Regulatory Analysis Form

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REVIEW COMMISSION
IRRC Number: 2245

(1) Agency

Department of Environmental Protection

(2) I.D. Number (Governor's Office Use)

7-372

(3) Short Title

Safe Fill Regulations

(4) PA Code Cite

25 PA Code, Chapters 271 and 287.

(5) Agency Contacts & Telephone Numbers

Primary Contact: Sharon F. Trostle, 783 -1303

Secondary Contact: William Pounds, 787-7564

(6) Type of Rulemaking (Check One)

_X_ Proposed Rulemaking
____ Final Order Adopting Regulation
____ Final Order, Proposed Rulemaking Omitted

(7) Is a 120-Day Emergency Certification Attached?

_X_ No
___ Yes: By the Attorney General
___ Yes: By the Governor

(8) Briefly explain the regulation in clear and non-technical language.

The Environmental Quality Board (EQB) proposes to amend 25 Pa. Code, Chapters 271 (relating to municipal waste management) and 287 (relating to residual waste management). Clean fill is defined in both the municipal waste management and residual waste management programs promulgated under the Solid Waste Management Act of 1980, as amended, as "Uncontaminated, non-water soluble, nondecomposable inert solid material used to level an area or bring the area to grade. The term does not include material placed into or on waters of this Commonwealth." The Department has managed the use of uncontaminated material as clean fill by a Department formulated policy. The current interim clean fill policy was last revised in February 1996 after the passage of the Land Recycling and Environmental Remediation Standards Act (Act 2).

The numeric standards currently used as clean fill criteria are not based on the statewide health standards (SHS), promulgated under the final Act 2 regulations adopted in 1997. The policy needed to be revised to reflect the SHS and concepts in Act 2 regulations related to protection of public health and environment from potential exposure to regulated substances if present in soil and other materials. The Department has attempted to revise the policy by publishing proposed changes in the Pa. Bulletin on two occasions, August 28, 1997 and March 11, 2000. After discussing the public comments with the Solid Waste Advisory Committee (SWAC) and the Cleanup Standards Scientific Advisory Board (CSSAB), the Department developed this new regulatory proposal.

The proposed regulation establishes numeric standards based on the SHS for regulated substances and requires that the material should not be exposed to release or have odor, visible stain or nuisance associated with it to consider it uncontaminated. Uncontaminated soil, uncontaminated dredged material, uncontaminated used asphalt and segregated and uncontaminated brick, block and concrete from construction demolition waste from residential and

commercial properties may be used as safe fill or construction material under this rulemaking. Exemptions are provided for soil and other materials that exceed the safe fill standards for use as safe fill and the exemptions are capped at the nonresidential direct contact SHS established for used or currently used aquifers. A volume exemption of 125 cubic yards is included for the use of historic fill as safe fill. The current definition of clean fill is proposed for deletion. New definitions are proposed which include historic fill, sediment and site undergoing remediation activities. The definition of construction/demolition (C/D) waste is modified by deleting the word "unsegregated" and deleting the reference to the clean fill use of segregated materials from the C/D waste stream. The numeric standards for soil and other materials if used as safe fill in waters of the Commonwealth are 10% of the safe fill standards with Department approval. The burden of proof is placed on the user of the material as safe fill. The proposal includes five permits-by-rule for the following: (1) segregated and contaminated brick, block and concrete; (2) contaminated soil resulting from agricultural practices; (3) contaminated soil, contaminated dredged material, and contaminated used asphalt; (4) historic fill; and (5) contaminated soil placed at a receiving site undergoing remediation activities.

All permits-by-rule are governed by permit conditions in which contaminated material is required to meet numeric standards; placement is limited by siting restrictions; Department notification and recordkeeping of analytical results exists; and zoning requirements are in place.

(9) State the statutory authority for the regulation and any relevant state or federal court decisions.

The proposed amendments are promulgated under the authority of the following:

- The Solid Waste Management Act (SWMA) (35 P.S. §§ 6018.101-6018.1003), which in §105(a) (35 P.S. §6018.105(a)) grants the Environmental Quality Board the power and the duty to adopt the rules and regulations of the Department to carry out the provisions of the SWMA.
- The Municipal Waste Planning, Recycling and Waste Reduction Act (53 P.S. §§4000.101 - 4000.1904), which in Section 302 (53 P.S. §4000.302) gives the Board the power and duty to adopt the regulations of the Department to accomplish the purposes and carry out the provisions of this act.
- The Land Recycling and Environmental Remediation Act (Act 2) (35 P.S. §§ 6026.101-6026.909), which in §104(a) grants the Board the power and the duty to adopt the rules and regulations of the Department to carry out the provisions of the Land Recycling Program.
- The Clean Streams Law (CSL) (35 P.S. §§ 691.1-691.1001), which in §5(b) (35 P.S. §691.5(b)) grants the Department the authority to formulate, adopt, promulgate, and repeal the rules and regulations as are necessary to implement the provisions of the CSL and which in §402 (35 P.S. §691.402) grants the Department the power to adopt rules and regulations requiring permits or establishing conditions under which an activity shall be conducted for any activity that creates a danger of pollution of the waters of the Commonwealth or that regulation of the activity is necessary to avoid such pollution.
- The Administrative Code of 1929 (71 P.S. §§510-1 - 510-27) which in §1917-A (71 P.S. §1917-A (71 P.S. §510-17) authorizes and requires the Department to protect the people of this Commonwealth from unsanitary conditions and other nuisances, including any condition which is declared to be a nuisance by any law administered by the Department and in §1920-A (71 P.S. §510-20) grants the Board the power and the duty to formulate, adopt, and promulgate such rules and regulations as may be determined by the Board for the proper performance of the work of the Department and in §1937-A revises the requirements for grant applications for development and implementation of municipal recycling grants.

(10) Is the regulation mandated by any federal or state law or court order, or federal regulation? If yes, cite the specific law, case or regulation, and any deadlines for action.

No.

(11) Explain the compelling public interest that justifies the regulation. What is the problem it addresses?

After the passage of Act 2, The Land Recycling and Environmental Remediation Standards Act in 1995, the current clean fill policy and numeric standards for regulated substances were updated and published in February 1996. After the promulgation of the Act 2 regulations, the Department was required to adopt the statewide health standards (SHS) of Act 2 regulations as numeric standards for clean fill, as these standards are protective of human health and the environment. The Department published its first draft policy for public comment in August 1997. Based on the comments received from the public and the regulated community and the discussion within the DEP staff, a second draft policy was published for public comments in March, 2000. In that draft policy, the term "clean fill" was replaced with the term "safe fill" as safe fill is more descriptive of the uncontaminated materials that the Department continues to exclude from the definition of waste. Based on comments received from the regulated community and the public, including the recommendations from the Cleanup Standards Scientific Advisory Board (CSSAB), the Department agreed to regulate safe fill by proposing this amendment. The amendment to the municipal and residual waste regulations adopts the applicable SHS as the safe fill numeric standards. The amendment proposes that safe fill is uncontaminated soil, uncontaminated dredged material, uncontaminated used asphalt or uncontaminated and segregated brick, block or concrete from construction and demolition waste from residential and commercial properties, when the material is not impacted by a release and meets the numeric standards developed in this proposal. The requirement of no release can be determined by site knowledge, history and appearance. This information can be used to determine if sampling and analysis is required. Safe fill can be used as fill to bring an area to grade or as construction material. The proposal deletes the definition of clean fill in the municipal waste and residual waste regulations and replaces it with the definition of safe fill. The proposal also contains five permits-by-rule for the following: (1) segregated and contaminated brick, block and concrete; (2) contaminated soil resulting from agricultural practices; (3) contaminated soil, contaminated dredged material, and contaminated used asphalt; (4) historic fill; and (5) contaminated soil placed at a receiving site undergoing remediation activities.
The proposal provides less stringent numeric standards for materials that will qualify as safe fill. If material qualifies as safe fill it is no longer considered a waste; which will benefit the regulated community by eliminating the cost of managing the material as waste. The dewasting provision in the permits-by-rule will likewise help industry in not having to manage the contaminated material once it is placed at a location under a permit-by-rule.

(12) State the public health, safety, environmental or general welfare risks associated with non-regulation.

The amendment requires uncontaminated soil and other materials to meet the esthetic standards along with the numeric standards, when used as safe fill. The esthetic standards take into account past history and knowledge (this will include any written records) of the location to identify instances that may have exposed the soil or other materials to chemical contaminants and requires identifying absence of sensory nuisances such as visible stain, odor, etc., at that location. The numeric standards for safe fill are derived from the statewide health standards (SHS). The SHS have established medium-specific concentrations for regulated substances in soil and groundwater that are considered protective of human health and the environment in various environmental media. The proposed safe fill amendment includes a sampling and analysis protocol for determining attainment of the required numeric standards. Once a material meets the safe fill definition, it is no longer considered or regulated as a waste.
The proposed amendment adds a permit-by-rule to Chapter 271.103 for the beneficial use of segregated and uncontaminated brick, block and concrete resulting from construction/demolition activities at residential and commercial properties as construction material, or in reclamation of active or abandoned mines.
The proposed amendment adds four (4) permit-by-rule provisions to Chapter 287.102. They allow beneficial use of contaminated soil, contaminated dredged material and contaminated used asphalt that exceed safe fill standards; historic fill; contaminated soil placed at a site undergoing remediation activities, as fill, construction material or for the remediation of an active or abandoned mine; and the beneficial use of contaminated soil resulting from

agricultural practices. If these provisions are not provided most of these materials would require costly landfill disposal.

(13) Describe who will benefit from the regulation. (Quantify the benefits as completely as possible and approximate the number of people who will benefit.)

There are more than 250 companies involved in port activities, 12,000 businesses involved in construction, demolition and land development projects and 1,100 utility contractors in the Commonwealth that will benefit from these regulations.

Soil is excavated in large quantities in Pennsylvania. One estimate puts the state-excavated soil at 20,000,000 cubic yards per year. In the eastern and western part of the state, to keep the rivers navigable, short-term or long-term dredging operations are ongoing which generate a large amount of sediment and dredged material. The proposed regulations will therefore benefit construction companies, land developers and builders, utility contractors, dredging companies, river dock and berth operators, highway construction projects and individual homeowners.

The proposed safe fill definition exempts soil and other materials under certain conditions from the requirements of safe fill. For example, soil excavated and moved within rights-of-way in projects for installation, maintenance or repair of utility (water, sewer, electricity, cable, etc.) is exempt even if the material exceeds safe fill numeric standards provided it meets the esthetic standard of no release and no nuisance. The exemption also applies to soil moved within a property or offsite from residential properties including dredged material from navigational waterways that is placed on land adjacent to excavation for beach nourishment. Soil from fruit orchards with past pesticide treatment also can be used onsite or offsite under the exemption. The exemptions, the higher numeric standards for safe fill and the three options for sampling and analysis of excavated material in the proposed regulations will reduce the overall cost of building, land development, river transport, highway construction and utility maintenance without sacrificing public health or environmental protection.

(14) Describe who will be adversely affected by the regulation. (Quantify the adverse effect as completely as possible and approximate the number of people who will be adversely affected.)

The proposed regulations are not expected to have an adverse effect on the regulated community or the public. The numeric standards in the proposed regulations are less stringent than the clean fill numeric standards under the current policy. The exemptions are targeted towards specific industries as well as individual homeowners. In addition, the regulations require site knowledge and site history to determine if the soil needs to be sampled for chemical analysis. The proposal provides three options to determine if sampling and analysis of the material is necessary. In many cases, this allowance will help the regulated community save money by not conducting costly sampling and analysis. The five permit- by-rule provisions will provide offsite movement of contaminated material in construction or to bring an area to grade or in reclamation of abandoned mines. One of the five permit-by-rule provisions is targeted towards placement of contaminated soil at sites undergoing remediation activities. Currently, there is no regulatory provision for the movement of contaminated soil to a site undergoing remediation if soil is required for post-remediation activities.

(15) List the persons, groups or entities that will be required to comply with the regulation. (Approximate the number of people who will be required to comply.)

Construction and demolition companies, land developers, utility contractors, Penn DOT subcontractors, dredging and river dock operators, and individuals homeowners who generate soil, dredged material and segregated brick, block or concrete will be required to comply with the regulations. In the Commonwealth: there are more than 250 companies involved in port activities; 12,000 businesses involved in construction, demolition and land development projects; and 1,100 utility contractors who will be required to comply with the regulations. Regulations put the burden of proof to demonstrate that the material is safe fill on the person using the material.

(16) Describe the communications with and inputs from the public in the development and drafting of the regulation. List the persons and/or groups who were involved, if applicable.

On March 8, 2001, the proposed rulemaking was presented to the Solid Waste Advisory Committee (SWAC). The SWAC instructed its Residual Waste Subcommittee to meet with the Department and offer comments, suggestions and recommendations to the draft regulations. The Department met with the Subcommittee on March 26 and April 30, 2001. Their comments and recommendations are incorporated as part of the development of the regulatory package. The SWAC approved the proposed rulemaking with a full vote on May 10, 2001.
The proposed regulations use the concepts and numeric standards proposed by the Cleanup Standards Scientific Advisory Board (CSSAB) as an alternative proposal to the Draft Safe Fill Policy of
March, 2000. The Department has met with the CSSAB several times since then and has incorporated their comments and concerns during the development of the proposed regulations.

(17) Provide a specific estimate of the costs and/or savings to the regulated community associated with compliance, including any legal, accounting or consulting procedures which may be required.

Savings:

1. As the numeric standards in the regulations are less stringent than the current clean fill policy, more soils, dredged material and segregated brick, block and concrete from residential and commercial properties will qualify as "uncontaminated" to be used as safe fill. It is expected that compliance with the safe fill regulations will result in significant savings to the regulated community from the high cost of landfill disposal which currently averages $50/ton or cu. yd and is incurred when excavated material does not meet the current clean fill criteria. The five permit-by-rule provisions will allow beneficial uses for contaminated soil and other materials which otherwise would require disposal and associated cost of disposal. The beneficial uses may provide opportunities for generating revenues for these contaminated soil and other materials.

It is assumed that 50% of the currently excavated 20,000,000 tons of soil may qualify as safe fill or for one of the permit by rule provisions under the safe fill amendments resulting in savings amounting to $500,000,000 from disposal costs which average $50/ton at PA landfills. It is assumed here that the other 50% of the material currently excavated is either used as clean fill under the current policy or is beneficially used under a Department issued general permit.

Comparison of disposal cost by current requirements compared to proposed regulations:

10,000,000 cubic yards x $50 = $500,000,000 ---- Current annual cost of disposal at landfills

10,000,000 cubic yards x $50 = $500,000,000 ---- Annual estimated savings from disposal if the regulations are adopted today

2. The regulated community will also benefit from the relaxed sampling and analysis protocol in the proposed regulations. Sampling and analysis of excavated material will not be required in every case as the proposed regulations emphasize use of site history, site knowledge and appropriate level of due diligence to determine if sampling and analysis is needed to demonstrate if the material meets the numeric standards of safe fill.
To determine whether a material is "uncontaminated" the proposed regulations offer three options. The first option requires comprehensive sampling and analysis of the material to determine whether it meets the numeric standards. The second option allows one to use due diligence to discover if past activities at the site have the potential to cause release of regulated substance(s) in the absence of knowledge of a release and determine that the material meets the

numeric standards. The third option allows one to use due diligence and knowledge of the site to demonstrate that the material meets the numeric standards and no sampling and analysis are necessary. This proposed provision will benefit the regulated community by decreasing the cost of sampling and analysis as many sites where soil or dredged material is excavated will qualify for the third option or the reduced sampling of the second option.
As a result, sampling and analysis of material may not be required for 50% or more of construction, demolition and dredging projects carried out in the Commonwealth every year which may generate approximately 10 million cubic yards of soil (based on the estimate that 20 million cubic yards of soil are excavated in the Commonwealth annually). The proposed regulations allow four discrete samples to be composited, or combined, into one sample for chemical analysis of non-volatile and semi-volatile organic compounds, which will reduce analytical cost by as much as 75% for a single project. Currently, one sample per 10,000 cubic yards is analyzed for chemical constituents at the cost of $1,000 per sample including analysis of a grab sample for volatile compounds. The savings may amount to:

10,000,000 cu. yds of excavated soil / 10,000 cu.yds x $1,000 = $1,000,000 --- Savings from current Sample and Analysis cost

Costs: There is no application fee for safe fill or for the five permits-by-rule in the regulations. There are no recordkeeping requirements for safe fill but recordkeeping is required for the five permits-by-rule. The regulations propose more samples for safe fill than are currently analyzed. This will increase the cost of sampling and analysis but as the sampling and analysis requirement is based on site knowledge and site history in the proposal, in many instances, for many of the excavated soils, there may not be a need to conduct sampling and analysis. The compositing of samples proposed should reduce and offset the cost increase that may result from the higher sampling requirements.

Cost comparison of sampling/analysis for current requirements vs. proposed regulations.

The estimate of soil excavated in the Commonwealth is approximately 20,000,000 cubic yards.
Currently one sample is analyzed per 10,000 cubic yards. The cost of sampling and analysis (metals and organics) for one sample including a grab sample for volatile organics analysis is estimated at $1,000 for 10,000 cubic yards of soil.

10,000 cu. yds = 1 discrete sample including one grab sample x $1,000 = $1,000 -- current cost

The regulations propose 8 samples + 2 grab samples for volumes $\leq$ 125 cu. yds; 12 samples + 3 grab samples for volumes >125 cu. yds $\leq$ 3000 cu. yds; and 12 samples + 3 grab samples for every additional 3000 cu. yds or less.
Compositing of samples: For analysis of metals, nonvolatiles and semivolatiles, four samples can be composited into one sample and the composite sample is analyzed for regulated substances. For VOCs analysis, grab sampling is required at the frequency indicated above which is based on soil volume.
Based on the proposed regulations and the sampling frequency mentioned above, for 10,000 cu. yds, a total of 48 samples will be needed which can be composited to 12 samples for metals and non-volatiles + semi-volatile organic compounds analyses. Also, 12 grab samples will be needed for the VOCs analysis. (The regulations allow the option to analyze all 48 discrete samples for metals and nonvolatile/semivolatile regulated substance rather than composite them.)

10,000 cu. yds = 12 samples including 12 grabs x $1,000/set = $12,000 --- estimated future cost
Of the estimated 20,000,000 cubic yards of excavated soil generated in Pennsylvania, only a moderate portion of it may require sampling and analysis because of the three options provided in the safe fill definition to determine if

sampling and analysis is necessary. It is assumed here that 40% of the excavated soil proposed for use as safe fill or use under the proposed permit by rule provisions may not require sampling and analysis. A small portion of the excavated soil (20%) may qualify for various exemptions provided under the safe fill definition and may not require sampling and analysis and therefore, no cost is incurred. The increase in cost for the remaining 40% of excavated soil (8,000,000 cubic yards) which may require sampling and analysis is calculated as:

8,000,000 cubic yards / 10,000 cu. yds =800 samples x $11,000/sample = $8,800,000 ---- Cost

The sampling and analysis requirements, when necessary, may cost the regulated community $12,000 per 10,000 cubic yards of soil per year, which from current sampling and analysis costs may be an extra $11,000.

Record keeping of analytical results and notification to the Department by the person using the material are required for the permit-by-rule provisions that may incur some cost to the industry, but these costs should be considered as part of best management practices for the company.

(18) Provide a specific estimate of the costs and/or savings to local governments associated with compliance, including any legal, accounting or consulting procedures which may be required.

This proposal will not increase costs or savings to municipalities.

(19) Provide a specific estimate of the costs and/or savings to state government associated with the implementation of the regulation, including any legal, accounting or consulting procedures which may be required.

Estimated costs to state government for developing a series of fact sheets on safe fill and distribution and workshop development with industry is $10,000 for the first year.

(20) In the table below, provide an estimate of the fiscal savings and costs associated with implementation and compliance for the regulated community, local government, and state government for the current year and five subsequent years.

	Current FY Year	FY +1 Year	FY +2 Year	FY +3 Year	FY +4 Year	FY +5 Year
SAVINGS:	**$**	**$**	**$**	**$**	**$**	**$**
Regulated Community	501,000,000	501,000,000	501,000,000	501,000,000	501,000,000	501,000,000
Local Government	0	0	0	0	0	0
State Governments	0	0	0	0	0	0
Total Savings	501,000,000	501,000,000	501,000,000	501,000,000	501,000,000	501,000,000
COSTS:						
Regulated Community	8,800,000	8,800,000	8,800,000	8,800,000	8,800,000	8,800,000
Local Government	0	0	0	0	0	0
State Governments	10,000		0	0	0	0
Total Costs	8,810,000	8,800,000	8,800,000	8,800,000	8,800,000	8,800,000
REVENUE LOSSES:	0	0	0	0	0	0
Regulated Community	0	0	0	0	0	0
Local Government	0	0	0	0	0	0
State Governments	0	0	0	0	0	0
Total Revenue Losses	0	0	0	0	0	0

(20a) Explain how the cost estimates listed above were derived.

Please see responses to Questions 17 and 19.

(20b) Provide the past three year expenditure history for programs affected by the regulation.

Program	FY-3	FY-2	FY-1	Current FY
Municipal	$214,285.81	$223,822.24	$230,110.75	$242,522.9(5% of total) through 06/30/2001
Residual	$371,759.56	$370,789.44	$374,812.87	$375,729.35 (5% of total) through 06/30/2001

(21) Using the cost-benefit information provided above, explain how the benefits of the regulation outweigh the adverse effects and costs.

The proposed regulations use the SHS for establishing the safe fill numeric standards. The proposed numeric standards are less stringent than the current interim clean fill numeric standards. As a result, the regulations will help qualify a major portion of the estimated 20 million cubic yards of soils excavated annually as safe fill. The remainder of the excavated soil that does not meet the safe fill criteria may qualify to be beneficially used under one of the proposed permit-by-rule provisions, leaving a small portion either for use under a general permit or for disposal. This hierarchy of comprehensively managing soil and other materials excavated by Pennsylvania industries should greatly reduce the current cost incurred as a result of disposal of the material. The proposed safe fill regulations allow materials to be used in an unrestricted manner and actually will help create monetary value for excavated material. This should balance out the cost incurred by sampling and analysis of the material. There are no adverse effects from this regulation except the cost incurred in carrying out appropriate level of due diligence and sampling and analysis which will be much lower compared to the savings resulting from disposal of the soils. In some cases, the proposed regulations depend on the site history and knowledge and allow making a determination not to conduct sampling and analysis. This will result in large monetary saving to the regulated community. The same cost-benefit equations apply to the permit-by-rule provisions, as these provisions will allow the beneficial use of contaminated materials that currently either are disposed or beneficially used under a general permit, both of which options are cost-intensive.

(22) Describe the non-regulatory alternatives considered and the costs associated with those alternatives. Provide the reasons for their dismissal.

