	X	X	
INDUSTRIAL	NAVIGATION			

* Reference: Flow Duration and Low Flows of Tennessee Streams through 1992 by George S. Law and Jess D. Weaver. Water Resources Investigations Report 95-4293 prepared by the U.S. Geological Survey in Cooperation with the Tennessee Department of Environment and Conservation and the Tennessee Valley Authority. Nashville, Tennessee, 1996, estimate based on the drainage area.

APPENDIX 1B – OUTFALL NUMBER CROSS REFERENCE

Outfall Number	Hemlock Internal
SW1	P-386
SW4	P-286
SW12	P-486
SW13	P-586
SW14*	
SWMB	P-186

*Hemlock's internal designation for Outfall SW14 was not available at the time of permit drafting as the Outfall had not yet been constructed.

APPENDIX 2 – PREVIOUS PERMIT LIMITS

PERMIT LIMITS

OUTFALLS SW1, SW3, SW4, SW5, SW6, SW7, SW10, SW11, and SWMB

EFFLUENT CHARACTERISTIC	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
	MONTHLY		DAILY			
	AVG. CONC. (mg/l)	AVG. AMNT. (lb/day)	MAX. CONC. (mg/l)	MAX. AMNT. (lb/day)	MSRMNT. FRQNCY.	SAMPLE TYPE
FLOW	Report (MGD)[1]		Report (MGD)[1]		1/Month	Estimate
NITROGEN TOTAL (as N)	Report		Report		1/Month	Grab
PHOSPHORUS, TOTAL (as P)	Report		Report		1/Month	Grab
TOTAL SUSPENDED SOLIDS (TSS)	Report		Report		1/Month	Grab
TURBIDITY	Report[2]		Report[2]		1/Month	Grab

1 Flow shall be reported in Million Gallons per Day (MGD).
2 Turbidity shall be reported in Nephelometric Turbidity Units (NTU).

PERMIT LIMITS

OUTFALLS SW2, SW9, SW13, and SW14
INTERNAL MONITORING POINT IMP1

EFFLUENT CHARACTERISTIC	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
	MONTHLY		DAILY			
	AVG. CONC. (mg/l)	AVG. AMNT. (lb/day)	MAX. CONC. (mg/l)	MAX. AMNT. (lb/day)	MSRMNT. FRQNCY.	SAMPLE TYPE
FLOW	Report (MGD)[1, 3]		Report (MGD)[1, 3]		Continuous	Continuous
NITROGEN TOTAL (as N)	Report		Report		1/Month	Grab
PHOSPHORUS, TOTAL (as P)	Report		Report		1/Month	Grab
TOTAL SUSPENDED SOLIDS (TSS)	Report		Report		1/Week	Grab
TURBIDITY	Report[2, 3]		Report[2, 3]		Continuous	Continuous

1 Flow shall be reported in Million Gallons per Day (MGD).
2 Turbidity shall be reported in Nephelometric Turbidity Units (NTU).
3 Results from continuous monitoring for flow and turbidity shall be submitted electronically to the Permit Section of WPC, Attn: Ms. Erin O'Brien . Results may be submitted to the address shown in section I.E.1 or via Email to Erin.O'Brien@tn.gov.

APPENDIX 3 – MONITORING RESULTS

Summary of previous effluent monitoring results from permit application.

	SW1		SW4		SW12 (IMP1)		SW13		SW14*		SWMB	
	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg
Total Nitrogen	2.4	1.53	2.0	1.31	3.7	1.35	4.2	1.83			1.1	1.1
Total Phosphorus	0.24	0.15	0.22	0.16	1.2	0.55	0.6	0.26				
TSS	160	36	41	30	150	42	1900	265			1.5	1.5

* SW14 has not yet been constructed, so no monitoring data is available.

APPENDIX 4 – NEW PERMIT LIMITS AND MONITORING REQUIREMENTS

External Outfalls: SW1, SW4, SW13, SW14, SWMB
Internal Monitoring Point: IMP1

Monitoring : Effluent Gross; Season : All Year

Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
Floating solids or visible foam-visual	Report	-	Y=1;N=0	Visual	Monthly	Value
Flow	Report	-	Mgal/d	Estimate	Monthly	Daily Maximum
Flow	Report	-	Mgal/d	Estimate	Monthly	Monthly Average
Nitrogen, total (as N)	Report	-	mg/L	Grab	Monthly	Daily Maximum
Nitrogen, total (as N)	Report	-	mg/L	Grab	Monthly	Monthly Average
Phosphorus, total (as P)	Report	-	mg/L	Grab	Monthly	Daily Maximum
Phosphorus, total (as P)	Report	-	mg/L	Grab	Monthly	Monthly Average
Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Monthly	Monthly Average
Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Monthly	Daily Maximum
Turbidity, lab, NTU	Report	-	NTU	Grab	Monthly	Daily Maximum
Turbidity, lab, NTU	Report	-	NTU	Grab	Monthly	Monthly Average