Except for the regulatory definition of clean fill in both the municipal waste and residual waste management regulations, currently the unrestricted use of uncontaminated soil, rock, stone, brick, block, etc., as clean fill is conducted through Department-developed policy implemented in February 1996. This regulatory amendment replaces the clean fill definition with the safe fill definition. Materials that qualify for safe fill are listed in the definition. The regulations identify how to determine the safe fill numeric standards for regulated substances and include permit-by-rule provisions for soils that exceed safe fill standards to allow for the restricted use of contaminated soil and dredged material.

(23) Describe alternative regulatory schemes considered and the costs associated with those schemes. Provide the reasons for their dismissal.

One alternative to the proposed safe fill amendments is to keep enforcing the existing interim clean fill policy, which has stringent numeric criteria, for materials proposed to be used as clean fill. This policy is outdated. The interim policy makes use of materials as clean fill costly and unattainable for the regulated community. Also the recent update of the municipal waste and the residual waste regulations (December 2000 and January 2001 respectively) under the DEP Secretary's Regulatory Basics Initiative (RBI) and the Governor's Executive Order 1996-1, did not update the clean fill definition or the current permit requirements for clean fill, as required by the RBI process. The proposed amendment therefore accomplishes the mandate of the RBI process which required the Department to review current regulations and eliminate requirements more stringent than federal requirements if not justified or required by a statute; eliminate regulations which are unnecessary, redundant and obsolete; encourage green technologies; and support the concepts of pollution prevention to enhance comprehensive and integrated waste management in the Commonwealth. The proposed safe fill amendment meets the requirements of the RBI process.

(24) Are there any provisions that are more stringent than federal standards? If yes, identify the specific provisions and the compelling Pennsylvania interest that demands stronger regulations.

There are currently no federal standards for uncontaminated soil, dredged material and other materials for use as safe fill in an unrestricted manner.

(25) How does the regulation compare with those of other states? Will the regulation put Pennsylvania at a competitive disadvantage with other states?

These regulations will not directly put Pennsylvania at a competitive disadvantage. Most states regulate clean fill by policy and guidance and for some states like New Jersey, have clean fill guidelines that are stricter than Pennsylvania's proposed safe fill amendments. Because of the less stringent numeric standards for regulated substances proposed in the regulations, there is a concern that surrounding states, though prohibiting its use as clean fill within their borders, may export their contaminated soils to Pennsylvania for unrestricted use. Due to the potential for increased movement of contaminated soils, the number of compliance monitoring activities may also increase. However, the levels established in the regulations for safe fill have been determined to be protective to human health and environment so the use of soils meeting the new requirements will not create a competitive disadvantage to Pennsylvania.

(26) Will the regulation affect existing or proposed regulations of the promulgating agency or other state agencies? If yes, explain and provide specific citations.

The changes do not affect existing or proposed regulations of the promulgating agency or other state agencies.

(27) Will any public hearings or informational meetings be scheduled? Please provide the dates, times, and locations, if available.

The Department will hold three public meetings and three public hearings across the State. The dates and locations of these meetings and the hearing have not been scheduled at this time.

(28) Will the regulation change existing reporting, record keeping, or other paperwork requirements? Describe the changes and attach copies of forms or reports which will be required as a result of implementation, if available.

Currently, there are no reporting, recordkeeping or other paperwork requirements for clean fill. The amendments do not add any of these requirements for the safe fill. The burden of proof currently is on the user of the material to make sure that the soil or other material used as clean fill meets the policy requirements. The amendments continue that aspect of burden of proof on the user of the safe fill.
This proposal adds a minor recordkeeping requirement for the five permit-by-rule provisions provided for the users of segregated and contaminated brick, block and concrete; contaminated soil, contaminated dredged material, and contaminated used asphalt; historic fill; contaminated soil placed at a site undergoing remediation; and the beneficial use of contaminated soil resulting from agricultural practices. The recordkeeping requirements are: records of analytical evaluations of the waste material related to date of testing; parameters tested; test results; laboratory where tested; sampling procedures and analytical methodology; and the name of the person collecting the sample. The proposed regulations do not mandate a specific form to be used as the burden of proof is on the user of the material.

(29) Please list any special provisions which have been developed to meet the particular needs of affected groups or persons including, but not limited to, minorities, elderly, small businesses, and farmers.

The proposed regulations are not intended to have a negative impact on any one particular person or group. The proposed regulations will have a positive impact on all those involved in or affected by them.

(30) What is the anticipated effective date of the regulation; the date by which compliance with the regulation will be required; and the date by which any required permits, licenses or other approvals must be obtained? These amendments to the municipal and residual waste regulations will go into effect when published as final rulemaking in the Pennsylvania Bulletin. There are no new permitting or licensing deadlines.
(31) Provide the schedule for continual review of the regulation. These regulations will be reviewed in accordance with the sunset schedule published by the Department to determine whether the regulations effectively fulfill their respective goals.

FACE SHEET
FOR FILING DOCUMENTS
WITH THE LEGISLATIVE REFERENCE BUREAU

(Pursuant to Commonwealth Documents Law)

2002 JAN 10 AM 10:36

#7245

DO NOT WRITE IN THIS SPACE

py below is hereby approved as to and legality. Attorney General

DEPUTY ATTORNEY GENERAL

JAN 03 2002
DATE OF APPROVAL

heck if applicable
opy not approved. Objections
ttached.

Copy below is hereby certified to be a true and correct copy of a document issued, prescribed or promulgated by:
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL QUALITY BOARD
(AGENCY)

DOCUMENT/FISCAL NOTE NO. #7-372

DATE OF ADOPTION: 11-20-01

BY: David E. Hess

TITLE: DAVID E. HESS, CHAIRMAN
(EXECUTIVE OFFICER, CHAIRMAN OR SECRETARY)

Copy below is hereby approved as to form and legality. Executive or Independent Agencies.

BY:

12/5/01
DATE OF APPROVAL

(Deputy General Counsel)
~~(Chief Counsel, Independent Agency)~~
(Strike inapplicable title)

☐ Check if applicable. No Attorney General approval or objection within 30 days after submission.

NOTICE OF
PROPOSED RULEMAKING
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL QUALITY BOARD

Safe Fill Regulations

25 Pa. Code, Chapters 271 and 287

Notice of Proposed Rulemaking
Department of Environmental Protection
Environmental Quality Board
(25 Pa. Code. Chapters 271 and 287)
Article VIII. MUNICIPAL WASTE
Article IX. RESIDUAL WASTE

Preamble

The Environmental Quality Board (Board) proposes to amend 25 *Pa. Code* Chapters 271 and 287 (relating to municipal waste and residual waste management). The amendments are the result of a comprehensive re-evaluation of the Department's present clean fill policy.

This proposal was adopted by the Board at its meeting of November 20, 2001.

A. Effective Date

These amendments will go into effect upon publication in the *Pennsylvania Bulletin* as final rulemaking.

B. Contact Persons

For further information contact William F. Pounds, Chief of the Division of Municipal and Residual Waste, Bureau of Land Recycling and Waste Management, P. O. Box 8472, Rachel Carson State Office Building, Harrisburg, PA 17105-8472, (717) 787-7564, or Michelle M. Moses, Assistant Counsel, Bureau of Regulatory Counsel, P. O. Box 8464, Rachel Carson State Office Building, Harrisburg, PA 17105-8464, (717) 787-7060. Information regarding submitting comments on this proposal appears in Section I of this preamble. Persons with a disability may use the AT&T Relay Service by calling 1-800-654-5984 (TDD users) or 1-800-654-5988 (voice users). This proposal is available electronically through the DEP Web site (http://www.dep.state.pa.us).

C. Statutory Authority

The proposed rulemaking is being made under the authority of the following:

The Solid Waste Management Act (SWMA) (35 P.S. §§6018.101 - 6018.1003), as amended, which in Section 105(a) (35 P.S. §6018.105 (a)) grants

the Board the power and the duty to adopt the rules and regulations of the Department to carry out the provisions of the SWMA.

The Clean Streams Law (CSL) (35 P.S. §§691.1 - 691.1001), which in Section 5(b) (35 P.S. §691.5(b)) grants the Department the authority to formulate, adopt, promulgate and repeal the rules and regulations as are necessary to implement the provisions of the CSL, and which in Section 402 (35 P.S. §691.402) grants the Department the authority to adopt rules and regulations requiring permits or establishing conditions under which an activity shall be conducted for any activity that creates a danger of pollution of the waters of the Commonwealth or that regulation of the activity is necessary to avoid such pollution.

The Municipal Waste Planning, Recycling and Waste Reduction Act (53 P.S. §§4000.101 - 4000.1904), which in Section 302 (53 P.S. §4000.302) gives the Board the power and duty to adopt the regulations of the Department to accomplish the purposes and carry out the provisions of this act.

The Land Recycling and Environmental Remediation Standards Act (Act 2) (35 P.S. §§6026.101 - 6026.909), which in Section 104(a) (35 P.S. §6026.104(a)) authorizes the Board to adopt statewide health standards, appropriate mathematically valid statistical tests to define compliance with Act 2 and other regulations that may be needed to implement the provisions of Act 2. Section 301(c) (35 P.S. §6026.301(c)) of Act 2 authorizes the Department to establish by regulation procedures for determining attainment of remediation standards when practical quantification limits set by the United States Environmental Protection Agency (EPA) have a health risk that is greater than the risk levels established in Act 2. Section 303(a) (35 P.S. §6026.303(a)) of Act 2 authorizes the Board to promulgate statewide health standards for regulated substances for each environmental medium and the methods used to calculate the statewide health standards.

The Administrative Code of 1929 (71 P.S. §§510-5, 510-17 and 510-20), as amended, which in Section 1905-A (71 P.S. §510-5) authorizes the Department to require applicants for permits and permit revisions to provide written notice to municipalities; in Section 1917-A (71 P.S. §510-17) authorizes and requires the Department to protect the people of this Commonwealth from unsanitary conditions and other nuisances, including any condition which is declared to be a nuisance by any law administered by the Department; and in Section 1920-A (71 P.S. §510-20) grants the Board the power and the duty to formulate, adopt and promulgate such rules and regulations as may be determined by the Board for the proper performance of the work of the Department.

D. Background and Purpose

The residual waste program in Pennsylvania was developed under the Pennsylvania SWMA. There are currently no comprehensive Federal regulations governing the management of non-hazardous industrial, mining and agricultural wastes (residual waste). The Solid Waste Management Act of 1980 (Act 97) authorized the Department to develop and the Board to promulgate regulations to manage residual waste. Under Act 97, residual waste generally consists of waste from industrial, mining and agricultural operations, and includes non-hazardous sludge from an industrial, mining, or agricultural waste treatment or pollution control facility. On July 4, 1992, the Board promulgated a comprehensive set of regulations for the management of residual waste. The regulations were recently updated, on January 13, 2001, through the Regulatory Basics Initiative. Under the Regulatory Basics Initiative, the Department re-evaluated existing regulations based on specific criteria.

In 1996, after passage of the Land Recycling and Environmental Remediation Standards Act ("Act 2"), the Department revised its clean fill policy and updated the clean fill standards, which are currently in effect. Since that time, the Department has attempted, on two occasions, to revise the interim policy by proposing changes that were open to public comment. First, on August 28, 1997, the Department published a draft clean fill policy. Comments were received during the public comment period. Major comments raised included the following: 1) for metals, the use of 10% of the residential direct contact values from the statewide health standards in Chapter 250 (relating to administration of land recycling program) as clean fill standards did not take into consideration natural occurrence of the metals; 2) the Cleanup Standards Scientific Advisory Board (CSSAB) should be asked to review the scientific and technical basis for the standards; 3) soils with low concentrations of listed hazardous wastes should be allowed to be used as clean fill provided their use does not pose unacceptable risks to human health and the environment; 4) allow targeted sampling to be conducted to reduce the costs of sampling and analysis and allow the use of statistical tests in Chapter 250 to demonstrate that soil meets the clean fill standards; and 5) provide more flexibility for offsite movement and use of soils remediated under Act 2.

The second and most recent effort to update the standards occurred on March 11, 2000, when the Department developed a safe fill policy and related documents to address the safe movement and use of soil and dredged material as fill or construction material. The documents included proposed amendments to the residual waste regulations to provide flexibility for movement of contaminated soil and dredge material under a permit-by-rule, for movement of contaminated soil under a general permit for beneficial use, for use of historic fill through exemptions under the waste definition and for movement of waste

materials onsite as part of a remediation conducted under Act 2 under a permit waiver. The Department held three public information meetings and hearings for the purposes of presenting and discussing the package and receiving testimony. In addition, written comments were accepted during a 60-day period.

During the public comment period for the March 11 proposal, 40 commentators provided input on the package. The Department considered the comments received at the public hearings and the written comments received on the draft safe fill package in the development of this rulemaking package.

The following is a summary of major comments received on the draft safe fill package and responses indicating how the comments are addressed in this proposed rulemaking.

Draft Safe Fill Policy

Several commentators indicated that safe fill criteria, especially numeric standards, should be issued in regulation--not as policy. In response to these comments, the Department is proposing to include the numeric standards for safe fill in this rulemaking.

Most of the commentators opined that the numeric standards in the draft policy were too restrictive, which would result in regulating slightly contaminated soil as waste. One commentator suggested that safe fill numeric limits must be set at higher levels to be usable and workable on excavation projects. Several commentators recommended that fill should be defined by its use and not by levels of chemical constituents in the material. One commentator indicated that unless there is some evidence that the material proposed to be used as fill is contaminated by virtue of its appearance, odor or historical impacts, the presumption should be that the soil or other materials are uncontaminated and not subject to requirements of the SWMA.

The Department used certain statewide health standards (SHS) promulgated under the Act 2 regulations to develop the numeric criteria in the draft policy and also took into account the natural occurrence of metals in soil in establishing numeric criteria for metals. In the proposed rulemaking, the Board is adopting the numeric standards suggested by the CSSAB in their recommended alternative to the safe fill policy proposal. The CSSAB recommended the use of certain other statewide health standards for all regulated substances. The Board decided, however, that for copper and zinc, criteria based on the USEPA Part 503 regulations for the land application of sewage sludge should be used. These criteria, promulgated in the State's municipal waste regulations at 25 Pa. Code §271.914 (relating to pollutant limits), consider plant toxicity in establishing acceptable levels for copper and zinc in soil.

The proposed safe fill numeric standards in this rulemaking are less stringent than the numeric standards proposed in the draft policy. To compensate for the numeric differences, the proposed regulations indicate that to qualify as safe fill, there must be no indication of a spill or release to the soil and there must be no visual stains, odors or other nuisances. Safe fill is, therefore, defined by impacts to the soil as well as by the numeric standards.

One commentator mentioned that the draft policy undercuts programs, including the Act 2 and residual waste program, and that the Department should seek to build on its existing programs rather than develop a new set of standards on "how clean is clean" in Pennsylvania. Since the SHS were developed to address cleanups at contaminated sites, they do not consider the impacts associated with the movement of soils to areas where soils are below the numeric levels used as the threshold for safe fill. In addition, unlike the land recycling program, locations where safe fill is placed are not evaluated from a geological or hydrological standpoint in advance of placement of material.

Several commentators raised concerns about using estimated quantitation limits (EQLs) as safe fill numeric standards for organic regulated substances in the draft policy. The concern expressed was that the use of EQLs would disqualify vast amounts of soil and other materials that may contain background concentrations of organic compounds resulting from airborne deposition and other mechanisms wholly independent of any particular spill or release. The Department used EQLs for organic regulated substances with the understanding that organics do not occur as natural constituents in soil. It is very likely, however, that miniscule quantities of organic substances may be generated by microbial decomposition of plants and soil. To account for this situation, the safe fill numeric standards in this proposal are based on a subset of the statewide health standards of Act 2. In the proposed regulations, the Board is adopting the numeric standards recommended by the CSSAB in their alternative proposal to the draft safe fill policy. The safe fill numeric value for organic regulated substances is the lower of the residential generic value (RGV) or the residential direct contact (RDC) value from the soil-to-groundwater pathway numeric values for a used aquifer and total dissolved solids (TDS) $\leq$ 2500 mg/L from Chapter 250, Table 3B of Appendix A.

Commentators also raised concerns on the numeric standards for metals in the draft policy stating that selecting the lower value between the estimated background and residential direct contact values is not appropriate as the SHS are based on health risks and background is based on natural occurrence. Concerns were expressed on the limited database used to develop estimated background values for most of the metals as being too regional to be of use. It was suggested that the Department perform a more detailed study of background concentrations for inorganic regulated substances (metals) in the Commonwealth before proposing background standards for these constituents. For inorganic regulated substances,

the proposed regulations include the numeric standards recommended by the CSSAB in their alternative proposal to the draft safe fill policy. The safe fill numeric value for metals is the lower of the residential generic soil-to-groundwater pathway value (RGV) and the lowest residential direct contact value (RDC). The value is further based on a used aquifer and TDS $\leq$ 2500 mg/L from Chapter 250, Table 4B of Appendix A. By capping the safe fill numeric values at RDC, the proposed regulations protect human health by controlling exposure to regulated substances that are toxic to highly toxic.

Some commentators indicated that although the draft policy stated that sampling was voluntary, sampling would probably be necessary in most cases to show that the material is not hazardous and to confirm that it meets the numeric criteria of safe fill. According to the commentators, anyone wanting to move soil around will likely need to sample the soil in order to avoid liability. In addition, concern was raised that sampling will be cost prohibitive and will delay construction/development projects. One commentator further stated that there was no guidance on the number of samples that would be required for safe fill determinations. The commentator recommended that the Department use the 75%/10X rule used for the SHS in the Act 2 program for sampling and analysis of safe fill. The proposed regulations include a sampling and analysis protocol recommended by the CSSAB in their alternative proposal to the draft safe fill policy; however, sampling is not required. When sampling, the number of samples necessary is tied to the volume of soil proposed for use as fill. Discrete samples must be analyzed using a 75%/2X rule—75% of the samples taken must be less than or meet the standard, and no sample may be greater than two times the standard. For composite samples, the samples must be equal to or less than 1/2 the safe fill numeric standard in order to be equivalent to the 75%/2X rule proposed for discrete sampling.

Three commentators stated that the draft policy is not clear on the onsite movement of excavated materials. The commentators recommended unrestricted onsite use of excavated material, including historic fill, without any sampling/analysis requirements. According to the commentators, sampling should be required only if the material is impacted by a spill or a release. In the proposed rulemaking, safe fill, which includes small quantities of historic fill, may be used within a right-of-way or within a property without sampling and analysis as long as the fill does not exceed nonresidential standards under the land recycling program. The safe fill definition offers three options for determining whether material meets the safe fill standards, including an option that relies on an appropriate level of due diligence and knowledge of the site that does not require sampling and analysis.

A few commentators questioned the exclusion of used asphalt from the list of materials qualifying for use as safe fill. Used asphalt is extensively used as fill and to bring areas to grade in a variety of construction projects. In the proposed

regulations, the definition of safe fill includes "uncontaminated used asphalt". In addition, contaminated used asphalt may qualify for beneficial use under a permit-by-rule in new subsection 287.102(m).

One commentator indicated that the exclusion provided to soil excavated from trenches dug for utility installation, maintenance and replacement should include water pipelines. The Department has always maintained that right-of-way projects include those activities conducted for water pipelines. In the proposed rulemaking, safe fill includes material excavated and moved within right-of-way projects.

One commentator was concerned that the standards in the draft policy for safe fill were more stringent than the requirements under Act 32, Pennsylvania's Storage Tank and Spill Prevention Act. The Department maintains that the standards in Act 32 are cleanup standards that apply to contaminated sites. Safe fill defines the threshold for material that is uncontaminated and has not been subject to a spill or release.

Several commentators raised concerns that most of the river dredging operations would be negatively impacted by the stringent numeric criteria in the draft policy and that sampling/analysis would be necessary every time dredging is carried out, to avoid liability. Commentators indicated the draft policy conflicted with maintenance and construction dredging operations, that are routine and frequent and are conducted in the western part of the State to keep river docks and berths open for access. It was also pointed out that dredged material excavated from western rivers is different in its contaminants status from that excavated from the waterways in the eastern part of the State and should be regulated differently. Commentators suggested that the Department further evaluate the legal and scientific issues under which dredging takes place before establishing standards and criteria for the environmentally sound management of navigational dredged material. As a result of these concerns, the proposed regulations include uncontaminated dredged material as safe fill. In addition, dredged material that exceeds safe fill numeric standards may be used for beach nourishment or as a soil additive or substitute on lands adjacent to a dredging operation. The proposed regulations also include greater flexibility in determining whether dredged material meets the safe fill definition by allowing due diligence and knowledge when making the determination.

Draft Permit-by-Rule

Several commentators took issue with the definition of contaminated soils under the permit-by-rule (PBR) provision and stated that factual investigation and analysis will be required to determine which of the five permit-by-rule categories apply. The commentators recommended that only soils exceeding a set numeric

criterion should be considered contaminated. The Department considers other characteristics about the soil, such as whether it has been subject to a release of a chemical or its elevated chemical levels are based on natural occurrences, to be important factors when determining whether it should be considered waste. In addition, soil may meet a numeric chemical standard but be offensive from a nuisance perspective, such as odorous. Unrestricted placement of odorous soil would be problematic.

Several commentators took issue with the Department's notification and deed notice requirements in the PBR provisions indicating that these requirements go beyond the regulatory requirements and are inconsistent with the Hazardous Sites Cleanup Act (HSCA) and the SWMA. The commentators indicated that sites that are cleaned up to the residential SHS under the Act 2 program get relief from deed notice requirements under that act. Deed notices in the proposed regulations are only included in circumstances where nonresidential standards will be met. The notification requirements have been retained to provide information to the Department that includes the location of these permitted waste activities.

Some commentators did not approve of linking property use to zoning as it makes PBR unavailable to areas not subject to local zoning ordinances. Under the proposed regulations, PBR materials may be placed on unzoned properties provided the background concentration for regulated substances in unzoned properties is equal to or greater than the concentration in the soil brought to the receiving site and provided the unzoned property will be used for commercial or industrial purposes only.

One commentator requested that "abandoned mine reclamation" allowed under the PBR provisions should be replaced with "surface mining" as quarry reclamation using safe fill is a routine reclamation method approved on a case-by-case basis by the Department's Bureau of Mining and Reclamation. The proposed regulations include changes to the PBR provisions that allow contaminated soils to be used for reclamation at both active or abandoned mines.

A commentator raised issue with the dewasting restriction in the draft PBR provisions. Under the dewasting provision, a soil is dewasted as long as it remains in place at the receiving site. The commentator stated that it made no legal or technical sense and would lead to long-term uncertainty and confusion about current and future use of the property. The dewasting provisions have been retained in the proposed regulations. When contaminated soil or other materials are excavated and relocated in the future, management of the materials must be conducted pursuant to the SWMA.

Draft General Permit

Several comments were received on the draft general permit. The draft general permit was developed for the beneficial use of contaminated soil at a remediation site to bring an area to grade, to control runoff and to limit infiltration of water.

One commentator objected to the movement of contaminated soil from one industrial site to another with the only stipulation that contaminants be similar. This commentator expressed that the Department should only allow the cleanest of soils to be received at contaminated sites, under the Growing Greener Initiative. According to this commentator, the draft general permit amounted to encouraging the polluting of a site while bringing it to grade. Several commentators indicated that the scope of the general permit was too limited and excessively restrictive as it allowed only movement of contaminated soil between Act 2 sites undergoing remediation under the statewide health standard. The commentators recommended the Department not restrict movement to Act 2 sites only because the restriction ignores the magnitude of ongoing redevelopment projects. A few commentators wanted the general permit to apply to sites undergoing remediation using the Act 2 site-specific standard, also. Several other conditions in the draft general permit were considered too restrictive and hindered the movement of soil, such as requiring waste brought to the site being similar to contamination identified at the remediation site, requiring identification of contaminants brought to the Act 2 site in the notice of intent to remediate (NIR), requiring no exceedance of receiving site remediation standards and requiring ecological screening for organic contaminants.

The CSSAB in their alternative proposal to the draft safe fill package had suggested that the Department rescind the general permit. At this time, the Board is not proposing a general permit and, instead, is proposing a permit-by-rule in subsection 287.102.(o) to cover the activities described in the draft general permit.

The March 11 proposal was also reviewed by and discussed with the CSSAB on April 12, 2000 and by the Solid Waste Advisory Committee (SWAC), in advance of its notice of public release on March 9, 2000. On June 22, 2000 the CSSAB presented its alternative approach in response to the March 11 proposal. On February 22, 2001, in response to all the comments received on its previous proposal, the Department presented this regulatory proposal to the CSSAB for review and comment. In addition, the Department met twice with subcommittees of SWAC and CSSAB on March 19, 2001 and April 30, 2001 to discuss this proposal. In addition, the Department met with SWAC on March 9, 2000 and provided an overview of this proposal and some specific language. This proposed rulemaking was approved by SWAC at its May 10, 2001, meeting.

This proposed rulemaking responds to many of the comments received during the previous public comment periods and the concerns raised by the advisory committees to the Department.

Based on the extensive evaluation of the Department's proposed standards for safe fill, the Department has determined that the numeric standards referenced in proposed section 287.11(a) and found in Appendix A, Tables 1, 2 and 3 may be used to demonstrate that material is clean fill in accordance with the Department's guidance document titled "Policy and Procedure Establishing Criteria for Use of Uncontaminated Soil, Rock, Stone, Unused Brick and Block, Concrete and Used Asphalt as Clean Fill." (Doc. No. 258-2182-773).

E. Summary of Regulatory Requirements

A description of the proposed regulations is as follows:

Article VIII. Municipal Waste Management
Chapter 271. Municipal Waste Management—General Provisions

Section 271.1. Definitions.

The term "clean fill" has been deleted in this proposed rulemaking. A new term, "safe fill," has been added to this section and will replace the use of the term "clean fill."

The term "construction/demolition waste" has been modified. First, in subparagraph (v), the word "unsegregated" has been deleted. Second, language that discusses "clean fill" has been deleted.

A new term, "historic fill," has been added to describe material that was historically used in the foundations of construction projects prior to 1988[1], particularly in urban areas, and that is commonly found below buildings when clearing property for redevelopment. This material frequently includes mixtures of soil and various waste materials. Under the proposed regulations, historic fill is managed as waste unless it is generated in quantities less than or equal to 125 cubic yards per excavation location and it is both free of nuisance-related characteristics and free of contact with a release of a regulated substance.

[1] The year 1988 is the date that comprehensive municipal waste regulations became effective under the SWMA. After 1988, state-of-the-art practices required by the regulations applied to the management of this material.

The term "safe fill" has been added to this section with a cross-reference to the residual waste regulations. The term is cross-referenced here to avoid duplication. The term "safe fill" is discussed in more detail below.

Section 271.2. Scope.

Subsection (c) has been modified to include a new category of material, historic fill, which must be managed in accordance with the residual waste regulations, rather than the municipal waste regulations, regardless of where the material is generated. This modification will provide flexibility for managing the historic fill under a permit-by-rule.

Section 271.101. Permit requirement.

This section has been modified to remove the references to "clean fill" in subsection (b)(3). This provision is no longer necessary based on the changes to this regulatory proposal that address "safe fill." Materials that qualify as safe fill, when used as fill, are no longer considered waste and a permit is not required for placement. Therefore, a permit exemption for this activity is not necessary. In addition, with respect to land clearing waste, new language was added to this section on December 22, 2000, that eliminates the need for a permit if land clearing waste is used in accordance with best management practices.

Section 271.103. Permit-by-rule for municipal waste processing facilities other than for infectious or chemotherapeutic waste; qualifying facilities; general requirements.

Under this proposed rulemaking, subsection (g) has been amended for consistency with other parts of this rulemaking. The term "uncontaminated" has been deleted and new language has been added to indicate that the materials must be separated from other waste and contaminants to be eligible for processing under this permit-by-rule.

This subsection has also been amended to allow mechanical processing facilities to receive up to 350 tons per day of segregated construction/demolition waste components provided certain conditions can be met. These modifications will facilitate the processing and reuse of brick, block and concrete that is separated from construction/demolition waste.

A new permit-by-rule, subsection (i), has been added to address the beneficial use of brick, block and concrete. Presently, contaminated and segregated brick, block or concrete is managed predominantly at landfills. This new category of permit-by-rule has been added to allow the beneficial use of these materials as construction material or in active or abandoned mine or abandoned quarry

reclamation activities. Two examples of contaminated brick, block or concrete are when asbestos used as insulation for piping or boilers and PCBs used in ballast for lighting fixtures become dispersed among the material.

Under this permit, contamination levels may not exceed the lower of the residential generic value of the soil-to-groundwater numeric value compared to the lowest residential direct contact numeric value, calculated for used aquifers, and listed in Tables 5 and 6 of Appendix A in Chapter 287. In addition, brick, block and concrete may be placed in waters of the Commonwealth under this permit if Department approval has been obtained pursuant to the mine or quarry reclamation activities or pursuant to Chapter 105 (relating to dam safety and waterway management) and if certain conditions are met. Under any use, placement of waste in water may not cause a violation of water quality standards.

Under this subsection, several conditions have been developed for this permit-by-rule that include the following: 1) site restrictions; 2) implementation of erosion and sedimentation control plan requirements; 3) prohibitions on the use of hazardous waste; 4) obligations to provide written notice to the Department of the person beneficially using the material, the amount of material used at a site and the locations of use; and 5) obligations to maintain records of any analytical evaluations. Material may only be placed on properties that are zoned and exclusively used for commercial and industrial uses. For unzoned properties, material must be used in an area where the background is equal to or greater than the concentration of contamination in the material being brought to the site, and the property must be used for commercial or industrial purposes only. In addition, waste that is placed in accordance with this permit will cease to be waste as long as the material remains in place.

Article IX. Residual Waste Management
Chapter 287. Residual Waste Management General Provisions

Section 287.1. Definitions.

The term "clean fill" has been deleted and replaced with the term "safe fill" in this proposed rulemaking.

The term "historic fill" has been added to the proposed regulations to clarify the management requirements that may apply to this material. The definition is consistent with the term added in Section 271.1, discussed above.

The term "safe fill" has been added to the proposed regulations to replace the term "clean fill." "Safe fill" is more descriptive of the uncontaminated materials that the Department continues to exclude from the definition of waste. "Safe fill" is material that is uncontaminated and is one of the following:

soil; dredged material; used asphalt; or segregated brick, block or concrete from construction or demolition activities from residential and commercial properties. Used asphalt is not waste under subparagraph (ii)(A) of the definition of "waste" in Section 287.1 (relating to definitions) when used or reused as an ingredient in the asphalt production process to make a product, such as new pavement structure, or when used as a coproduct. Construction or demolition materials from an industrial site will not qualify as "safe fill" due to the potential of contamination resulting from industrial activities at the property. In addition, when considering whether brick, block or concrete is "uncontaminated," the material should be separated from materials like lead-based paint surfaces, friable asbestos and hazardous materials such as PCB ballasts and fluorescent light bulbs.

To further qualify as "safe fill," due diligence must indicate that the material has not been subject to a release, and the material may not contain any visible staining, odor or other sensory nuisance resulting from chemical contamination associated with the material.

One of the difficult issues associated with this term is how to determine whether a material is "uncontaminated." The proposed regulation offers three options. First, a person may conduct comprehensive sampling and analysis of the material to determine whether it meets numeric standards. Second, a person may use due diligence, the diligence reasonably expected, to determine whether past activity at the site had the potential to result in a release of regulated substances but there is no knowledge of a release and, based on the performance of due diligence, the material meets the numeric standards. Under this scenario, limited testing may be required to make a determination. Third, a person may use due diligence and knowledge of the site to demonstrate that the fill meets the numeric standards without sampling and analysis. In addition, the material may not be affected by a release and must be free of visible stains, odors and other sensory nuisances.

Several exceptions for material that does not meet the numeric standards have been incorporated into this term. First, subparagraph (i) provides an exception for material moved within a right-of-way, moved offsite from residential properties and moved within a property as long as the material has not been subject to a release and is free of stains, odors and other sensory nuisances. The higher levels are capped, under subparagraph (viii), at the lower of the nonresidential direct contact numeric value or nonresidential soil-to-groundwater pathway numeric value established for aquifers used or currently planned for use under the remediation standards of the Act 2 program. With regard to the rights-of-way and movement within a property, the movement of large quantities of soil is limited to reuse within the right-of-way or within the same property, thereby limiting exposure to soils that contain higher levels of chemical substances. Due to the small likelihood that

residential properties contain historical chemical contamination that might exceed the safe fill numeric standards, it is inappropriate to burden all such properties with excessive sampling and analysis.

Second, subparagraph (iii) provides an exception for soil moved from a fruit orchard under development where pesticides were properly applied in conjunction with standard horticultural practices as long as the material has not been subject to an unauthorized release and is free of stains, odors and other sensory nuisances. This exception was incorporated to recognize that some soil on orchard properties may exceed the safe fill numeric standards even though the chemicals were applied in compliance with law. Due to the large area of acreage that may be affected, if the soil exceeds the numeric values for safe fill, it may be used for commercial or industrial purposes. When used for these purposes, the higher numeric levels are capped, under subparagraph (viii), at the lower of the nonresidential direct contact numeric value or nonresidential soil-to-groundwater pathway numeric value established for aquifers used or currently planned for use under the remediation standards of the Act 2 program. The soil may also be used for residential purposes if it is blended with other soil to meet the safe fill numeric values.

Third, subparagraph (iv) provides an exception for dredged material placed directly on land adjacent to a dredging operation for beach nourishment or as a soil conditioner or soil substitute as long as the material has not been subject to a release and is free of stains, odors and other sensory nuisances. This exception was incorporated to allow the continuation of what is considered a common practice and involves the placement of material that has eroded from a beach to be placed back near the same beach location. If the dredged material exceeds the numeric values for safe fill, it may be used for commercial or industrial purposes. When used for these purposes, the higher numeric levels are capped, under subparagraph (viii), at the lower of the nonresidential direct contact numeric value or nonresidential soil-to-groundwater pathway numeric value established for aquifers used or currently planned for use under the remediation standards of the Act 2 program. The dredged material may also be used for residential purposes if it is blended with other soil or other dredged material to meet the safe fill numeric values.

In addition to exceptions based on numeric values, subparagraph (v) provides a quantity exception for historic fill. Historic fill in quantities less than 125 cubic yards per excavation location, which is the equivalent of approximately five dump trucks full of material, is considered safe fill as long as the material has not been subject to a release and is free of stains, odors and other sensory nuisances. This exception was added to recognize that ordinary development of residential property, including the replacement or addition of utility lines, results in the movement of historic fill on a regular basis and rarely causes environmental concern.

In most cases, safe fill may not be placed in waters of the Commonwealth. However, subparagraph (vi) allows safe fill to be placed in waters of the Commonwealth pursuant to active or abandoned mine or abandoned quarry reclamation or pursuant to Chapter 105; if, among other conditions, 10% of the numeric standards for safe fill are met. This margin of safety for placement of soil in saturated conditions was developed by the CSSAB as a statewide health standard (soil-to-groundwater pathway generic value) under the land recycling program and was endorsed by the CSSAB for use in developing standards for placement of safe fill in water. Placement of safe fill in water must be approved by the Department. Under any use, placement of safe fill in water may not cause a violation of water quality standards.

Subparagraph (vii), which is contained in the existing regulations at §287.101(b)(6), continues to place the burden of proof that material is safe fill on the person using the material. Like coproduct determinations, prior approval from the Department to use safe fill is not required. Therefore, if a problem results from the use of the material, the person who placed the material will need to prove that requirements for its use have been met.

Subparagraph (viii) provides a numerical cap for safe fill when sampling and analysis is conducted pursuant to the application of due diligence and subparagraph (i). Subparagraph (viii) does not override the decision of whether sampling and analysis is performed under subparagraph (i) to determine whether material is safe fill.

Subparagraph (ix) indicates that materials that meet the requirements under this term are not regulated as waste when used as fill. This provision was added to clarify the regulatory status of safe fill.

The term "sediment" has been added to this proposal to explain what material qualifies for an alternative methodology to that specified in §287.11 for sampling and analysis. Material that is sediment is material that remains underwater when sampled and cannot be sampled and analyzed under the same methodologies as dredged material that is removed from the water and deposited in basins. Once removed for placement, sediment is managed as dredged material. The Department will develop guidance on the alternative methodology that should be applied to sediment, and it will work with the dredge industry and the U.S. Army Corps of Engineers to develop guidance for sampling and analysis.

The term "site undergoing remediation activities" has been added to provide consistency between the Act 2 program and the waste program. The

term "site" is already a defined term in §287.1; therefore, "site undergoing remediation activities," has been added to be consistent with the use of the term "site" in Act 2.

Section 287.2. Scope.

In subsection (c), historic fill has been added to the list of wastes that are subject to the residual waste regulations, regardless of where the waste is generated. By adding historic fill to the list, materials generated in a residential or commercial setting may be managed in accordance with a permit-by-rule in §287.102 (relating to permit-by-rule).

Section 287.11. Safe fill numeric standards.

This section establishes the numeric standards that must be met for material to qualify as safe fill. In addition, this section includes a requirement that must be met if sampling and analysis are performed to demonstrate compliance with the standards.

In subsection (a), except for safe fill containing copper and zinc, material must meet the lower of the following: the residential generic value of the soil-to-groundwater pathway numeric value, calculated in accordance with §250.308 (relating to soil-to-groundwater pathway numeric values), or the lowest residential direct contact numeric values calculated in accordance with §§250.306 and 250.307 (relating to ingestion numeric values and inhalation numeric values).

For safe fill containing copper and zinc, material must meet the concentrations identified in §271.914(b)(3) (relating to pollutant limits) that take plant toxicity into consideration. If the material being tested is dredged material or sediment that is from tidal streams, the material must also meet a chloride limit of 250 mg/l to protect the groundwater. This can be achieved by draining the dredged material to increase the solids content and reduce salinity.

In addition to the totals concentrations identified above, a person must demonstrate that dredged material will not leach either above standards that apply to unlined landfills by using the Toxicity Characteristic Leaching Procedure or above the medium-specific concentration for groundwater in used aquifers under Chapter 250 using the Synthetic Precipitation Leaching Procedure.

Subsection (b) specifies sampling and analysis procedures for determining whether safe fill meets the safe fill numeric standards. The sampling must be random and representative of the pile of material or area of

excavation. Subsection (b) provides two options for sampling: a composite and grab sampling protocol in (b)(1), or a discrete sampling protocol in (b)(2). Samples obtained through the discrete sampling protocol in (b)(2) will be analyzed individually. To reduce the cost of sample analysis, a person may use the composite sampling protocol in (b)(1) for compounds other than volatile organic compounds (VOCs). The composite sampling protocol requires that 4 samples be composited into 1 sample for analysis. For analysis of VOCs, sample compositing is not acceptable due to the potential loss of VOCs during the mixing process. Instead, a biased sampling protocol may be used to select sampling locations for the required number of grab samples. This procedure requires field screening of discrete samples first to identify the locations that are most likely to contain the highest concentrations of VOCs. Grab samples are then taken from the same sampling locations for VOC analysis. The number of samples required is based on the volume of material proposed for use as safe fill. For volumes of soil less than or equal to 125 cubic yards, 8 discrete samples or two composite samples (8 samples composited into two) are required for analysis of regulated substances other than VOCs and 2 grab samples are required for analysis of VOCs. For volumes of soil more than125 cubic yards but less than or equal to 3,000 cubic yards, 12 discrete samples or three composite samples are required for analysis of regulated substances other than VOCs and 3 grab samples are required for analysis of VOCs. For each additional 3,000 cubic yards of safe fill or part thereof over the initial 3,000 cubic yards, 12 additional discrete samples or 3 additional composite samples are required for analysis of regulated substances other than VOCs, and 3 additional grab samples are required for analysis of VOCs.

Subsections (c) and (d) describe the statistical tests that will be used to determine whether safe fill meets the safe fill numeric standards. For a composite sample, subsection (c) specifies that a safe fill numeric standard is met if the result of analysis is equal to or less than one-half the safe fill numeric standard for a regulated substance. This insures that the 2X criterion under the 75%/2X rule used for the discrete sampling protocol is validated in the composite sampling protocol.

For grab samples taken for VOCs analysis, subsection (c) requires that the analytical result for a regulated substance be less than or equal to safe fill numeric criteria for that regulated substance.

For discrete samples, subsection (d) prescribes a 75%/2X rule. This rule requires that 75% of the samples must be equal to or less than the safe fill numeric standard with none of the samples exceeding more than twice the safe fill numeric standard for a regulated substance.

The sampling protocol in the proposed regulations is applicable for sampling of excavated materials in piles. The Board is seeking suggestions on alternative sampling methods for materials in place prior to excavation.

Section 287.101. General requirements for permits.

This section has been modified to remove the references to "clean fill" in subsection (b)(3). This provision is no longer necessary based on the changes to this regulatory proposal that address "safe fill." Materials that qualify as safe fill, when used as fill, are no longer considered waste and a permit is not required for placement. Therefore, a permit exemption for this activity is not necessary. In addition, the references to land clearing wastes have been deleted because under §287.2 (relating to scope), land clearing wastes are managed in accordance with Article VIII (relating to municipal waste). The use of land clearing wastes does not require a permit if waste management is performed in accordance with best management practices.

Section 287.102. Permit-by-rule.

Several new permits-by-rule have been added to this section to allow material that does not meet safe fill standards to be beneficially used in accordance with permit conditions included in the regulations. Materials that do not meet the safe fill standards are managed as waste.

Subsection (l) has been added to provide a permit for the beneficial use of contaminated soil, from known areas of contamination, to bring an area to grade, as construction material, for control of fire and subsidence events or in reclamation of active or abandoned mines. The purpose of this permit is to allow soils impacted by authorized agricultural practices resulting in lead, arsenic and pesticide contamination to be beneficially used. Under this permit, the contamination levels may not exceed nonresidential soil-to-pathway numeric values developed for used aquifers under Chapter 250 and listed in Table 4 of Appendix A of Chapter 287. Any direct contact pathways must be promptly and permanently eliminated.

Subsection (m) has been added to provide a permit for the beneficial use of contaminated soil, dredged material or used asphalt to bring an area to grade, as construction material, for control of fire and subsidence events or in reclamation of active or abandoned mines. Under this permit, the contamination levels may not exceed the lowest residential direct contact numeric values developed for used aquifers under Chapter 250 and listed in Tables 5 and 6 of Appendix A of Chapter 287. In addition, a leach test must demonstrate that groundwater will be protected.

Subsection (n) has been added to provide a permit for the beneficial use of historic fill as construction material. Under this permit, the contamination levels may not exceed either residential soil-to-groundwater pathway numeric values for used aquifers, as long as direct contact pathways are eliminated, or the lowest residential direct contact numeric value for used aquifers (if higher), as long as a leach test demonstrates that groundwater will be protected.

Subsection (o) has been added to facilitate the placement of contaminated soil generated offsite and placed at a site undergoing remediation. This permit allows the beneficial use of contaminated soil to bring an area to grade, to limit infiltration of rainfall and to facilitate runoff. Under this permit, soil contamination levels may not exceed the statewide health standard for used aquifers, based on the residential or nonresidential standard identified for attainment in an Act 2 notice of intent to remediate. Types of contaminated soil that may be accepted at a remediation site must match the contamination found at the receiving site. For contaminated soil placed at a site undergoing remediation activities, relief from liability under Act 2 may include the material brought to the receiving site undergoing remediation activities and must be included in the final report.

Under subsections (l), (m), (n) and (o), several standard conditions have been developed for these permits-by-rule. The permits include conditions on the following: 1) site restrictions; 2) prohibitions on the placement of material in waters of the Commonwealth; 3) implementation of erosion and sedimentation control plan requirements; 4) prohibitions on the use of hazardous waste; 5) obligations to provide written notice to the Department of the person beneficially using the material, the amount of material used at a site and the locations of use; and 6) obligations to maintain records of any analytical evaluations. Under each permit, waste that is placed in accordance with this permit will cease to be waste as long as the material remains in place.

In each permit under (l), (m) and (n), material may only be placed on properties that are zoned and exclusively used for commercial and industrial uses. For unzoned properties, material must be used in an area where the background is equal to or greater than the concentration of contamination in the material being brought to the site, and the property must be used for commercial or industrial purposes only.

F. Benefits, Costs and Compliance

Executive Order 1996-1 requires a cost/benefit analysis of the proposed regulation.

Benefits

The proposed regulations replace the current clean fill policy. Under the current policy, soil and other materials are required to meet a stricter numeric standard for regulated substances (contaminants) if they are used as clean fill. These regulations should help the onsite and offsite movement of excavated material for use as fill or as construction material. Currently, a significant portion of these excavated materials is being disposed in landfills. The term "clean fill" in

the proposal is replaced with the term "safe fill" as it better describes uncontaminated materials the Department continues to exclude from the definition of waste. The exclusion of safe fill, when used as fill, from the "waste" definition will facilitate the reuse of these materials without applying the waste management requirements.

The proposed regulations will facilitate the movement of soil and other materials for construction activities even if the materials exceed the numeric thresholds. For example, moving soil within right-of-way projects, moving soil offsite from residential properties or within a property, placing dredged material on adjacent lands as beach nourishment and moving soil from fruit orchards where pesticides were used may be conducted free from regulation even if the material exceeds safe fill numeric limits, but are capped at nonresidential soil standards. These exceptions should benefit utility companies, specific dredging projects and development of lands where fruit orchards once stood.

The proposed regulations provide three options to determine if the material is "uncontaminated." The options require site knowledge and history to determine if sampling and analysis of excavated material is necessary. One of the three options requires no sampling and analysis whereas the other two options require either detailed sampling and analysis or reduced sampling and analysis. The monetary and timesaving benefits of this multiple options approach will help many of the construction projects in the Commonwealth. In addition, the proposed regulations provide two options for sampling: composite sampling or discrete sampling. To reduce the cost of sampling, a person may use the composite sampling protocol for regulated substances other than volatile organic compounds.

There are no permit applications, permit fees or bonding requirements associated with the five new permits-by-rule proposed. The permits-by-rule will encourage the beneficial use of contaminated soil, contaminated used asphalt, contaminated dredged material, historic fill, contaminated and segregated brick, block and concrete and the placement of contaminated soil at a site undergoing remediation activities. Currently the contaminated materials are disposed in permitted landfills.

The current cost of disposal in a permitted landfill is estimated at $50/ton or cubic yard[2]. The proposed regulations will result in huge savings to the regulated community by avoiding disposal costs. Under the proposed safe fill regulations, the savings from disposal cost are estimated at $500,000,000 if it is assumed that approximately 50% or more of the estimated 20,000,000 cubic yards of soil and other materials generated annually in Pennsylvania will qualify for use as safe fill or used under one or more of the five permits-by-rule.

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[2] One ton of soil is equivalent to one cubic yard.

Compliance Costs

The proposed regulations will increase the cost of sampling and analysis to meet numeric standards. The number of samples required is based on the volumes of excavated material. Under current management practices, sampling is left to the discretion of the person managing the excavated materials. The proposed regulations include sampling and analysis procedures to be applied when a person decides to evaluate the excavated material. Under this proposal, a person has the option of using discrete or composite samples when analyzing material. By choosing composite samples, the cost of sampling and analysis will be a less expensive option. The current estimated sampling and analysis cost for a sample is estimated at $1,000. The proposed sampling will require 48 discrete samples or 12 composite samples for 10,000 cubic yards of excavated material. Based on the analysis option selected, cost of analysis will be $12,000 for composite samples or $48,000 for discrete samples. It should be recognized, however, that the person managing safe fill has three options to determine the extent of sampling and analysis necessary for characterizing the material. This should actually lower the cost of offsite movement and use of excavated material as safe fill.

The net cost to the regulated community as a result of the proposed increase in sampling/analysis requirements is expected to be approximately $8,800,000 the first year and in subsequent years. The cost estimate is based on the estimate of 20,000,000 cubic yards of soil excavated annually in the Commonwealth. It is assumed that 20% may qualify under the safe fill exclusions, and another 40% may not require sampling and analysis as a result of the three options provided for determining if sampling and analysis is necessary. It is assumed that the remaining 40% of the excavated material may require sampling and analysis and incur the cost, estimated above as $8,800,000. This is offset by the projected savings of $500,000,000 realized by avoiding landfill disposal.

It is projected that there will be no increase in costs or savings to local governments associated with these proposed amendments.

Compliance Assistance Plan

The Department will assist the regulated community by developing a series of fact sheets explaining changes to the definitions of waste and related terms. In addition, the Department will continue to work with the Pennsylvania Chamber of Business and Industry and other industry groups to develop workshops to explain how to apply the new regulations.

Paperwork Requirements

For permit-by-rule activity, no application process is required. A permittee must only provide written notice to the Department that he or she is

operating under a specific permit-by-rule. In addition, minimal recordkeeping requirements are imposed by this proposed rulemaking for persons who operate under a permit.

G. Sunset Review

These proposed regulations will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulations effectively fulfill the goals for which they were intended.

H. Regulatory Review

Under Section 5(a) of the Regulatory Review Act (71 P.S. §745.5(a)), the Department submitted a copy of the proposed rulemaking on January 18, 2002 to the Independent Regulatory Review Commission (IRRC), and the Chairpersons of the Senate and House Environmental Resources and Energy Committees. In addition to submitting the proposed regulations, the Department has provided IRRC and the Committees with a copy of a detailed regulatory analysis form prepared by the Department. A copy of this material is available to the public upon request.

Under Section 5(g) of the Act, if IRRC has objections to any portion of the proposed regulations, it will notify the Department within 10 days of the close of the Committees' review period. The notification shall specify the regulatory review criteria that have not been met by that portion of the proposed amendments to which an objection is raised. The Regulatory Review Act specifies detailed procedures for the Department, the Governor, and the General Assembly to review these objections before final publication of the regulations.

I. Public Comments

Written Comments - Interested persons are invited to submit comments, suggestions, or objections regarding the proposed regulation to the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477 (express mail: Rachel Carson State Office Building, 15th Floor, 400 Market Street, Harrisburg, PA 17101-2301). Comments submitted by facsimile will not be accepted. Comments, suggestions or objections must be received by April 3, 2002 (within 60 days of publication in the *Pennsylvania Bulletin).* Interested persons may also submit a summary of their comments to the Board. The summary shall not exceed one page in length and must also be received by April 3, 2002 (within 60 days following publication in the *Pennsylvania Bulletin).* The one-page summary will be provided to each member of the Board in the agenda packet distributed prior to the meeting at which the final regulations will be considered.

Electronic Comments - Comments may be submitted electronically to the Board at RegComments@state.pa.us must also be received by April 3, 2002. A subject heading of the proposal and a return name and address must be included in each transmission.

J. Public Meetings and Hearings

The DEP will hold three public meetings to explain the proposed amendments and to respond to questions from participants. The meetings will be held at 7:00 p.m. as follows:

February 13, 2002	Four Points Sheraton – Pittsburgh North 910 Sheraton Drive Mars, PA
February 19, 2002	Department of Environmental Protection Auditorium, Rachel Carson State Office Building 400 Market Street Harrisburg, PA
February 25, 2002	Upper Merion Township Building Freedom Hall 175 West Valley Forge Road King of Prussia, PA

The Environmental Quality Board will hold three public hearings for the purpose of accepting comments on this proposal. The hearings will be held at 7:00 p.m. on the following dates:

March 6, 2002	Four Points Sheraton – Pittsburgh North 910 Sheraton Drive Mars, PA
March 11, 2002	Upper Merion Township Building Freedom Hall 175 West Valley Forge Road King of Prussia, PA
March 19, 2002	Department of Environmental Protection Auditorium, Rachel Carson State Office Building 400 Market Street Harrisburg, PA

Persons wishing to present testimony at a hearing are requested to contact Debra Failor at the Environmental Quality Board, P. O. Box 8477, Harrisburg, PA 17105-8477, (717) 787-4526, at least one week in advance of the hearing to reserve a time to present testimony. Oral testimony is limited to ten minutes for each witness. Witnesses are requested to submit three written copies of their oral testimony to the hearing chairperson at the hearing. Organizations are limited to designating one witness to present testimony on their behalf at each hearing.

Persons in need of accommodations as provided for in the Americans with Disabilities Act of 1990 should contact Ms. Failor directly at (717) 787-4526 or through the Pennsylvania AT&T Relay Service at 1-800-654-5984 (TDD) to discuss how the Department may accommodate their needs.

BY:

DAVID E. HESS
Chairman
Environmental Quality Board

Annex A

Title 25. Environmental Protection
Part I. Department of Environmental Protection
Subpart D. Environmental Health and Safety
Article VIII. Municipal Waste Management
Chapter 271. Municipal Waste Management—General Provisions

Subchapter A. General

§ 271.1. Definitions.

The following words and terms, when used in this article, have the following meanings, unless the context clearly indicates otherwise:

* * * * *

[Clean fill–Uncontaminated, nonwater-soluble, nondecomposable inert solid material used to level an area or bring the area to grade. The term does not include material placed into or on waters of this Commonwealth.]

* * * * *

Construction/demolition waste—Solid waste resulting from the construction or demolition of buildings and other structures, including, but not limited to[,]:

(i) Wood[,].
(ii) Plaster[,].
(iii) Metals[,].
(iv) Asphaltic substances[,].
(v) Bricks, block and **[unsegregated]** concrete.

[The term does not include the following if they are separate from other waste and are used as clean fill:

(i) Uncontaminated soil, rock, stone, gravel, brick and block, concrete and used asphalt.

(ii) Waste from land clearing, grubbing and excavation, including trees, brush, stumps and vegetative material.]

* * * * *

Historic fill—Historically contaminated material (excluding landfills, waste piles and impoundments) used to bring an area to grade prior to 1988 that is a conglomeration of soil and residuals, such as ashes from the residential burning of wood and coal, incinerator ash,

coal ash, slag, dredged material and construction and demolition waste. The term does not include historically contaminated material in quantities of less than or equal to 125 cubic yards per excavation location if the following conditions are met:

(i) There is no indication that the material has been subject to a release of regulated substances.

(ii) There is no visible staining, odor or other sensory nuisance associated with the material.

* * * * *

Safe fill—Safe fill as defined in §287.1.

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§271.2. Scope.

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(c) Management of the following types of waste is subject to Article IX instead of this article, and shall be regulated as if the waste is residual waste, regardless of whether the waste is municipal waste or residual waste:

(1) Water supply treatment plant sludges.
(2) Waste oil that is not hazardous waste.
(3) Waste tires and auto fluff.
(4) Contaminated soil.
(5) Used asphalt.
(6) Dredged material.
(7) Historic fill.

* * * * *

Subchapter B. General Requirements for Permits
And Permit Applications

Requirement

§ 271.101. Permit requirement.

* * * * *

(b) A person or municipality is not required to obtain a permit:

* * * * *

[(3) For the use as clean fill of the following materials if they are separate from other waste:

(i) Uncontaminated soil, rock, stone, gravel, unused brick and block and concrete.

(ii) Waste from land clearing, grubbing and excavation, including trees, brush, stumps and vegetative material.]

* * * * *

§271.103. Permit-by-rule for municipal waste processing facilities other than for infectious or chemotherapeutic waste; qualifying facilities; general requirements.

* * * * *

(g) *Mechanical processing facility.* A facility for the processing of **[uncontaminated]** rock, stone, gravel, brick, block and concrete from construction/demolition activities, individually or in combination, by mechanical or manual sizing or by mechanical or manual separation for prompt reuse shall be deemed to have a municipal waste processing permit-by-rule if it meets the requirements of subsections (a)-(c)**, the rock, stone, gravel, brick, block and concrete are separate from other waste and contaminants** and **the operator** submits a written notice to the Department that includes the name, address and telephone number of the facility, the individual responsible for operating the facility and a brief description of the waste and the facility. The facility **[shall be onsite or process less than 50 tons or 45 metric tons per day, and]** may not operate in violation of any State, county or municipal waste management plan. **If the facility is off-site and processes more than 50 tons or 45 metric tons per day, the following additional requirements must be met:**

(1) The facility may not receive more than 350 tons or 315 metric tons per day.

(2) The facility must meet and maintain a 300-foot isolation distance from an occupied dwelling, unless the owner of the dwelling has provided a written waiver consenting to the facility being closer than 300 feet.

(3) The facility shall process all incoming waste within 30 days.

(4) Processed waste shall be removed from the facility within 60 days of processing for reuse.

(5) The operator shall maintain records that indicate compliance with the waste processing and removal limits identified in paragraphs (3) and (4).

(6) Residue from the operation shall be removed and disposed within one week of being generated. For purposes of this paragraph, the term "residue" includes material that is unable to be processed and processed material that is unusable.

* * * * *

(i) *Brick, block or concrete.* The placement of segregated brick, block or concrete resulting from construction or demolition activities at industrial properties or placement of contaminated and segregated brick, block or concrete resulting from construction or demolition activities at commercial or residential properties shall be deemed to have a municipal waste permit when used to bring an area to grade, as construction material or in reclamation of an active or abandoned mine or abandoned quarry, if in addition to subsections (a) - (c), the following conditions are met:

(1) The waste material does not exceed the lower of the following:

(i) The residential generic value of the soil-to-groundwater pathway numeric value calculated in accordance with the methodology in §250.308 (a)(2)(i), (3), (4)(i) and (5) (relating to soil-to-groundwater pathway numeric values). The numeric standards to be met are listed in Appendix A, Tables 1 and 6.

(ii) The lowest residential direct contact numeric values calculated in accordance with the methodologies in §§250.306 (relating to ingestion numeric values) and 250.307 (relating to inhalation numeric values). The numeric standards to be met are listed in Appendix A, Tables 1 and 6.

(2) When calculating numeric standards under paragraph (1), the following additional requirements apply:

(i) Formulae identified in subsection 250.305(b) (relating to medium-specific concentrations in soil) shall apply as limits to the physical capacity of the soil to contain a substance.

(ii) When calculating the residential soil-to-groundwater pathway numeric value, the calculation shall be based on groundwater in aquifers used or currently planned for use with naturally occurring background total dissolved solids concentrations less than or equal to 2,500 milligrams per liter.

(3) To determine whether waste material meets the standards in paragraphs (1) and (2), the waste material shall be sampled and analyzed in accordance with §287.11(b) and (c) or (d) (relating to safe fill numeric standards).

(4) Waste material may not be placed into or along surface waters of this Commonwealth unless prior Department approval has been obtained associated with active or abandoned mine or abandoned quarry reclamation activities or pursuant to Chapter 105, and the following conditions are met:

(i) Waste material placed into or along surface waters as approved by the Department pursuant to Chapter 105 shall not exceed 10% of the numeric standards calculated in paragraphs (1) and (2), and placement of the waste shall not cause an

exceedance of the water quality standards in Chapter 93 (relating to water quality standards) and Chapter 16 (relating to water quality toxics management strategy, statement of policy).

(ii) Waste material placed into or along waters as part of an active or abandoned mine or abandoned quarry reclamation shall not cause an exceedance of the water quality standards in Chapters 16 and 93 and, based on an approved sampling and analysis plan, shall meet the following:

(A) The waste material received must meet 10% of the numeric standards calculated in paragraphs (1) and (2).

(B) For metals only, in lieu of (A), the material must not produce a leachate in excess of the residential medium-specific concentration for groundwater in aquifers used or currently planned for use with naturally occurring background total dissolved solids concentrations less than or equal to 2,500 milligrams per liter, when subject to the Synthetic Precipitation Leaching Procedure (SPLP) (*Method 1312 of SW-846, Test Methods for Evaluating Solid Waste, promulgated by the USEPA*). The numeric standards to be met for metals by SPLP are listed in Appendix A, Table 6. The SPLP may only be used when groundwater monitoring is being conducted at the location where waste is placed.

(5) The waste material may only be placed under this permit on properties that are zoned and exclusively used for commercial and industrial uses. For unzoned properties, waste material shall be reused in an area where the background is equal to or greater than the concentration of contamination in waste material being brought to the site and the property must be used for commercial or industrial purposes only.

(6) At locations where waste material is placed, an erosion and sedimentation control plan is implemented that is consistent with the applicable requirements of Chapter 102 (relating to erosion and sediment control).

(7) At locations where waste material is placed, the materials may not be placed within 100 feet of surface waters of this Commonwealth except as provided in paragraph (4).

(8) At locations where waste material is placed, the materials may not be placed within 100 feet of the edge of a sinkhole.

(9) At locations where waste material is placed, the materials may not be placed within 300 feet of a water source unless the owner has provided a written waiver consenting to the placement of such material closer than 300 feet.

(10) Waste material that is hazardous waste under Chapter 261a (relating to identification and listing of hazardous waste) may not be used under this permit.

(11) Waste material when placed may not contain free liquids, based on visual inspection, and may not create an odor or other public nuisance.

(12) A person who receives and uses waste material shall submit a written notice to the Department that includes the following:

(i) The name, address and phone number of the person receiving and using the waste material.

(ii) The quantity of waste material used at the receiving location.

(iii) Locations where waste material was removed for use and locations where the waste material is placed for use.

(iv) Identification of whether the area from which the waste material is removed is the subject of a corrective action or remediation activity.

(v) A description of engineering practices and construction activities used to assure that site excavation and placement of waste material does not cause onsite or offsite contamination.

(13) Records of analytical evaluations conducted on the waste material shall be maintained by the person using and distributing the waste material and shall be made available to the Department for inspection. The records shall include the following:

(i) Dates of testing.

(ii) Each parameter tested.

(iii) Test results.

(iv) Laboratory where testing was conducted.

(v) Sampling procedures and analytical methodologies used.

(vi) The name of the person who collected the sample.

(14) This permit does not authorize and shall not be construed as an approval to discharge waste, wastewater or runoff from the site where waste material originated, or the site where waste material is beneficially used, to the land or waters of this Commonwealth.

(15) Waste placed in accordance with this permit shall cease to be waste as long as the material remains in place.

Article IX. Residual Waste Management
Chapter 287. Residual Waste Management—General Provisions

Subchapter A. General

§ 287.1. Definitions.

The following words and terms, when used in this article, have the following meanings, unless the context clearly indicates otherwise:

* * * * *

[Clean fill–Uncontaminated, nonwater-soluble, inert solid material used to level an area or bring the area to grade. The term does not include material placed into or on waters of this Commonwealth.]

* * * * *

Historic fill–Historically contaminated material (excluding landfills, waste piles and impoundments) used to bring an area to grade prior to 1988 that is a conglomeration of soil and residuals, such as ashes from the residential burning of wood and coal, incinerator ash, coal ash, slag, dredged material, and construction/demolition waste. The term does not include such historically contaminated material in quantities of less than or equal to 125 cubic yards per excavation location if the following conditions are met:

(i) There is no indication that the material has been subject to a release of regulated substances.

(ii) There is no visible staining, odor or other sensory nuisance associated with the material.

* * * * *

Safe fill—

(i) Material that is uncontaminated soil, including rock and stone, uncontaminated dredged material, uncontaminated used asphalt or uncontaminated and segregated brick, block or concrete resulting from construction or demolition activities from residential and commercial properties and that meets one of the following requirements:

(A) The material meets the numeric standards referenced in §287.11 (relating to safe fill numeric standards) and listed in Appendix A, Tables 1 and 2 of this Chapter, and meets the following requirements:

(I) Based on an appropriate level of due diligence, there is no knowledge or past activity that indicates the material has been subject to a release.

(II) There is no visible staining, odor or other sensory nuisance resulting from chemical contaminants associated with the material.

(B) Based on an appropriate level of due diligence, the historical data on the excavation site indicates that past activity had the potential to result in a release, but there is no knowledge of a release and the material meets the numeric standards referenced in §287.11 and listed in Appendix A, Tables 1 and 3, and meets the requirements of clause (A).

(C) Based on an appropriate level of due diligence and knowledge of the site, the material meets the safe fill numeric standards without sampling and analysis and meets the requirements of clause (A).

(ii) The term includes the materials in subparagraph (i) that exceed the numeric limits in Appendix A, Table 1 and either Tables 2 or 3, if the criteria in subparagraph (i)(A)(I) and (II) and one of the following are met:

(A) Material moved within a right-of-way.

(B) Material moved offsite from a residential property currently developed as a residential property or zoned residential and never used for nonresidential purposes.

(C) Material moved within a property, except for soil moved in accordance with subparagraph (iii).

(iii) The term includes soil moved from a fruit orchard under development where pesticides were used in an authorized manner in conjunction with standard horticultural practices. If the soil exceeds the numeric limits in Appendix A, Table 1 and either Tables 2 or 3, and one of the following shall be met:

(A) The soil is used for commercial or industrial purposes.

(B) The soil is blended with other soil to meet the limits in Appendix A, Table 1 and either Tables 2 or 3, and used for residential purposes.

(iv) The term includes dredged material placed directly on land adjacent to the dredging operation for beach nourishment or as a soil additive or soil substitute. If dredged material exceeds the numeric limits in Appendix A, Table 1 and either Tables 2 or 3, the criteria in subparagraph (i)(A)(I) and (II) and one of the following conditions shall be met:

(A) The dredged material is placed on land at a location used for commercial or industrial purposes.

(B) The dredged material is blended with other soil or other dredged material to meet the numeric limits in Appendix A, Tables 1 and 2, and used for residential purposes.

(v) The term includes historic fill in quantities of less than or equal to 125 cubic yards per excavation location if the conditions of subparagraph (i)(A)(I) and (II) are met.

(vi) The term does not include material placed into or along surface waters of this Commonwealth unless prior Department approval has been obtained associated with active or abandoned mine or abandoned quarry reclamation activities or pursuant to Chapter 105, and the following conditions are met:

(A) Material placed into or along surface waters as approved by the Department pursuant to Chapter 105 shall not exceed 10% of the numeric standards calculated in Section 287.11(a)(1) and (2), and placement of the material shall not cause an exceedance of the water quality standards in Chapter 93 (relating to water quality standards) and Chapter 16 (relating to water quality toxics management strategy, statement of policy).

(B) Material placed into or along waters as part of an active or abandoned mine or abandoned quarry reclamation shall not cause an exceedance of the water quality standards in Chapters 16 and 93 and, based on an approved sampling and analysis plan, shall meet the following:

(I) The material received must meet 10% of the numeric standards calculated in Section 287.11(a)(1) and (2).

(II) For metals only, in lieu of (A), the material must not produce a leachate in excess of the residential medium-specific concentration for groundwater in aquifers used or currently planned for use with naturally occurring background total dissolved solids concentrations less than or equal to 2,500 milligrams per liter, when subject to the Synthetic Precipitation Leaching Procedure (SPLP) (*Method 1312 of SW-846, Test Methods for Evaluating Solid Waste, promulgated by the USEPA*). The numeric standards to be met for metals by SPLP are listed in Appendix A, Table 1. The SPLP may only be used when groundwater monitoring is being conducted at the location where waste is placed.

(vii) The person using the material has the burden of proof to demonstrate that the material is safe fill.

(viii) If, based on a determination made under subparagraph (i), the material exceeds the numeric standards under subparagraphs (ii), (iii) or (iv), the exceedance may be no greater than the lower of the nonresidential direct contact numeric value (using §250.306 and §250.307 (relating to ingestion numeric values; and inhalation numeric valves)) or nonresidential soil-to-groundwater pathway numeric value (using §250.308(a)(2)(i), (3), (4)(i) and (5)) established for aquifers used or currently planned for use containing less than 2,500 mg/l total dissolved solids. Formulae identified in Section 250.305(b) (relating to medium-specific concentrations in soil) shall apply as a limit to the physical capacity of the soil to contain a substance.

(ix) Materials that meet the requirements under this term are not regulated as waste when used as fill.

* * * * *

Sediment–Materials deposited or overlain by water in rivers, lakes, ponds or tidal streams that consist of heterogeneous mixtures of sand, silt, clay, gravel and organic material deposited through erosion or by lake or river currents.

* * * * *

Site undergoing remediation activities–The extent of contamination originating within the property boundaries and all areas in close proximity to the contamination necessary for the implementation of remediation activities to be conducted under the Land Recycling and Environmental Remediation Standards Act (Act 2) (35 P.S. §§ 6026.101-6026.909).

* * * * *

§ 287.2. Scope.

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(c) Management of the following types of waste is subject to this article instead of Article VIII (relating to municipal waste), and shall be regulated as if the waste is residual waste, regardless of whether the waste is municipal waste or residual waste:

(1) Water supply treatment plant sludges.
(2) Waste oil that is not hazardous waste.
(3) Waste tires and auto fluff.
(4) Contaminated soil.
(5) Used asphalt.
(6) Dredged material.
(7) Historic fill.

* * * * *

§ 287.11. Safe fill numeric standards.

(a) When conducting sampling and analysis, safe fill numeric standards listed in Tables 1, 2 and 3 of Appendix A shall be calculated as follows:

(1) For safe fill containing substances other than copper and zinc, the lower of the following:

(i) The residential generic value of the soil-to-groundwater pathway numeric value calculated in accordance with the methodology in §250.308 (a)(2)(i), (3), (4)(i) and (5) (relating to soil-to-groundwater pathway numeric values).

(ii) The lowest residential direct contact numeric values calculated in accordance with the methodologies in §§250.306 (relating to ingestion numeric values) and 250.307 (relating to inhalation numeric values).

(2) In addition to paragraph (1), for safe fill containing copper and zinc, numeric limits which take plant toxicity into consideration and that do not exceed concentrations in § 271.914(b)(3) (relating to pollutant limits).

(3) When calculating numeric standards under paragraph (1), the following additional requirements apply:

(i) Formulae identified in subsection 250.305(b) (relating to medium-specific concentrations in soil) shall apply as limits to the physical capacity of the safe fill to contain a substance.

(ii) When calculating the residential soil-to-groundwater pathway numeric value, the calculation shall be based on groundwater in aquifers used or currently planned for use with naturally occurring background total dissolved solids concentrations less than or equal to 2,500 milligrams per liter.

(4) Dredged material shall be drained prior to placement on land as safe fill. In addition, dredged material shall meet subparagraphs (i) and (iii) or (ii) and (iii) of the following:

(i) A Toxicity Characteristic Leaching Procedure (TCLP) that demonstrates that the dredged material meets the requirements in §288.623(a) (relating to minimum requirements for acceptable waste).

(ii) The dredged material may not produce a leachate in excess of the residential medium-specific concentration for groundwater, in aquifers used or currently planned for use with naturally occurring background total dissolved solids concentrations less than or equal to 2,500 milligrams per liter, when subject to the Synthetic Precipitation Leaching Procedure (SPLP) (*Method 1312 of SW-846, Test Methods for Evaluating Solid Waste, promulgated by the USEPA*). The numeric standards to be met by SPLP are listed in Appendix A, Tables 1 and 2.

(iii) Dredged material and sediments from tidal streams shall meet the numeric criteria for chlorides as listed in Appendix A, Table 1.

(b) To determine whether material meets the safe fill numeric standards, one of the sampling and analysis procedures identified in paragraph (1) or (2) shall apply:

(1) Sampling based on composite sampling procedures shall include the following:

(i) For volumes of material equal to or less than 125 cubic yards, a total of 8 samples shall be collected and analyzed as follows:

(A) For analysis of all substances other than volatile organic compounds (VOCs), the samples shall be analyzed in 2 composites of 4 samples each, in accordance with the most current version of the USEPA Manual, SW-846 (*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods. Office of Solid Waste and Emergency Response).*

(B) Two samples shall be selected from the 8 samples for analysis of VOCs. The samples shall be based on field screening of the 8 samples to select those samples that are most likely to contain the highest concentrations of VOCs.

(C) Two grab samples shall be taken from the same areas in the material from which the 2 samples used for field screening of VOCs were taken, in accordance with Method 5035 from the most current version of the USEPA Manual, SW-846 (*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods. Office of Solid Waste and Emergency Response).*

(ii) For volumes of material greater than 125 cubic yards and less than or equal to 3,000 cubic yards, a total of 12 samples shall be collected and analyzed as follows:

(A) For analysis of all substances other than volatile organic compounds (VOCs), the samples shall be analyzed in 3 composites of 4 samples each.

(B) Three samples shall be selected from the 12 samples for analysis of VOCs. The samples shall be based on field screening of the 12 samples to select those samples that are most likely to contain the highest concentrations of VOCs.

(C) Three grab samples shall be taken from the same areas in the material from which the 3 samples used for field screening of VOCs were taken, in accordance with USEPA, Method 5035, referenced in subparagraph (i)(C).

(iii) For each additional 3,000 cubic yards of material or part thereof over the initial 3,000 cubic yards, 12 additional samples shall be collected and analyzed as follows:

(A) For analysis of all substances other than volatile organic compounds (VOCs), the samples shall be analyzed in 3 composites of 4 samples each.

(B) Three samples for analysis of VOCs shall be selected from the 12 samples for analysis of VOCs. The samples shall be based on field screening of the 12 samples to select those samples that are most likely to contain the highest concentrations of VOCs.

(C) Three grab samples shall be taken from the same areas in material from which the 3 samples used for field screening of VOCs were taken, in accordance with USEPA Method 5035, referenced in subparagraph (i)(C).

(2) Sampling based on discrete sampling procedures shall include the following:

(i) For analysis of substances, sampling shall be random and representative of the safe fill being sampled.

(ii) Sampling shall be in accordance with the most current version of the USEPA RCRA Manual, SW-846 (*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods. Office of Solid Waste and Emergency Response).*

(iii) For volumes of material equal to or less than 125 cubic yards, a minimum of 8 samples shall be collected and analyzed. For volumes of material greater than 125 cubic yards and less than or equal to 3,000 cubic yards, a minimum of 12 samples shall be collected and analyzed. For each additional 3,000 cubic yards of material or part thereof over the initial 3,000 cubic yards, a minimum of 12 additional samples shall be collected and analyzed.

(iv) For VOCs analysis, grab sampling procedures shall be the procedures described in paragraph (1), for the equivalent volumes of material sampled.

(c) The analysis of composite samples required in subsection (b)(1) shall meet the following:

(1) For a composite sample, the measured numeric value for a substance is equal to or less than half the safe fill numeric standard in § 287.11 (relating to numeric standards) for that substance and as listed in Appendix A, Tables 1, 2 and 3.

(2) For a grab sample, taken in accordance with subsections (b)(1)((i)(C), (b)(1)(ii)(C) and (b)(1)(iii)(C), the measured numeric value for a substance is less than or equal to the safe fill numeric standard in § 287.11 (relating to numeric standards) for that substance and as listed in Appendix A, Tables 1, 2 and 3.

(d) For discrete samples required in subsection (b)(2), the measured numeric values for a substance in 75 percent of the discrete samples shall be equal to or less than the safe fill numeric standard in § 287.11 (relating to numeric standards) for that substance with no single sample exceeding more than twice the safe fill numeric standard for a substance.

(e) To determine whether sediments meet the safe fill numeric standards, sampling and analyses shall be conducted in accordance with guidance developed by the Department.

Subchapter C. General Requirements
For Permits and Permit Applications

§ 287.101. General requirements for permit.

* * * * *

(b) A person or municipality is not required to obtain a permit under this article, comply with the bonding or insurance requirements of Subchapter E (relating to bonding and insurance requirements) or comply with Subchapter B (relating to duties of generators) for one or more of the following:

* * * * *

[(6) The use as clean fill of the materials in subparagraphs (i) and (ii) if they are separate from other waste. The person using the material as clean fill has the burden of proof to demonstrate that the material is clean fill.

(i) the following materials, if they are uncontaminated: soil, rock, stone, gravel, brick and block, concrete and used asphalt.

(ii) waste from landclearing, grubbing and excavation, including trees, brush, stumps and vegetative material.]

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§ 287.102. Permit-by-rule.

* * * * *

(l) *Contaminated soil resulting from agricultural practices.* The placement of soil from known areas of contamination shall be deemed to have a residual waste permit when used to bring an area to grade, as construction material, for control of fire and subsidence events or in reclamation of active or abandoned mines, if the reclamation work is approved by the Department or is performed under contract with the Department, and if in addition to subsection (a), the following conditions are met:

(1) The soil from known areas of contamination is analyzed for lead and arsenic. If the soil comes from a location where an orchard once existed, the soil shall be analyzed for pesticides including aldrin, dieldrin, DDD, DDE and DDT. Contamination in soil shall not exceed the nonresidential soil-to-groundwater pathway numeric values based on the following:

(i) The highest value between the nonresidential generic value and a value which is 100 times the nonresidential medium-specific concentration for groundwater, as calculated in §250.308 (relating to soil-to-groundwater pathway numeric values) and listed in Table 4 of Appendix A of this Chapter.

(ii) When calculating the nonresidential soil-to-groundwater pathway numeric value, the calculation shall be based on groundwater in aquifers used or currently planned for use with naturally occurring background total dissolved solids concentrations less than or equal to 2,500 milligrams per liter.

(iii) Formulae identified in subsection 250.305(b) (relating to medium-specific concentrations in soil) shall apply as limits to the physical capacity of the soil to contain a substance.

(2) To determine whether soil meets the standards in paragraph (1), the soil shall be sampled and analyzed in accordance with § 287.11 (b) and (c) or (d) (relating to safe fill numeric standards).

(3) At locations where soil from known areas of contamination is placed, direct contact pathways are promptly and permanently eliminated by the placement of uncontaminated soil or through other engineering controls.

(4) At locations where soil from known areas of contamination is placed, an erosion and sedimentation control plan is implemented that is consistent with the applicable requirements of Chapter 102 (relating to erosion and sediment control).

(5) Soil is not placed into or on waters of this Commonwealth.

(6) At locations where soil from known areas of contamination is placed, soil may not be placed within 100 feet of surface waters of this Commonwealth.

(7) At locations where soil from known areas of contamination is placed, soil may not be placed within 100 feet of the edge of a sinkhole.

(8) At locations where soil from known areas of contamination is placed, soil may not be placed within 300 feet of a water source unless the owner has provided a written waiver consenting to the placement of such soil closer than 300 feet.

(9) At locations where soil from known areas of contamination is placed, soil shall only be used under this permit on properties that are zoned and exclusively used for commercial and industrial uses. For unzoned properties, soil from known areas of contamination shall be used in an area where the background is equal to or greater than the concentration of contamination in soil being brought to the site and the property must be used for commercial or industrial purposes only.

(10) Soil from known areas of contamination that is hazardous waste under Chapter 261a (relating to identification and listing of hazardous waste) may not be used under this permit.

(11) Soil from known areas of contamination when placed may not contain free liquids, based on visual inspection, and may not create odor or other public nuisance resulting from chemical contaminants in the soil.

(12) A person who receives and uses soil from known areas of contamination shall submit a written notice to the Department that includes the following:

(i) The name(s), address(es) and phone number(s) of the person(s) receiving and using the soil from known areas of contamination.

(ii) The quantity of soil used from known areas of contamination at the receiving location.

(iii) Locations of the known areas of contamination where soil was removed for use and where the soil is placed for use.

(iv) Identification of whether the known areas of contamination is the subject of a corrective action or remediation activity.

(v) A description of engineering practices and construction activities used to eliminate direct contact pathways and to assure that site excavation and placement of soil does not cause onsite or offsite contamination.

(vi) If soil is used for control of fire and subsidence events or in reclamation at abandoned mines, the notice shall include a reference to the Department's separate authorization of the use in those projects.

(13) Records of analytical evaluations conducted on the soil from known areas of contamination shall be maintained by the person using and distributing the soil and shall be made available to the Department for inspection. The records shall include the following:

(i) Dates of testing.

(ii) Each parameter tested.

(iii) Test results.

(iv) Laboratory where testing was conducted.

(v) Sampling procedures and analytical methodologies used.

(vi) The name of the person who collected the sample.

(14) This permit does not authorize and shall not be construed as an approval to discharge waste, wastewater or runoff from the site where contaminated soil originated, or the site where contaminated soil is beneficially used, to the land or waters of this Commonwealth.

(15) Soil from known areas of contamination placed in accordance with this permit shall cease to be waste as long as the soil remains in place.

(16) For purposes of this subsection, the term "known areas of contamination" means known areas of soil impacted by authorized agricultural practices resulting in lead, arsenic and pesticide contamination.

(m) *Contaminated soil, dredged material or used asphalt impacted by a release or contaminated soil, dredged material or used asphalt that exceeds safe fill numeric standards as a result of urbanization.* The placement of contaminated soil, dredged material or used asphalt impacted by a release of contaminated soil, dredged material or used asphalt that exceeds safe fill numeric standards as a result of urbanization shall be deemed to have a residual waste permit when used to bring an area to grade, as construction material, for control of fire and subsidence events or in reclamation of active or abandoned mines if the reclamation work is approved by the Department or is performed under contract with the Department and, if in addition to subsection (a), the following conditions are met:

(1) The contaminated soil, dredged material or used asphalt impacted by a release or contaminated soil, dredged material or used asphalt that exceeds safe fill numeric standards shall not exceed the lowest residential direct contact numeric values calculated in accordance with the methodologies in §§250.306 (relating to ingestion numeric values) and 250.307 (relating to inhalation numeric values). The numeric standards are listed in Appendix A, Tables 5 and 6.

(i) When calculating the residential direct contact numeric value, the calculation shall be based on groundwater in aquifers used or currently planned for use with naturally occurring background total dissolved solids concentrations less than or equal to 2,500 milligrams per liter.

(ii) Formulae identified in subsection 250.305(b) (relating to medium-specific concentrations in soil) shall apply as limits to the physical capacity of the soil to contain a substance.

(2) Contamination in soil, dredged material or used asphalt shall not exceed groundwater protection standards based on either of the following:

(i) A Toxicity Characteristic Leaching Procedure (TCLP) that demonstrates that the contaminated soil, dredged material or used asphalt meets the requirements in §288.623(a) (relating to minimum requirements for acceptable waste).

(ii) Contaminated soil, dredged material or used asphalt do not produce a leachate in excess of the residential medium-specific concentration for groundwater, in aquifers used or currently planned for use with naturally occurring background total dissolved solids concentrations less than or equal to 2,500 milligrams per liter, when subject to the Synthetic Precipitation Leaching Procedure (SPLP) (*Method 1312 of SW-846, Test Methods for Evaluating Solid Waste, promulgated by the USEPA*). The numeric standards are listed in Appendix A, Tables 5 and 6.

(3) To determine whether contaminated soil, dredged material or used asphalt meets the standards in paragraph (1), the soil, dredged material or used asphalt shall be sampled and analyzed in accordance with § 287.11 (b) and (c) or (d) (relating to safe fill numeric standards).

(4) At locations where contaminated soil, dredged material or used asphalt is placed, an erosion and sedimentation control plan is implemented that is consistent with the applicable requirements of Chapter 102 (relating to erosion and sediment control).

(5) Contaminated soil, dredged material or used asphalt is not placed into or on waters of this Commonwealth.

(6) At locations where contaminated soil, dredged material or used asphalt is placed, soil, dredged material or used asphalt may not be placed within 100 feet of surface waters of this Commonwealth.

(7) At locations where contaminated soil, dredged material or used asphalt is placed, the soil, dredged material or used asphalt may not be placed within 100 feet of the edge of a sinkhole.

(8) At locations where contaminated soil, dredged material or used asphalt is placed, the soil, dredged material or used asphalt may not be placed within 300 feet of a water source unless the owner has provided a written waiver consenting to the placement of such contaminated soil, dredged material or used asphalt closer than 300 feet.

(9) At locations where contaminated soil, dredged material or used asphalt is placed, the soil, dredged material or used asphalt shall only be used under this permit on properties that are zoned and exclusively used for commercial and industrial uses. For unzoned properties, contaminated soil, dredged material or used asphalt shall be reused in an area where the background is equal to or greater than the concentration of contamination in the soil, dredged material or used asphalt being brought to the site, and the property must be used for commercial or industrial purposes only.

(10) Contaminated soil, dredged material or used asphalt that is hazardous waste under Chapter 261a may not be used under this permit.

(11) Contaminated soil, dredged material or used asphalt when placed may not contain free liquids, based on visual inspection, and may not create odor or other public nuisance resulting from chemical contaminants in the soil, dredged material or used asphalt.

(12) A person who receives and uses contaminated soil, dredged material or used asphalt shall submit a written notice to the Department that includes the following:

(i) The name(s), address(es) and phone number(s) of the person(s) receiving and using the contaminated soil, dredged material or used asphalt.

(ii) The quantity of contaminated soil, dredged material or used asphalt used at the receiving location.

(iii) Locations of contaminated soil, dredged material or used asphalt where the contaminated soil, dredged material or used asphalt were removed for use and where the contaminated soil, dredged material or used asphalt are placed for use.

(iv) Identification of whether the area of contamination where the contaminated soil, dredged material or used asphalt originated is the subject of a corrective action or remediation activity.

(v) A description of engineering practices and construction activities used to assure that site excavation and placement of contaminated soil, dredged material or used asphalt does not cause onsite or offsite contamination.

(vi) If contaminated soil, dredged material or used asphalt is used for control of fire and subsidence events or in reclamation at abandoned mines, the notice shall include a reference to the Department's separate authorization of the use in those projects.

(13) Records of analytical evaluations conducted on the contaminated soil, dredged material or used asphalt shall be maintained by the person using and distributing the soil, dredged material or used asphalt and shall be made available to the Department for inspection. The records shall include the following:

(i) Dates of testing.

(ii) Each parameter tested.

(iii) Test results.

(iv) Laboratory where testing was conducted.

(v) Sampling procedures and analytical methodologies used.

(vi) The name of the person who collected the sample.

(14) This permit does not authorize and shall not be construed as an approval to discharge waste, wastewater or runoff from the site where contaminated soil, dredged material or used asphalt originated or the site where contaminated soil, dredged material or used asphalt is beneficially used, to the land or waters of this Commonwealth.

(15) Contaminated soil, dredged material or used asphalt placed in accordance with this permit shall cease to be waste as long as the contaminated soil, dredged material or used asphalt remains in place.

(16) Contaminated soil may not be used at a site undergoing a remediation or corrective action that will cause the receiving site to exceed the remediation standard selected.

(17) Placement of contaminated soil at a site undergoing a remediation or corrective action shall meet the requirements of subsection (o).

(n) *Historic fill.* The placement of historic fill shall be deemed to have a residual waste permit when used as construction material if, in addition to subsection (a), the following conditions are met:

(1) The historic fill shall be analyzed and shall meet one of the following:

(i) Historic fill shall not exceed the residential soil-to-groundwater pathway numeric values based on the following parameters:

(A) The highest value between the residential generic value and a value which is 100 times the residential medium-specific concentration (MSC) for groundwater, as calculated in §250.308. The numeric standards are listed in Appendix A, Tables 5 and 6.

(B) When calculating the residential soil-to-groundwater pathway numeric value, the calculation shall be based on groundwater in aquifers used or currently planned for use with naturally occurring background total dissolved solids concentrations less than or equal to 2,500 milligrams per liter.

(C) Formulae identified in subsection 250.305(b) shall apply as limits to the physical capacity of the soil to contain a substance.

(ii) Historic fill shall not exceed the lowest residential direct contact numeric values calculated in accordance with the methodologies in §§250.306 and 250.307, provided clause (A) or (B) is met for groundwater protection and clauses (C) and (D) are met when calculating the numeric value.

(A) A Toxicity Characteristic Leaching Procedure (TCLP) that demonstrates that the historic fill meets the requirements in §288.623(a).

(B) The historic fill does not produce a leachate in excess of the residential medium-specific concentration for groundwater, in aquifers used or currently planned for use with naturally occurring background total dissolved solids concentrations less than or equal to 2,500 milligrams per liter, when subject to the Synthetic Precipitation Leaching Procedure (SPLP) (*Method 1312 of SW-846, Test Methods for Evaluating Solid Waste, promulgated by the USEPA*) The concentrations are listed in Tables 1 and 2 of Chapter 250, Appendix A. The numeric standards are listed in Appendix A, Tables 5 and 6.

(C) When calculating the residential direct contact numeric value, the calculation shall be based on groundwater in aquifers used or currently planned for use with naturally occurring background total dissolved solids concentrations less than or equal to 2,500 milligrams per liter.

(D) Formulae identified in subsection 250.305(b) shall apply as limits to the physical capacity of the soil to contain a substance.

(2) To determine whether historic fill meets the standards in paragraph (1), the historic fill shall be sampled and analyzed in accordance with § 287.11 (b) and (c) or (d).

(3) At locations where historic fill is placed and the numeric value under paragraph (1)(i) for a regulated substance does not provide protection from direct contact exposure, direct contact pathways are promptly and permanently eliminated by the placement of uncontaminated soil and uncontaminated dredged material or through other engineering controls.

(4) At locations where historic fill is placed, an erosion and sedimentation control plan is implemented that is consistent with the applicable requirements of Chapter 102.

(5) Historic fill is not placed into or on waters of this Commonwealth.

(6) At locations where historic fill is placed, material may not be placed within 100 feet of surface waters of this Commonwealth.

(7) At locations where historic fill is placed, material may not be placed within 100 feet of the edge of a sinkhole.

(8) At locations where historic fill is placed, material may not be placed within 300 feet of a water source unless the owner has provided a written waiver consenting to the placement of such material closer than 300 feet.

(9) At locations where historic fill is placed, material shall only be used under this permit on properties that are zoned and exclusively used for commercial and industrial uses. For unzoned properties, historic fill shall be reused in an area where the background is equal to or greater than the concentration of contamination in historic fill being brought to the site and the property must be used for commercial or industrial purposes only.

(10) Historic fill that is hazardous waste under Chapter 261a may not be used under this permit.

(11) Historic fill when placed may not contain free liquids, based on visual inspection, and may not create odor or other public nuisance associated with the historic fill.

(12) A person that receives and uses historic fill shall submit a written notice to the Department that includes the following:

(i) The name(s), address(es) and phone number(s) of the person(s) receiving and using the historic fill.

(ii) The quantity of historic fill used at the receiving location.

(iii) Locations of historic fill where material was removed for use and where the historic fill is placed for use.

(iv) Identification of whether the location where the historic fill originated is the subject of a corrective action or remediation activity.

(v) A description of engineering practices and construction activities used to eliminate direct contact pathways and to assure that site excavation and placement of historic fill does not cause onsite or offsite contamination.

(13) Records of analytical evaluations conducted on the historic fill shall be maintained by the person using and distributing the soil and shall be made available to the Department for inspection. The records shall include the following:

(i) Dates of testing.

(ii) Each parameter tested.

(iii) Test results.

(iv) Laboratory where testing was conducted.

(v) Sampling procedures and analytical methodologies used.

(vi) The name of the person who collected the sample.

(14) This permit does not authorize and shall not be construed as an approval to discharge waste, wastewater or runoff from the site where historic fill originated or the site where historic fill is beneficially used, to the land or waters of this Commonwealth.

(15) Historic fill placed in accordance with this permit shall cease to be waste as long as the material remains in place.

(o) Contaminated *soil placed at a receiving site undergoing remediation activities.* Contaminated soil generated offsite and placed at a site undergoing remediation activities under Chapter 250 and the Land Recycling and Environmental Remediation Standards Act (Act 2) (35 P.S. §§ 6026.101-6026.909) shall be deemed to have a residual waste permit when used to bring an area to grade, to limit infiltration of rainfall and to facilitate runoff if, in addition to subsection (a), the following conditions are met:

(1) The notice of intent to remediate the soils at the receiving site undergoing remediation activities (required by 35 P.S. section 6026.303(h)) identifies the statewide health standards as the remediation standards that shall be attained. The addition of contaminated soil at the site undergoing remediation activities shall meet the statewide health standards as follows:

(i) Prior to the placement at a residential site undergoing remediation activities, the contaminated soil brought to the residential site undergoing remediation activities shall meet the residential statewide health standards in accordance with §§ 250.306-250.308 and as listed in Tables 3A, 3B, 4A and 4B of Chapter 250, Appendix A.

(ii) Prior to the placement at a nonresidential site undergoing remediation activities, the contaminated soil brought to the nonresidential site undergoing remediation activities shall meet the nonresidential statewide health standards in accordance with §§250.306 - 250.308 and as listed in Tables 3A, 3B, 4A and 4B of Chapter 250, Appendix A.

(iii) When calculating the direct contact numeric value or the soil-to-groundwater pathway numeric value for the statewide health standards, the calculation shall be based on groundwater in aquifers used or currently planned for use with naturally occurring background total dissolved solids concentrations less than or equal to 2,500 milligrams per liter.

(iv) Formulae identified in subsection 250.305(b) shall apply as limits to the physical capacity of the soil to contain a substance.

(2) The quantity, quality and destination of the contaminated soil shall be identified in the final report (pursuant to 35 P.S. sections 6026.303(h)) submitted for the receiving site undergoing remediation activities.

(3) Placement of the contaminated soil shall not cause the receiving site undergoing remediation activities to exceed the statewide health standard selected and identified in the notice of intent to remediate.

(4) Contaminated soil containing a contaminant other than those identified in the notice of intent to remediate or subsequently identified during site characterization

submitted for the receiving site undergoing remediation activities may not be placed at the receiving site undergoing remediation activities.

(5) For contaminated soil placed at a site undergoing remediation activities prior to the approval of the final report, relief from liability may include the material brought to the receiving site undergoing remediation activities and shall be included in the final report.

(6) At a site undergoing remediation activities where contaminated soil is placed, an erosion and sedimentation control plan is implemented that is consistent with the applicable requirements of Chapter 102.

(7) At a site undergoing remediation activities where contaminated soil is placed, soil may not be placed into or on waters of the Commonwealth.

(8) At a site undergoing remediation activities where contaminated soil is placed, soil may not be placed within 100 feet of surface waters of this Commonwealth.

(9) At a site undergoing remediation activities where contaminated soil is placed, soil may not be placed within 100 feet of the edge of a sinkhole.

(10) At a site undergoing remediation activities where contaminated soil is placed, soil may not be placed within 300 feet of a water source unless the owner has provided a written waiver consenting to the placement of such soil closer than 300 feet.

(11) At a site undergoing remediation activities where contaminated soil is placed, soil may not be placed in a 100-year flood plain of waters of this Commonwealth.

(12) To determine whether contaminated soil placed at a site undergoing remediation activities meets the standards in paragraph (1), the contaminated soil shall be sampled and analyzed in accordance with § 287.11 (b) and (c) or (d).

(13) Contaminated soil placed at a site undergoing remediation activities may not contain free liquids left in the soil, based on visual inspection, and the soil may not create odor or other public nuisance resulting from chemical contaminants in the soil.

(14) Upon completion of areas where contaminated soil is placed, the areas shall be promptly vegetated to minimize and control erosion or capped to minimize infiltration.

(15) This permit does not authorize and shall not be construed as an approval to discharge waste, wastewater or runoff from the site where contaminated soil originated or the site undergoing remediation activities where contaminated soil is beneficially used, to the land or waters of this Commonwealth.

(16) A person who receives and uses contaminated soil at a site undergoing remediation activities shall submit a written notice to the Department. The notice shall include the following:

(i) The name(s), address(es), and phone number(s) of the person(s) receiving and using the contaminated soil.

(ii) The quantity of contaminated soil from a site used at the receiving site undergoing remediation activities.

(iii) Locations of areas where contaminated soil is generated and locations of areas where the contaminated soil will be placed.

(iv) Copies of recorded deed notices that identify where on a receiving property contaminated soil is placed if nonresidential statewide health standards are used at the sites undergoing remediation activities as the remediation standards.

(v) Identification of whether the location where the contaminated soil originated is the subject of a corrective action or remediation activity.

(vi) A description of engineering practices and construction activities used to assure that excavation and placement of contaminated soil at the site undergoing remediation activities does not cause onsite or offsite contamination.

(17) Contaminated soils that are hazardous waste under Chapter 261a may not be used under this permit.

(18) Records of analytical evaluations conducted on the contaminated soil shall be maintained by the person using and distributing the soil and shall be made available to the Department for inspection. The records shall include the following:

(i) Dates of testing.

(ii) Each parameter tested.

(iii) Test results.

(iv) Laboratory where testing was conducted.

(v) Sampling procedures and analytical methodologies used.

(vi) The name of the person who collected the sample.

(19) Contaminated soil placed in accordance with this permit shall cease to be waste as long as the contaminated soil remains in place at the site undergoing remediation activities.

APPENDIX A

Table 1. Safe Fill Numeric Standards For Metals

Regulated Substance	Residential Direct Contact RDC mg/kg	Residential Generic Value RGV mg/kg	Safe Fill (Lower of RDC to RGV) mg/kg[1]	mg/L[4]
ANTIMONY	88	27	27	0.006
ARSENIC	12	150	12	0.05
BARIUM AND COMPOUNDS	15000	8200	8200	2
BERYLLIUM	440	320	320	0.004
BORON AND COMPOUNDS	20000	6.7	6.7	0.6
CADMIUM	110	38	38	0.005
CHLORIDES[2]	na	na		250
CHROMIUM III	190,000	190,000	190,000	0.1
CHROMIUM VI	660	190	190	0.1
COBALT	13000	24	24	2.2
COPPER	8100	36000	4300[3]	1
LEAD	500	450	450	0.005
MANGANESE	31000	na	31000	--
MERCURY	19	10	10	0.002
NICKEL	4400	650	650	0.1
SELENIUM	1100	26	26	0.05
SILVER	1100	84	84	0.1
THALLIUM	15	14	14	0.002
TIN	130000	240	240	22
VANADIUM	1500	26000	1500	0.26
ZINC	66000	12000	7500[3]	2.0

[1] Lower of the residential direct contact and residential generic value from the Statewide health standards promulgated under 25 Pa. Code Chapter 250.

[2] Chloride analysis required of dredged material and sediments only.

[3] Due to the phytotoxicity of copper and zinc, safe fill numerical standards are based on the 40 CFR Part 503 regulations.

[4] SPLP for metals only if placement into or along waterways as part of an active or abandoned mine or abandoned quarry reclamation and where groundwater monitoring is being conducted.

na -- not applicable

APPENDIX A

TABLE 2: Safe Fill Numeric Standards for Organic Regulated Substances

Compound/Contaminant	CASRN	SHS[1] (residential, used aquifer, TDS <2500mg/L)				Safe[3] Fill		Is Safe Fill Number Based on Generic Value?
		Residential Direct Contact *Soil MSC[2]* mg/kg		*Soil to Groundwater Pathway Numeric Value* *Residential Generic Value* mg/kg		*Lower of RDC or RGV* mg/kg	*GWMSC by SPLP4* mg/L	
ACENAPHTHENE	83-32-9	13000.00	G	2700	E	2700	2.2	1
ACENAPHTHYLENE	208-96-8	13000.00	G	2500	E	2500	2.2	1
ACEPHATE	30560-19-1	880.00	G	0.84	E	0.84	0.076	1
ACETALDEHYDE	75-07-0	140.00	N	0.23	E	0.23	0.019	1
ACETONE	67-64-1	10000.00	C	41	E	41	3.7	1
ACETONITRILE	75-05-8	1100.00	C	19	E	19	0.17	1
ACETOPHENONE	98-86-2	10000.00	C	200	E	200	3.7	1
ACETYLAMINOFLUORENE, 2- (2AAF)	53-96-3	4.70	G	0.069	E	0.069	0.00017	1
ACROLEIN	10-702-8	0.38	N	0.00062	E	0.00062	0.000055	1
ACRYLAMIDE	79-06-1	4.00	G	0.00057	E	0.00057	0.000033	1
ACRYLIC ACID	79-10-7	19.00	N	0.051	E	0.051	0.0028	1
ACRYLONITRILE	107-13-1	4.70	N	0.0088	E	0.0088	0.00063	1
ALACHLOR	15972-60-8	220.00	G	0.077	E	0.077	0.002	1
ALDICARB	116-06-3	220.00	G	0.120	E	0.12	0.007	1
ALDRIN	309-00-2	1.10	G	0.100	E	0.10	0.0000087	1
ALLYL ALCOHOL	107-18-6	330.00	N	0.580	E	0.58	0.049	1
AMINOBIPHENYL, 4-	92-67-1	0.85	G	0.00120	E	0.0012	0.000031	1
AMITROLE	61-82-5	19.00	G	0.0280	E	0.028	0.0007	1
AMMONIA	7664-41-7	1900.00	N	330	E	330	30	1
AMMONIUM SULPHAMATE	7773-06-0	44000.00	G	22	E	22	2	1
ANILINE	62-53-3	19.00	N	0.160	E	0.16	0.0028	1
ANTHRACENE*	120-12-7	66000.00	G	350	E	350	0.066	1
ATRAZINE	1912-24-9	81.00	G	0.130	E	0.13	0.003	1
BAYGON (PROPRXUR)	114-26-1	880.00	G	0.033	E	0.033	0.003	1
BENOMYL	17804-35-2	11000.00	G	20.000	E	20.00	1.8	1
BENTAZON	25057-89-0	6600.00	G	12.000	E	12.00	1.1	1
BENZENE*	71-43-2	41.00	N	0.130	E	0.13	0.005	1
BENZIDINE	92-87-5	0.08	G	0.000032	E	0.000032	0.0000029	1
BENZO[A]ANTHRACENE*	56-55-3	25.00	G	80	E	25.00	0.0009	0
BENZO[A]PYRENE*	50-32-8	2.50	G	46	E	2.50	0.0002	0
BENZO[B]FLUORANTHENE*	205-99-2	25.00	G	120	E	25.00	0.0009	0
BENZO[GHI]PERYLENE*	191-24-2	13000.00	G	180	E	180.00	0.00026	1
BENZO[K]FLUORANTHENE	207-08-9	250.00	G	600	E	250.00	0.00055	0
BENZOIC ACID	65-85-0	190000.00	C	2900	E	2900.00	150	1
BENZOTRICHLORIDE	98-07-7	1.40	G	0.00057	E	0.00057	0.000051	1
BENZYL ALCOHOL	100-51-6	10000.00	C	400	E	400.00	11	1
BENZYL CHLORIDE	100-44-7	6.40	N	0.051	E	0.051	0.00087	1
BHC, ALPHA-	319-84-6	2.80	G	0.046	E	0.046	0.0001	1
BHC, BETA-	319-85-7	9.90	G	0.22	E	0.22	0.00037	1
BHC, DELTA-	319-86-8	130.00	G	11	E	11.00	0.022	1
BHC, GAMMA (LINDANE)	58-89-9	14.00	G	0.0710	E	0.071	0.0002	1
BIPHENYL, 1,1-	92-52-4	11000.00	G	20	E	20.00	1.8	1
BIS(2-CHLOROETHYL)ETHER	111-44-4	0.96	N	0.00390	E	0.0039	0.00013	1
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	32.00	N	8	E	8.00	0.3	1
BIS(CHLOROMETHYL)ETHER	542-88-1	0.01	N	0.000010	E	0.000010	0.00000069	1
BIS[2-ETHYLHEXYL] PHTHALATE	117-81-7	1300.00	G	130	E	130.00	0.006	1
BISPHENOL A	80-05-7	11000.00	G	20	E	20.00	1.8	1

APPENDIX A

TABLE 2: Safe Fill Numeric Standards for Organic Regulated Substances

Compound/Contaminant	CASRN	SHS[1] (residential, used aquifer, TDS <2500mg/L)				Safe[3] Fill		Is Safe Fill Number Based on Generic Value?
		Residential Direct Contact *Soil MSC[2]* mg/kg		*Soil to Groundwater Pathway Numeric Value* *Residential Generic Value* mg/kg		*Lower of RDC or RGV* mg/kg	*GWMSC by SPLP4* mg/L	
BROMOCIL	314-40-9	29000.00	G	0.89	E	0.89	0.08	1
BROMOCHLOROMETHANE	74-97-5	2900.00	G	1	E	1.00	0.09	1
BROMODICHLOROMETHANE	75-27-4	8.60	N	3.4	E	3.40	0.1	1
BROMOMETHANE	74-83-9	95.00	N	0.540	E	0.54	0.01	1
BROMOXYNIL	1689-84-5	4400.00	G	63	E	63.00	0.73	1
BROMOXYNIL OCTANOATE	1689-99-2	4400.00	G	360	E	360.00	0.08	1
BUTADIENE, 1,3-	106-99-0	5.30	G	0.0017	E	0.0017	0.00015	1
BUTYL ALCOHOL, N-	71-36-3	6600.00	N	12	E	12.00	0.97	1
BUTYLATE	2008-41-5	10000.00	C	3.9	E	3.90	0.35	1
BUTYLBENZENE, N-	104-51-8	2200.00	G	4.1	E	4.10	1.5	1
BUTYLEBENZENE, SEC-	135-98-8	2200.00	G	4.1	E	4.10	1.5	1
BUTYLEBENZENE, TERT-	98-06-6	2200.00	G	4.1	E	4.10	1.5	1
BUTYLBENZYL PHTHALATE	85-68-7	10000.00	C	10000	C	10000	2.7	0
CAPTAN	133-06-2	5100.00	G	12	E	12.00	0.19	1
CARBARYL	63-25-2	22000.00	G	42	E	42.00	0.7	1
CARBAZOLE	86-74-8	900.00	G	0.37	E	0.37	0.033	1
CARBOFURAN	1563-66-2	1100.00	G	0.870	E	0.87	0.04	1
CARBON DISULFIDE	75-15-0	10000.00	C	160	E	160.00	1.9	1
CARBON TETRACHLORIDE	56-23-5	21.00	N	0.26	E	0.26	0.005	1
CARBOXIN	5234-68-4	22000.00	G	7.8	E	7.80	0.7	1
CHLORAMBEN	133-90-4	3300.00	G	1.1	E	1.10	0.1	1
CHLORDANE	57-74-9	51.00	G	49	E	49.00	0.002	1
CHLORO-1, 1-DIFLUOROETHANE, 1-	75-68-3	190000.00	C	1600	E	1600.000	140	1
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	19.00	N	0.065	E	0.065	0.0028	1
CHLOROACETOPHENONE, 2-	532-27-4	1.90	G	0.0034	E	0.0034	0.00031	1
CHLOROANILINE, P-	106-47-8	880.00	G	19	E	19.00	0.15	1
CHLOROBENZENE	108-90-7	4400.00	G	3.4	E	3.40	0.1	1
CHLOROBENZILATE	510-15-6	66.00	G	1.6	E	1.60	0.0024	1
CHLORBUTANE, 1-	109-69-3	10000.00	C	170	E	170.00	15	1
CHLORODIBROMOMETHANE	124-48-1	12.00	N	3.2	E	3.20	0.1	1
CHLORODIFLUOROMETHANE	75-45-6	190000.00	C	1.1	E	1.10	0.1	1
CHLOROETHYL VINYL ETHER, 2-	[110-75-8]	1700.00	[N]	3.1	[S]	3.10	0.23	1
CHLOROFORM	67-66-3	14.00	N	2.5	E	2.50	0.1	1
CHLORONAPHTHALENE, 2-	91-58-7	18000.00	G	6200	E	6200.00	2.9	1
CHLORODINITROBENZENE, 2-	100-00-5	990.00	G	0.41	E	0.41	0.037	1
CHLOROPHENOL, 2-	95-57-8	330.00	N	4.4	E	4.40	0.04	1
CHLOROPRENE	126-99-8	130.00	N	0.45	E	0.45	0.019	1
CHLROPROANE, 2-	75-29-6	1900.00	N	0.45	E	0.45	0.28	1
CHLOROTHALONIL	1897-45-6	1600.00	G	3.1	E	3.10	0.06	1
CHLOROTOLUENE, O-	95-49-8	4400.00	G	1.1	E	1.10	0.1	1
CHLORPYRIFOS	2921-88-2	660.00	G	23	E	23.00	0.02	1
CHLORSULFURON	64902-72-3	11000.00	G	20	E	20.00	1.8	1
CHLORTHAL-DIMETHYL (DACTHAL) (DCPA)	1861-32-1	2200.00	G	4.4	E	4.40	0.4	1
CHRYSENE*	218-01-9	2500.00	G	230	E	230.00	0.0019	1
CRESOL(S)	1319-77-3	330.00	N	0.85	E	0.85	0.18	1
CRESOL, M-(METHYLPHENOL, 3-)	95-48-7	10000.00	C	20	E	20.00	1.8	1
CRESOL, O-(METHYLPHENOL, 2-)	108-39-4	10000.00	C	20	E	20.00	1.8	1
CRESOL, P-(METHYLPHENOL, 4-)	106-44-5	1100.00	G	2	E	2.00	0.18	1

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		Residential Direct Contact *Soil MSC[2]* mg/kg		*Soil to Groundwater Pathway Numeric Value* *Residential Generic Value* mg/kg		*Lower of RDC or RGV* mg/kg	*GWMSC by SPLP4* mg/L	
CRESOL, P-CHLORO-M-	59-50-7	1100.00	G	37	E	37.00	0.18	1
CROTONALDEHYDE	4170-30-3	9.40	G	0.00099	E	0.0010	0.000079	1
CROTONALDEHYDE, TRANS-	123-73-9	9.40	G	0.0039	E	0.0039	0.000079	1
CUMENE (ISOPROPYL BENZENE)*	98-82-8	7300.00	N	790	E	790.00	1.1	1
CYCLOHEXANONE	108-94-1	10000.00	C	1400	E	1400.00	49	1
CYFLUTHRIN	68359-37-5	5500.00	G	0.011	E	0.011	0.001	1
CYROMAZINE	66215-27-8	1700.00	G	3	E	3.00	0.27	1
DDD, 4,4'-	72-54-8	75.00	G	6.8	E	6.80	0.00062	1
DDE, 4,4'-	72-55-9	53.00	G	41	E	41.00	0.0019	1
DDT, 4,4'-	50-29-3	53.00	G	110	E	53.00	0.0019	0
DI(2-ETHYLHEXYL)ADIPATE	103-23-1	10000.00	C	4.4	C	4.40	0.4	1
DIALLATE	2303-16-4	18.00	N	0.15	E	0.15	0.0025	1
DIAMINOTOLUENE, 2,4-	95-80-7	5.60	G	0.0023	E	0.002	0.00021	1
DIAZINON	333-41-5	200.00	G	0.082	E	0.082	0.0006	1
DIBENZO[A,H]ANTHRACENE	53-70-3	2.50	G	41	E	2.50	0.00009	0
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	3.80	N	0.0091	E	0.0091	0.0002	1
DIBROMOBENZENE, 1,4-	106-37-6	2200.00	G	4.1	E	4.10	0.37	1
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	0.21	G	0.0012	E	0.0012	0.00005	1
DIBROMOMETHANE	74-95-3	670.00	N	3.7	E	3.70	0.097	1
DI-N-BUTYLPHTHALATE, N-	84-74-2	10000.00	C	1500	E	1500.00	3.7	1
DICHOLOR-2-BYTENE, 1,4-	764-41-0	91000.00	N	0.00018	E	0.00018	0.000016	1
DICHLOROBENZENE, 1,2-	95-50-1	3800.00	N	60	E	60.00	0.6	1
DICHLOROBENZENE, 1,3-	541-73-1	60.00	N	61	E	60.00	0.6	0
DICHLOROBENZENE, P-	106-46-7	750.00	G	10	E	10.00	0.075	1
DICHLOROBENZIDINE, 3,3'-	91-94-1	40.00	G	8.4	E	8.40	0.0015	1
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	3800.00	N	100	E	100.00	1	1
DICHLOROETHANE, 1,1-	75-34-3	200.00	N	0.65	E	0.65	0.027	1
DICHLOROETHANE, 1,2-	107-06-2	12.00	N	0.1	E	0.10	0.005	1
DICHLOROETHYLENE, 1,1-	75-35-4	6.40	N	0.19	E	0.19	0.007	1
DICHLOROETHYLENE, CIS-1,2-*	156-59-2	670.00	N	1.6	E	1.60	0.07	1
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	1300.00	N	2.3	E	2.30	0.1	1
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	680.00	N	0.075	E	0.08	0.005	1
DICHLOROPHENOL, 2,4-	120-83-2	660.00	G	1	E	1.00	0.02	1
DICHLOROPHENOXYACETIC ACID, 2,4- (2,4-D)	94-75-7	2200.00	G	1.8	E	1.80	0.07	1
DICHLOROPROPANE, 1,2-	78-87-5	18.00	N	0.11	E	0.11	0.005	1
DICHLOROPROPENE, 1,3-	542-75-6	8.60	N	0.013	E	0.013	0.0066	1
DICHLOROPROPIONIC ACID (DALAPON), 2,2-	75-99-0	2000.00	N	5.3	E	5.30	0.2	1
DICHLORVOS	62-73-7	62.00	G	0.012	E	0.0120	0.00052	1
DICYCLOPENTADIENE	77-73-6	6600.00	G	0.0061	E	0.0061	0.00055	1
DIELDRIN	60-57-1	1.10	G	0.11	E	0.11	0.000041	1
DIETHYL PHTHALATE	84-66-2	10000.00	C	160	E	160.00	5	1
DIFLUBENZIRON	35367-38-5	4400.00	G	2.2	E	2.20	0.2	1
DIMETHOATE	60-51-5	44.00	G	0.28	E	0.28	0.0073	1
DIMETHOXYBENZIDINE, 3,3-	119-90-4	1300.00	G	0.52	E	0.52	0.047	1
DIMETHYLAMINOAZOBENZENE, P-	60-11-7	3.90	G	0.037	E	0.037	0.00014	1
DIMETHYLANILINE, N,N-	000121-69-7	440.00	G	0.81	E	0.81	0.073	1
DIMETHYLBENZIDINE, 3,3-	000119-93-7	1.90	G	0.0008	E	0.00080	0.000072	1

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		Residential Direct Contact *Soil MSC[2]* mg/kg		*Soil to Groundwater Pathway Numeric Value* *Residential Generic Value* mg/kg		*Lower of RDC or RGV* mg/kg	*GWMSC by SPLP4* mg/L	
DIMETHYLPHENOL, 2,4-	105-67-9	4400.00	G	31	E	31.00	0.73	1
DINITROBENZENE, 1,3-	99-65-0	22.00	G	0.049	E	0.049	0.001	1
DINITROPHENOL, 2,4-	51-28-5	440.00	G	0.21	E	0.21	0.019	1
DINITROTOLUENE, 2,4-	121-14-2	58.00	G	0.05	E	0.050	0.0021	1
DINITROTOLUENE, 2, 6,- (2,6-DNT)	606-20-2	220.00	G	1.1	E	1.10	0.037	1
DINOSEB	88-85-7	220.00	G	0.29	E	0.290	0.007	1
DIOXANE, 1,4-	123-91-1	41.00	N	0.073	E	0.073	0.0056	1
DIPHENAMID	957-51-7	6600.00	G	2.2	E	2.20	0.2	1
DIPHENYLAMINE	122-39-4	5500.00	G	12	E	12.00	0.2	1
DIPHENYLHYDRAZINE, 1,2-	122-66-7	22.00	G	0.15	E	0.15	0.00083	1
DIQUAT	85-00-7	480.00	G	0.24	E	0.24	0.02	1
DISULFOTON	298-04-4	2.70	N	0.08	E	0.08	0.0003	1
DIURON	330-54-1	440.00	G	0.87	E	0.87	0.01	1
ENDOSULFAN	115-29-7	1300.00	G	0.64	E	0.64	0.058	1
ENDOSULFAN I (ALPHA)	959-98-8	1300.00	G	110	E	110.00	0.22	1
ENDOSULFAN II (BETA)	33213-65-9	1300.00	G	130	E	130.00	0.22	1
ENDOSULFAN SULFATE	1031-07-8	1300.00	G	72	E	72.00	0.12	1
ENDOTHALL	145-73-3	4400.00	G	4.2	E	4.20	0.1	1
ENDRIN	72-20-8	66.00	G	5.4	E	5.40	0.002	1
EPICHLOROHYDRIN	106-89-8	19.00	N	0.056	E	0.056	0.0028	1
ETHEPHON	16672-87-0	1100.00	G	2	E	2.00	0.18	1
ETHION	563-12-2	110.00	G	39	E	39.00	0.018	1
ETHOXYETHANOL, 2- (EGEE)	110-80-5	3800.00	[C]	7.8	E	7.80	0.55	1
ETHYL ACETATE	141-78-6	10000.00	C	220	E	220.00	8.7	1
ETHYL ACRYLATE	140-88-5	23.00	N	0.12	E	0.12	0.0031	1
ETHYL BENZENE*	100-41-4	10000.00	C	46	E	46.00	0.7	1
ETHYL DIPROPYL THIOCARBAMATE, S- (EPTC)	759-94-4	5500.00	G	10	E	10.00	0.91	1
ETHYL ETHER	60-29-7	10000.00	C	53	E	53.00	1.9	1
ETHYLMETHACRYLATE	97-63-2	20000.00	G	9.7	E	9.70	0.87	1
ETHYLENE GLYCOL	107-21-1	10000.00	C	85	E	85.00	14	1
ETHYLENE THIOUREA (ETU)	96-45-7	18.00	G	0.033	E	0.033	0.003	1
ETHYL P-NITROPHENYL PHENYLPHOSPHOROTHIOATE	2104-64-5	2.20	G	0.0041	E	0.0041	0.00037	1
FENAMIPHOS	22224-92-6	55.00	G	0.17	E	0.17	0.002	1
FENVALERATE (PYDRIN)	51630-58-1	5500.00	G	0.94	E	0.94	0.085	1
FLUOMETURON (FLUORNETRON IN EPA FEB 96)	2164-17-2	2900.00	G	1	E	1.00	0.09	1
FLUORANTHENE	206-44-0	8800.00	G	3300	E	3300.00	0.26	1
FLUORENE*	86-73-7	8800.00	G	380	E	380.00	1.5	1
FLUOROTROCHLOROMETHANE (FREON 11)	75-69-4	10000.00	C	90	E	90.00	2	1
FONOFOS	944-22-9	140.00	N	2.8	E	2.80	0.01	1
FORMALDEHYDE	50-00-0	24.00	N	12	E	12.00	1	1
FORMIC ACID	64-18-6	10000.00	C	210	E	210.00	19	1
FOSETYL-AL	039148-24-8	190000.00	C	1200	E	1200.00	110	1
FURAN	110-00-9	220.00	G	0.11	E	0.110	0.0097	1
FURFURAL	98-01-1	660.00	G	1.2	E	1.20	0.097	1
GLYPHOSATE	1071-83-6	22000.00	G	630	E	630.00	0.7	1
HEPTACHLOR	76-44-8	4.00	G	0.68	E	0.680	0.0004	1
HEPTACHLOR EPOXIDE	1024-57-3	2.00	G	1	E	1.00	0.0002	1

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Compound/Contaminant	CASRN	SHS[1] (residential, used aquifer, TDS <2500mg/L)				Safe[3] Fill		Is Safe Fill Number Based on Generic Value?
		Residential Direct Contact *Soil MSC[2]* mg/kg		*Soil to Groundwater Pathway Numeric Value* *Residential Generic Value* mg/kg		*Lower of RDC or RGV* mg/kg	*GWMSC by SPLP4* mg/L	
HEXACHLOROBENZENE	118-74-1	11.00	G	0.96	E	0.96	0.001	1
HEXACHLOROBUTADIENE	87-68-3	44.00	G	1.2	E	1.20	0.001	1
HEXACHLOROCYCLOPENTADIENE	77-47-4	1500.00	G	91	E	91.00	0.05	1
HEXACHLOROETHANE	67-72-1	220.00	G	0.56	E	0.560	0.001	1
HEXANE	110-54-3	3800.00	N	510	E	510.00	0.55	1
HEXYTHIAZOX (SAVEY)	78587-05-0	5500.00	G	5.6	E	5.60	0.5	1
HYDRAZIE/HYDRAZINE SULFATE	302-01-2	0.06	N	0.000097	E	0.000097	0.0000088	1
HYDROQUINONE	123-31-9	8800.00	G	17	E	17.00	1.5	1
INDENO[1,2,3-CD]PYRENE*	193-39-5	25.00	G	7000	E	25.00	0.0009	0
IPRODIONE	36734-19-7	8800.00	G	17	E	17.00	1.5	1
ISOBUTYL ALCOHOL	78-83-1	10000.00	C	76.00	E	76.00	2.9	1
ISOPHORONE	78-59-1	10000.00	C	1.9	E	1.90	0.1	1
KEPONE	143-50-0	1.10	G	0.56	E	0.56	0.000041	1
MALATHION	121-75-5	1400.00	N	67	E	67.00	0.1	1
MALEIC HYDRAZIDE	123-33-1	110000.00	G	47	E	47.00	4	1
MANEB	12427-38-2	1100.00	G	2	E	2.00	0.18	1
MERPHOS OXIDE	78-48-8	6.60	G	0.012	E	0.012	0.0011	1
METHACRYLONITRILE	126-98-7	13.00	N	0.031	E	0.031	0.0019	1
METHAMIDOPHOS	10265-92-6	11.00	G	0.02	E	0.02	0.0018	1
METHANOL	67-56-1	10000.00	C	58	E	58.00	4.9	1
METHOMYL	16752-77-5	5500.00	G	3.2	E	3.20	0.2	1
METHOXYCHLOR	72-43-5	1100.00	G	630	E	630.00	0.04	1
METHOXYETHANOL, 2-	109-86-4	220.00	G		E	220.00	0.037	1
METHYL ACETATE	79-20-9	10000.00	C	410	E	410.00	37	1
METHYL ACRYLATE	96-33-3	6600.00	G	12	E	12.00	1.1	1
METHYL CHLORIDE	74-87-3	180.00	N	0.038	E	0.038	0.003	1
METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	10000.00	C	53	E	53.00	2.8	1
METHYL ISOBUTYL KETONE	108-10-1	1500.00	N	2.9	E	2.90	0.19	1
METHYL METHACRYLATE	80-62-6	10000.00	C	26	E	26.00	1.9	1
METHYL METHANESULFONATE	66-27-3	180.00	G	0.083	E	0.083	0.0067	1
METHYL PARATHION	298-00-0	17.00	N	0.42	E	0.42	0.002	1
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	1300.00	G	2.4	E	2.40	0.22	1
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	10000.00	C	0.28	E	0.28	0.02	1
METHYLENE BIS(2-CHLOROANILINE), 4,4'-	101-14-4	140.00	G	0.057	E	0.06	0.0051	1
METHYLNAPHTHALENE, 2-	91-57-6	4400.00	G	2900	E	2900.00	0.73	1
METHYLSTYRENE, ALPHA	98-83-9	15000.00	G	7.6	E	7.60	0.68	1
NAPHTHALENE*	91-20-3	4400.00	G	5	E	5.00	0.1	1
NAPHTHYLAMINE, 1-	134-32-7	9.90	G	0.3	E	0.30	0.00037	1
NAPHTHYLAMINE, 2-	91-59-8	9.90	G	0.012	E	0.01	0.00037	1
NAPROPAMIDE	15299-99-7	22000.00	G	41	E	41.00	3.7	1
NITROANILINE, M-	99-09-2	13.00	G	0.033	E	0.033	0.0021	1
NITROANILINE, O-	88-74-4	13.00	G	0.037	E	0.037	0.0021	1
NITROANILINE, P-	100-01-6	13.00	G	0.031	E	0.031	0.0021	1
NITROBENZENE	98-95-3	110.00	G	0.79	E	0.79	0.018	1
NITROPHENOL, 2-	88-75-5	1800.00	G	5.9	E	5.90	0.29	1
NITROPHENOL, 4-	100-02-7	1800.00	G	4.2	E	4.20	0.06	1
NITROPROPANE, 2-	79-46-9	0.12	N	0.00026	E	0.000260	0.000016	1
NITROSODIETHYLAMINE, N-	55-18-5	0.01	N	0.000018	E	0.000018	0.000001	1

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		Residential Direct Contact		*Soil to Groundwater Pathway Numeric Value*		*Lower of RDC or RGV*	*GWMSC by SPLP4*	
		Soil MSC[2] mg/kg		*Residential Generic Value* mg/kg		mg/kg	mg/L	
NITROSODIMETHYLAMINE, N-	62-75-9	0.02	N	0.000041	E	0.000041	0.0000031	1
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	3.30	G	0.0003	E	0.0003	0.000027	1
NITROSODI-N-PROPYLAMINE, N-	621-64-7	2.60	G	0.0013	E	0.0013	0.000094	1
NITROSODIPHENYLAMINE, N-	86-30-6	3700.00	G	20	E	20.00	0.13	1
NITROSO-N-ETHYLUREA, N-	759-73-9	0.13	G	0.000052	E	0.000052	0.0000047	1
OCTYL PHTHALATE, DI-N-	117-84-0	4400.00	G	10000	C	4400.00	0.73	0
OXAMYL (VYDATE)	23135-22-0	5500.00	G	2.6	E	2.60	0.2	1
PARATHION	56-38-2	1300.00	G	130	E	130.00	0.22	1
PCB-1016 (AROCLOR)	12674-11-2	15.00	G	70	E	15.00	0	0
PCB-1221 (AROCLOR)	11104-28-2	36.00	G	0.62	E	0.62	0	1
PCB-1232 (AROCLOR)	11141-16-5	36.00	G	0.52	E	0.52	0	1
PCB-1242 (AROCLOR)	53469-21-9	36.00	G	16	E	16.00	0	1
PCB-1248 (AROCLOR)	12672-29-6	9.90	G	18	E	9.90	0	0
PCB-1254 (AROCLOR)*	11097-69-1	4.40	G	75	E	4.40	0	0
PCB-1260 (AROCLOR)	11096-82-5	30.00	G	110	E	30.00	0	0
PEBULATE	1114-71-2	10000.00	C	20	E	20.00	1.8	1
PENTACHLOROBENZENE	608-93-5	180.00	G	230	E	180.00	0.029	0
PENTACHLORONITROBENZENE	82-68-8	69.00	G	5	E	5.00	0.0025	1
PENTACHLOROPHENOL	87-86-5	150.00	G	5	E	5.00	0.001	1
PHENACETIN	62-44-2	8100.00	G	12	E	12.00	0.3	1
PHENANTHRENE	85-01-8	66000.00	G	10000	E	10000.00	1.1	1
PHENOL	108-95-2	130000.00	G	66	E	66.00	4	1
PHENYLENEDIAMINE, M-	108-45-2	1300.00	G	3.1	E	3.10	0.22	1
PHENYLPHENOL, 2-	90-43-7	9200.00	G	3.8	E	3.80	0.34	1
PHORATE	298-02-2	13.00	N	0.41	E	0.41	0.0019	1
PHTHALIC ANHYDRIDE	85-44-9	190000.00	C	2300	E	2300.00	73	1
PECLORAM	1918-02-1	15000.00	G	5.6	E	5.60	0.5	1
PRONAMIDE	23950-58-5	17000.00	G	3	E	3.00	0.05	1
PROPANIL	709-98-8	1100.00	G	2	E	2.00	0.18	1
PROPHAM	122-42-9	4400.00	G	8.1	E	8.10	0.73	1
PROPYLBENZENE, N-	103-65-1	2200.00	G	4.1	E	4.10	1.5	1
PROPYLENE OXIDE	75-56-9	75.00	G	0.048	E	0.05	0.0028	1
PYRENE*	129-00-0	6600.00	G	2200	E	2200.00	0.13	1
PYRIDINE	110-86-1	67.00	N	0.11	E	0.11	0.0097	1
QUINOLINE	91-22-5	1.50	G	0.00061	E	0.00061	0.000055	1
QUIZALOFOP (ASSURE)	76578-14-8	2000.00	G	3.3	E	3.30	0.3	1
RONNEL	299-84-3	11000.00	G	20	E	20.00	1.8	1
SIMAZINE	122-34-9	150.00	G	0.16	E	0.16	0.004	1
STRYCHNINE	57-24-9	66.00	G	0.9	E	0.90	0.011	1
STYRENE	100-42-5	10000.00	C	24	E	24.00	0.1	1
TEBUTHIURON	34014-18-1	15000.00	G	5.6	E	5.60	0.5	1
TERBACIL	5902-51-2	2900.00	G	1	E	1.00	0.09	1
TERBUFOS	13071-79-9	1.70	N	0.13	E	0.13	0.0009	1
TETRACHLOROBENZENE, 1,2,4,5-	95-94-3	66.00	G	0.12	E	0.12000	0.011	1
TETRACHLORODIBENZO-P-DIOXIN, 2,3,7,8- (TCDD)	1746-01-6	0.00	G	0.032	E	0.00012	0.00000003	0
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	690.00	G	0.78	E	0.78	0.07	1
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	5.50	N	0.023	E	0.023	0.0003	1
TETRACHLOROETHYLENE (PCE)	127-18-4	340.00	G	0.43	E	0.43	0.005	1

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		Residential Direct Contact		*Soil to Groundwater Pathway Numeric Value*		*Lower of RDC or RGV*	*GWMSC by SPLP4*	
		Soil MSC[2] mg/kg		*Residential Generic Value* mg/kg		mg/kg	mg/L	
TETRACHLOROPHENOL, 2,3,4,6-	58-90-2	6600.00	G	450	E	450.00	0.29	1
TETRAETHYL LEAD	78-00-2	0.02	G	0.0046	E	0.0046	0.0000037	1
TETRAETHYLDITHIOPYROPHOSPHATE	3689-24-5	33.00	N	0.054	E	0.054	0.0049	1
THIOFANOX	39196-18-4	66.00	G	0.12	E	0.12	0.011	1
THIRAM	137-26-8	1100.00	G	47	E	47.00	0.18	1
TOLUENE*	108-88-3	7600.00	N	44	E	44.00	1	1
TOLUIDINE, M-	108-44-1	75.00	G	0.13	E	0.13	0.0028	1
TOLUIDINE, O-	95-53-4	75.00	G	0.32	E	0.32	0.0028	1
TOLUIDINE, P-	106-49-0	94.00	G	0.32	E	0.32	0.0035	1
TOXAPHENE	8001-35-2	16.00	G	1.2	E	1.20	0.003	1
TRIALLATE	2303-17-5	2900.00	G	5.2	E	5.20	0.47	1
TRIBROMOMETHANE (BROMOFORM)	75-25-2	290.00	N	4.3	E	4.30	0.1	1
TRICHLORO- 1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	190000.00	C	920	E	920.00	83	1
TRICHLOROBENZENE, 1,2,4-	120-82-1	2200.00	G	28	E	28.00	0.07	1
TRICHLOROBENZENE, 1,3,5-	108-70-3	1300.00	G	31	E	31.00	0.04	1
TRICHLOROETHANE, 1,1,1-*	71-55-6	4400.00	G	7.2	E	7.20	0.2	1
TRICHLOROETHANE, 1,1,2-	79-00-5	20.00	N	0.15	E	0.15	0.005	1
TRICHLOROETHYLENE (TCE)*	79-01-6	190.00	N	0.17	E	0.17	0.005	1
TRICHLOROPHENOL, 2,4,5-	95-95-4	22000.00	G	2300	E	2300.00	3.7	1
TRICHLOROPHENOL, 2,4,6-	88-06-2	1600.00	G	17	E	17.00	0.06	1
TRICHLOROPHENOXYACETIC ACID, 2,4,5- (2,4,5-T)	93-76-5	2200.00	G	1.5	E	1.50	0.07	1
TRICHLOROPHENOXYPROPIONIC ACID, 2,4,5- (2,4,5-TP)(S	93-72-1	1800.00	G	22	E	22.00	0.05	1
TRICHLOROPROPANE, 1,1,2-	598-77-6	1100.00	G	2	E	2.00	0.18	1
TRICHLOROPROPANE, 1,2,3-	96-18-4	0.16	N	3.3	E	0.16	0.04	0
TRICHLOROPROPENE, 1,2,3-	96-19-5	1100.00	G	2	E	2.00	0.18	1
TRIFLURALIN	1582-09-8	1700.00	G	0.056	E	0.056	0.005	1
TRIMEHTYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-	95-63-6	110.00	N	0.18	E	0.18	0.016	1
TRIMETHYLBENZENE, 1,3,5-	108-67-8	110.00	N	0.18	E	0.18	0.016	1
TRINITROTOLUENE, 2,4,6-	118-96-7	110.00	G	0.022	E	0.022	0.002	1
VINYL ACETATE	108-05-4	3800.00	N	6.5	E	6.50	0.55	1
VINYL BROMIDE (BROMOMETHANE)	593-60-2	160.00	G	0.016	E	0.016	0.0014	1
VINYL CHLORIDE	75-01-4	1.30	N	0.27	E	0.27	0.002	1
WARFARIN	81-81-2	66.00	G	2.6	E	2.60	0.011	1
XYLENES (TOTAL)*	1330-20-7	8300.00	N	850	E	850.00	10	1
ZINEB	12122-67-7	11000.00	G	20	E	20.00	1.8	1

Total No. of Organic Regulated Substances with Generic Value < Direct Contact (out of a total of 323 substances) ——— 306

SHS - Statewide health standards

*For screening of petroleum hydrocarbons from airborne pollution at a site, if only those contaminants are of concern.

[1] Residential SHS (used aquifer, TDS≤ 2500 mg/L) developed under the land recycling program of Act 2.

[2] MSC - medium specific concentration

[3] Lower of the Residential Generic Value compared to Residential Direct Contact value of the applicable SHS

E - Number calculated by the soil to groundwater equation in Section 250.308

G = Ingestion; C = Cap; N = Inhalation

[4] Waste not to exceed groundwater MSC by SPLP analysis

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Table 3: Safe Fill Numeric Standards for Organic Regulated Substances

Regulated Compound/Contaminant	***Lower of RDC to RGV*** **mg/kg**
ALDRIN	0.10
ANTHRACENE	350.0
BENZENE	0.13
BENZO[A]ANTHRACENE	25.0
BENZO[A]PYRENE	2.5
BENZO[B]FLUORANTHENE	25.0
BENZO[GHI]PERYLENE	180.0
CHRYSENE	230.0
CUMENE (ISOPROPYL BENZENE)	790.0
DDD, 4,4'-	0.68
DDE, 4,4'-	41.0
DDT, 4,4'-	53.0
DICHLOROETHYLENE, CIS-1,2-	1.6
DIELDRIN	0.1
ETHYL BENZENE	46.0
FLUORENE	380.0
INDENO[1,2,3-CD]PYRENE	25.0
NAPHTHALENE	5.0
PCB-1254 (AROCLOR)	4.4
PHENANTHRENE	10000.0
PYRENE	2200.0
TOLUENE	44.0
TRICHLOROETHANE, 1,1,1-	7.2
TRICHLOROETHYLENE (TCE)	0.2
XYLENES (TOTAL)	850.0

APPENDIX A

Table 4: Numeric Standards for Soil from "Known Areas of Contamination" Qualifying for PBR 287.102(I)

REGULATED SUBSTANCES	CASRN	SHS[1] (nonresidential, used aquifer, TDS≤2500 mg/kg)			Permit By Rule FOR Known Area of Contamination[2] Section 287.102 (I) (higher of M or G)
		100XGWMSC (M) mg/kg	Generic Value (G) mg/kg		
ARSENIC	7440-38-2	5	150		150
LEAD	7439-92-1	0.5	450		450
ALDRIN	309-00-2	0.0037	0.44	E	0.44
DIELDRIN	60-57-1	0.016	0.44	E	0.44
DDD, 4,4'-	72-54-8	0.27	30	E	30
DDE, 4,4'-	72-55-9	0.76	170	E	170
DDT, 4,4'-	50-29-3	0.55	330	E	330

[1] Statewide health standards

[2] Contaminated soil resulting from urbanization and agricultural practices

E - Number calculated by the soil to groundwater equation in 25 Pa. Code Section 250.308

APPENDIX A

TABLE 5: Numeric Standards for Organic Regulated Substances in: Historic Fill;in Soil and Dredged Material Exceeding Safe Fill Standards; and in Soil Impacted by a Release or in Segregated BBC from C/D Waste

REGULATED SUBSTANCE	CASRN	SHS[1] (residnetial, used aquifer, TDS<2500 mg/L)						Permit By Rule	Permit By Rule[3]			Permit by Rule
		Direct Contact(RDC)		*Soil to Groundwater Pathway Numeric Value*				Historic Fill	Soil/Dredged Material Exceeding Safe Fill or			Segregated BBC from
		Soil MSC[2] (RDC) mg/kg (lowest)		100XMSC (M) mg/kg	Generic Value (GV) mg/kg			Section 287.102(n) mg/kg Higher of M to GV	Impacted by Spill/Release:Section 287.102(m) RDC[4] (soil) mg/kg		SPLP[5] mg/L	C/D Waste, 271.103(i) Lower of RDC or RGV mg/kg
ACENAPHTHENE	83-32-9	13000	G	220	2700	E		2700	13000		2.2	G	2700
ACENAPHTHYLENE	208-96-8	13000	G	220	2500	E		2500	13000		2.2	G	2500
ACEPHATE	30560-19-1	880	G	7.6	0.9	E		7.6	880		0.076	G	0.9
ACETALDEHYDE	75-07-0	140	N	1.9	0.23	E		1.9	140		0.019	N	0.23
ACETONE	67-64-1	10000	C	370	41	E		370	10000		3.7	G	41
ACETONITRILE	75-05-8	1100	C	17	1.9	E		17	1100		0.17	N	1.9
ACETOPHENONE	98-86-2	10000	C	370	200	E		370	10000		3.7	G	200
ACETYLAMINOFLUORENE, 2- (2AAF)	53-96-3	4.7	G	0.017	0.069	E		0.069	4.7		0.00017	G	0.069
ACROLEIN	10-702-8	0.38	N	0.0055	0.00062	E		0.0055	0.38		0.000055	N	0.00062
ACRYLAMIDE	79-06-1	4	G	0.0033	0.00057	E		0.0033	4		0.000033	N	0.00057
ACRYLIC ACID	79-10-7	19	N	0.28	0.051	E		0.28	19		0.0028	N	0.051
ACRYLONITRILE	107-13-1	4.7	N	0.063	0.0087	E		0.063	4.7		0.00063	N	0.0087
ALACHLOR	15972-60-8	220	G	0.2	0.077	E		0.2	220		0.002	M	0.077
ALDICARB	116-06-3	220	G	0.7	0.12	E		0.7	220		0.007	M	0.12
ALDRIN	309-00-2	1.1	G	0.00087	0.1	E		0.1	1.1		0.0000087	N	0.1
ALLYL ALCOHOL	107-18-6	330	N	4.9	0.58	E		4.9	330		0.049	N	0.58
AMINOBIPHENYL, 4-	92-67-1	0.85	G	0.0031	0.0012	E		0.0031	0.85		0.000031	G	0.0012
AMITROLE	61-82-5	19	G	0.07	0.029	E		0.07	19		0.0007	G	0.029
AMMONIA	7664-41-7	1900	N	3000	360	E		3000	1900		30	H	360
AMMONIUM SULFAMATE	7773-06-0	44000	G	200	24	E		200	44000		2	H	24
ANILINE	62-53-3	19	N	0.28	0.16	E		0.28	19		0.0028	N	0.16
ANTHRACENE	120-12-7	66000	G	6.6	350	E		350	66000		0.066	S	350
ATRAZINE	1912-24-9	81	G	0.3	0.13	E		0.3	81		0.003	M	0.13
BAYGON (PROPOXUR)	114-26-1	880	G	0.3	0.057	E		0.3	880		0.003	H	0.057
BENOMYL	17804-35-2	11000	G	180	880	E		880	11000		1.8	G	880
BENTAZON	25057-89-0	6600	G	110	16	E		110	6600		1.1	G	16
BENZENE	71-43-2	41	N	0.5	0.13	E		0.5	41		0.005	M	0.13
BENZIDINE	92-87-5	0.078	G	0.00029	0.38	E		0.38	0.078		0.0000029	G	0.078
BENZO[A]ANTHRACENE	56-55-3	25	G	0.09	79	E		79	25		0.0009	G	25
BENZO[A]PYRENE	50-32-8	2.5	G	0.02	46	E		46	2.5		0.0002	M	2.5
BENZO[B]FLUORANTHENE	205-99-2	25	G	0.09	120	E		120	25		0.0009	G	25
BENZO[GHI]PERYLENE	191-24-2	13000	G	0.026	180	E		180	13000		0.00026	S	180
BENZO[K]FLUORANTHENE	207-08-9	250	G	0.055	610	E		610	250		0.00055	S	250
BENZOIC ACID	65-85-0	190000	C	15000	2900	E		15000	190000		150	G	2900
BENZOTRICHLORIDE	98-07-7	1.4	G	0.0051	0.012	E		0.012	1.4		0.000051	G	0.012
BENZYL ALCOHOL	100-51-6	10000	C	1100	400	E		1100	10000		11	G	400
BENZYL CHLORIDE	100-44-7	6.4	N	0.087	0.051	E		0.087	6.4		0.00087	N	0.051
BHC, ALPHA	319-84-6	2.8	G	0.01	0.046	E		0.046	2.8		0.0001	G	0.046
BHC, BETA-	319-85-7	9.9	G	0.037	0.22	E		0.22	9.9		0.00037	G	0.22

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REGULATED SUBSTANCE	CASRN	SHS[1] (residnetial, used aquifer, TDS<2500 mg/L)					Permit By Rule	Permit By Rule[3]			Permit by Rule
		Direct Contact(RDC)		*Soil to Groundwater Pathway Numeric Value*			Historic Fill	Soil/Dredged Material Exceeding Safe Fill or			Segregated BBC from
		Soil MSC[2] (RDC) mg/kg (lowest)		100XMSC (M) mg/kg	Generic Value (GV) mg/kg		Section 287.102(n)	Impacted by Spill/Release:Section 287.102(m)			C/D Waste, 271.103(i)
							mg/kg	RDC[4] (soil) mg/kg	SPLP[5] mg/L		Lower of RDC or RGV mg/kg
							Higher of M to GV				
BHC, DELTA-	319-86-8	130	G	2.2	11	E	11	130	0.022	G	11
BHC, GAMMA (LINDANE)	58-89-9	14	G	0.02	0.072	E	0.072	14	0.0002	M	0.072
BIPHENYL, 1,1-	92-52-4	11000	G	180	790	E	790	11000	1.8	G	790
BIS(2-CHLOROETHYL)ETHER	111-44-4	0.96	N	0.013	0.0039	E	0.013	0.96	0.00013	N	0.0039
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	32	N	30	8	E	30	32	0.3	H	8
BIS(CHLOROMETHYL)ETHER	542-88-1	0.0051	N	0.000069	0.00001	E	0.000069	0.0051	0.00000069	N	0.00001
BIS[2-ETHYLHEXYL] PHTHALATE	117-81-7	1300	G	0.6	130	E	130	1300	0.006	M	130
BISPHENOL A	80-05-7	11000	G	180	700	E	700	11000	1.8	G	700
BROMACIL	314-40-9	22000	G	8	2	E	8	22000	0.08	H	2
BROMOCHLOROMETHANE	74-97-5	2200	G	9	1.6	E	9	2200	0.09	H	1.6
BROMODICHLOROMETHANE	75-27-4	8.6	N	10	3.4	E	10	8.6	0.1	M	3.4
BROMOMETHANE	74-83-9	95	N	1	0.54	E	1	95	0.01	H	0.54
BROMOXYNIL	1689-84-5	4400	G	73	63	E	73	4400	0.73	G	63
BROMOXYNIL OCTANOATE	1689-99-2	4400	G	8	360	E	360	4400	0.08	S	360
BUTADIENE, 1,3-	106-99-0	5.3	G	0.015	0.0062	E	0.015	5.3	0.00015	N	0.0062
BUTYL ALCOHOL, N-	71-36-3	6600	N	97	12	E	97	6600	0.97	N	12
BUTYLATE	2008-41-5	10000	C	35	51	E	51	10000	0.35	H	51
BUTYLBENZENE, N-	104-51-8	8800	G	150	950	E	950	8800	1.5	G	950
BUTYLBENZENE, SEC-	135-98-8	8800	G	150	350	E	350	8800	1.5	G	350
BUTYLBENZENE, TERT-	98-06-6	8800	G	150	270	E	270	8800	1.5	G	270
BUTYLBENZYL PHTHALATE	85-68-7	10000	C	270	10000	C	10000	10000	2.7	S	10000
CAPTAN	133-06-2	5100	G	19	12	E	19	5100	0.19	G	12
CARBARYL	63-25-2	22000	G	70	41	E	70	22000	0.7	H	41
CARBAZOLE	86-74-8	900	G	3.3	21	E	21	900	0.033	G	21
CARBOFURAN	1563-66-2	1100	G	4	0.87	E	4	1100	0.04	M	0.87
CARBON DISULFIDE	75-15-0	10000	C	190	160	E	190	10000	1.9	N	160
CARBON TETRACHLORIDE	56-23-5	21	N	0.5	0.26	E	0.5	21	0.005	M	0.26
CARBOXIN	5234-68-4	22000	G	70	53	E	70	22000	0.7	H	53
CHLORAMBEN	133-90-4	3300	G	10	1.6	E	10	3300	0.1	H	1.6
CHLORDANE	57-74-9	51	G	0.2	49	E	49	51	0.002	M	49
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3	190000	C	14000	2300	E	14000	190000	140	N	2300
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	19	N	0.28	0.065	E	0.28	19	0.0028	N	0.065
CHLOROACETOPHENONE, 2-	532-27-4	1.9	G	0.031	0.0093	E	0.031	1.9	0.00031	G	0.0093
CHLOROANILINE, P-	106-47-8	880	G	15	19	E	19	880	0.15	G	19
CHLOROBENZENE	108-90-7	4400	G	10	6.1	E	10	4400	0.1	M	6.1
CHLOROBENZILATE	510-15-6	66	G	0.24	1.6	E	1.6	66	0.0024	G	1.6
CHLOROBUTANE, 1-	109-69-3	10000	C	1500	2300	E	2300	10000	15	G	2300
CHLORODIBROMOMETHANE	124-48-1	12	N	10	3.2	E	10	12	0.1	M	3.2
CHLORODIFLUOROMETHANE	75-45-6	190000	C	10	2.6	E	10	190000	0.1	H	2.6

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REGULATED SUBSTANCE	CASRN	SHS[1] (residnetial, used aquifer, TDS<2500 mg/L)					Permit By Rule	Permit By Rule[3]			Permit by Rule
		Direct Contact(RDC)		*Soil to Groundwater Pathway Numeric Value*			Historic Fill	Soil/Dredged Material Exceeding Safe Fill or			Segregated BBC from
		Soil MSC[2] (RDC)		100XMSC (M)	Generic Value (GV)		Section 287.102(n)	Impacted by Spill/Release:Section 287.102(m)			C/D Waste, 271.103(i)
		mg/kg (lowest)		mg/kg	mg/kg		mg/kg Higher of M to GV	RDC[4] (soil) mg/kg	SPLP[5] mg/L		Lower of RDC or RGV mg/kg
CHLOROETHANE	75-00-3	6200	G	23	5	E	23	6200	0.23	G	5
CHLOROFORM	67-66-3	14	N	10	2.5	E	10	14	0.1	M	2.5
CHLORONAPHTHALENE, 2-	91-58-7	18000	G	290	6,200	E	6200	18000	2.9	G	6200
CHLORONITROBENZENE, P-	100-00-5	990	G	3.7	4.9	E	4.9	990	0.037	G	4.9
CHLOROPHENOL, 2-	95-57-8	330	N	4	4.4	E	4.4	330	0.04	H	4.4
CHLOROPRENE	126-99-8	130	N	1.9	0.45	E	1.9	130	0.019	N	0.45
CHLOROPROPANE, 2-	75-29-6	1900	N	28	21	E	28	1900	0.28	N	21
CHLOROTHALONIL	1897-45-6	1600	G	6	15	E	15	1600	0.06	G	15
CHLOROTOLUENE, O-	95-49-8	4400	G	10	20	E	20	4400	0.1	H	20
CHLORPYRIFOS	2921-88-2	660	G	2	23	E	23	660	0.02	H	23
CHLORSULFURON	64902-72-3	11000	G	180	25	E	180	11000	1.8	G	25
CHLORTHAL-DIMETHYL (DACTHAL) (DCPA)	1861-32-1	2200	G	40	650	E	650	2200	0.4	H	650
CHRYSENE	218-01-9	2500	G	0.19	230	E	230	2500	0.0019	S	230
CRESOL(S)	1319-77-3	330	N	18	3.1	E	18	330	0.18	[N]	3.1
CRESOL, 0- (METHYLPHENOL, 2-)	95-48-7	10000	C	180	64	E	180	10000	1.8	G	64
CRESOL, M (METHYLPHENOL, 3-)	108-39-4	10000	C	180	36	E	180	10000	1.8	G	36
CRESOL, P (METHYLPHENOL, 4-)	106-44-5	1100	G	18	4.2	E	18	1100	0.18	G	4.2
CRESOL, P-CHLORO-M-	59-50-7	1100	G	18	37	E	37	1100	0.18	G	37
CROTONALDEHYDE	4170-30-3	9.4	G	0.0079	0.00099	E	0.0079	9.4	0.000079	N	0.00099
CROTONALDEHYDE, TRANS-	123-73-9	9.4	G	0.035	0.0044	E	0.035	9.4	0.000079	G	0.0044
CUMENE	98-82-8	7300	N	110	780	E	780	7300	1.1	N	780
CYCLOHEXANONE	108-94-1	10000	C	4,900	1,400	E	4900	10000	49	N	1400
CYFLUTHRIN	68359-37-5	5500	G	0.1	33	E	33	5500	0.001	S	33
CYROMAZINE	66215-27-8	1700	G	27	84	E	84	1700	0.27	G	84
DDD, 4,4'-	72-54-8	75	G	0.062	6.8	E	6.8	75	0.00062	N	6.8
DDE, 4,4'-	72-55-9	53	G	0.19	41	E	41	53	0.0019	[S]	41
DDT, 4,4'-	50-29-3	53	G	0.19	110	E	110	53	0.0019	[S]	53
DI(2-ETHYLHEXYL)ADIPATE	103-23-1	10000	C	40	10000	C	10000	10000	0.4	M	10000
DIALLATE	2303-16-4	18	N	0.25	0.15	E	0.25	18	0.0025	N	0.15
DIAMINOTOLUENE, 2,4-	95-80-7	5.6	G	0.021	0.0042	E	0.021	5.6	0.00021	G	0.0042
DIAZINON	333-41-5	200	G	0.06	0.082	E	0.082	200	0.0006	H	0.082
DIBENZO[A,H]ANTHRACENE	53-70-3	2.5	G	0.009	41	E	41	2.5	0.00009	G	2.5
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	3.8	N	0.02	] 0.0092	E	0.02	3.8	0.0002	M	3.8
DIBROMOBENZENE, 1,4-	106-37-6	2200	G	37	150	E	150	2200	0.37	G	150
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	0.21	G	0.005	0.0012	E	0.005	0.21	0.00005	M	0.0012
DIBROMOMETHANE	74-95-3	670	N	9.7	3.7	E	9.7	670	0.097	N	3.7
DIBUTYL PHTHALATE, N-	84-74-2	10000	C	370	1500	E	1500	10000	3.7	G	1500
DICHLORO-2-BUTENE, 1,4-	764-41-0	91000	N	0.0016	0.0009	E	0.0016	91000	0.000016	N	0.0009
DICHLOROBENZENE, 1,2-	95-50-1	3800	N	60	59	E	60	3800	0.6	M	59

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REGULATED SUBSTANCE	CASRN	SHS[1] (residnetial, used aquifer, TDS<2500 mg/L)					Permit By Rule	Permit By Rule[3]			Permit by Rule
		Direct Contact(RDC)		*Soil to Groundwater Pathway Numeric Value*			Historic Fill	Soil/Dredged Material Exceeding Safe Fill or			Segregated BBC from
		Soil MSC[2] (RDC) mg/kg (lowest)		100XMSC (M) mg/kg	Generic Value (GV) mg/kg		Section 287.102(n) mg/kg Higher of M to GV	Impacted by Spill/Release:Section 287.102(m) RDC[4] (soil) mg/kg	SPLP[5] mg/L		C/D Waste, 271.103(i) Lower of RDC or RGV mg/kg
DICHLOROBENZENE, 1,3-	541-73-1	60	N	60	61	E	61	60	0.6	H	60
DICHLOROBENZENE, P-	106-46-7	750	G	7.5	10	E	10	750	0.075	M	10
DICHLOROBENZIDINE, 3,3'-	91-94-1	40	G	0.15	[8.4] 8.3	E	0.15	40	0.0015	G	40
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	3800	N	100	100	E	100	3800	1	H	100
DICHLOROETHANE, 1,1-	75-34-3	200	N	2.7	0.65	E	2.7	200	0.027	N	0.65
DICHLOROETHANE, 1,2-	107-06-2	12	N	0.5	0.1	E	0.5	12	0.005	M	0.1
DICHLOROETHYLENE, 1,1-	75-35-4	6.4	N	0.7	0.19	E	0.7	6.4	0.007	M	0.19
DICHLOROETHYLENE, CIS-1,2-	156-59-2	670	N	7	1.6	E	7	670	0.07	M	1.6
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	1300	N	10	2.3	E	10	1300	0.1	M	2.3
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	680	N	0.5	0.076	E	0.5	680	0.005	M	0.076
DICHLOROPHENOL, 2,4-	120-83-2	660	G	2	1	E	2	660	0.02	H	1
DICHLOROPHENOXYACETIC ACID, 2,4- (2,4-D)	94-75-7	2200	G	7	1.8	E	7	2200	0.07	M	1.8
DICHLOROPROPANE, 1,2-	78-87-5	18	N	0.5	0.11	E	0.5	18	0.005	M	0.11
DICHLOROPROPENE, 1,3-	542-75-6	8.6	N	0.66	0.12	E	0.66	8.6	0.0066	G	0.12
DICHLOROPROPIONIC ACID (DALAPON), 2,2-	75-99-0	2000	N	20	5.3	E	20	2000	0.2	M	5.3
DICHLORVOS	62-73-7	62	G	0.052	0.012	E	0.052	62	0.00052	N	0.012
DICYCLOPENTADIENE	77-73-6	6600	G	0.055	0.12	E	0.12	6600	0.00055	N	0.12
DIELDRIN	60-57-1	1.1	G	0.0041	0.11	E	0.11	1.1	0.000041	G	0.11
DIETHYL PHTHALATE	84-66-2	10000	C	500	160	E	500	10000	5	H	160
DIFLUBENZURON	35367-38-5	4400	G	20	52	E	52	4400	0.2	S	52
DIMETHOATE	60-51-5	44	G	0.73	0.28	E	0.73	44	0.0073	G	0.28
DIMETHOXYBENZIDINE, 3,3-	119-90-4	1300	G	4.7	16	E	16	1300	0.047	G	16
DIMETHYLAMINOAZOBENZENE, P-	60-11-7	3.9	G	0.014	0.037	E	0.037	3.9	0.00014	G	0.037
DIMETHYLANILINE, N,N-	000121-69-7	440	G	7.3	4.1	E	7.3	440	0.073	G	4.1
DIMETHYLBENZIDINE, 3,3-	000119-93-7	1.9	G	0.0072	0.4	E	0.4	1.9	0.000072	G	0.4
DIMETHYLPHENOL, 2,4-	105-67-9	4400	G	73	32	E	73	4400	0.73	G	32
DINITROBENZENE, 1,3-	99-65-0	22	G	0.1	0.049	E	0.1	22	0.001	H	0.049
DINITROPHENOL, 2,4-	51-28-5	440	G	1.9	0.21	E	1.9	440	0.019	N	0.21
DINITROTOLUENE, 2,4-	121-14-2	58	G	0.21	0.05	E	0.21	58	0.0021	G	0.05
DINITROTOLUENE, 2,6- (2,6-DNT)	606-20-2	220	G	3.7	1.1	E	3.7	220	0.037	G	1.1
DINOSEB	88-85-7	220	G	0.7	0.29	E	0.7	220	0.007	M	0.29
DIOXANE, 1,4-	123-91-1	41	N	0.56	0.073	E	0.56	41	0.0056	N	0.073
DIPHENAMID	957-51-7	6600	G	20	12	E	20	6600	0.2	H	12
DIPHENYLAMINE	122-39-4	5500	G	20	12	E	20	5500	0.2	H	12
DIPHENYLHYDRAZINE, 1,2-	122-66-7	22	G	0.083	0.15	E	0.15	22	0.00083	G	0.15
DIQUAT	85-00-7	480	G	2	0.24	E	2	480	0.02	M	0.24
DISULFOTON	298-04-4	2.7	N	0.03	0.078	E	0.078	2.7	0.0003	H	0.078
DIURON	330-54-1	440	G	1	0.86	E	1	440	0.01	H	0.86

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		Direct Contact(RDC)		*Soil to Groundwater Pathway Numeric Value*			Historic Fill	Soil/Dredged Material Exceeding Safe Fill or			Segregated BBC from
		Soil MSC[2] (RDC) mg/kg (lowest)		100XMSC (M) mg/kg	Generic Value (GV) mg/kg		Section 287.102(n) mg/kg Higher of M to GV	Impacted by Spill/Release:Section 287.102(m) RDC[4] (soil) mg/kg	SPLP[5] mg/L		C/D Waste, 271.103(i) Lower of RDC or RGV mg/kg
ENDOSULFAN	115-29-7	1300	G	5.8	30	E	30	1300	0.058	N	30
ENDOSULFAN I (ALPHA)	959-98-8	1300	G	22	110	E	110	1300	0.22	G	110
ENDOSULFAN II (BETA)	33213-65-9	1300	G	22	130	E	130	1300	0.22	G	130
ENDOSULFAN SULFATE	1031-07-8	1300	G	12	70	E	70	1300	0.12	S	70
ENDOTHALL	145-73-3	4400	G	10	4.1	E	10	4400	0.1	M	4.1
ENDRIN	72-20-8	66	G	0.2	5.5	E	5.5	66	0.002	M	5.5
EPICHLOROHYDRIN	106-89-8	19	N	0.28	0.056	E	0.28	19	0.0028	N	0.056
ETHEPHON	16672-87-0	1100	G	18	2.1	E	18	1100	0.18	G	2.1
ETHION	563-12-2	110	G	1.8	39	E	39	110	0.018	G	39
ETHOXYETHANOL, 2- (EGEE)	110-80-5	3800	[C] N	55	7.8	E	55	3800	0.55	N	7.8
ETHYL ACETATE	141-78-6	10000	C	870	220	E	870	10000	8.7	N	220
ETHYL ACRYLATE	140-88-5	23	N	0.31	0.12	E	0.31	23	0.0031	N	0.12
ETHYL BENZENE	100-41-4	10000	C	70	46	E	70	10000	0.7	M	46
ETHYL DIPROPYLTHIOCARBAMATE, S- (EPTC)	759-94-4	5500	G	91	65	E	91	5500	0.91	G	65
ETHYL ETHER	60-29-7	10000	C	190	53	E	190	10000	1.9	N	53
ETHYL METHACRYLATE	97-63-2	20000	G	87	14	E	87	20000	0.87	N	14
ETHYLENE GLYCOL	107-21-1	10000	C	] 1400	170	E	170	10000	14	H	170
ETHYLENE THIOUREA (ETU)	96-45-7	18	G	0.3	0.034	E	0.3	18	0.003	H	0.034
ETHYLP-NITROPHENYL PHENYLPHOSPHOROTHIOATE	2104-64-5	2.2	G	0.037	0.12	E	0.12	2.2	0.00037	G	0.12
FENAMIPHOS	22224-92-6	55	G	0.2	0.17	E	0.2	55	0.002	H	0.17
FENVALERATE (PYDRIN)	51630-58-1	5500	G	8.5	94	E	94	5500	0.085	S	94
FLUOMETURON (FLUOMETRON IN EPA FEB 96)	2164-17-2	2900	G	9	2.5	E	9	2900	0.09	H	2.5
FLUORANTHENE	206-44-0	8800	G	26	3,200	E	3200	8800	0.26	S	3200
FLUORENE	86-73-7	8800	G	150	3000	E	3000	8800	1.5	G	3000
FLUOROTRICHLOROMETHANE (FREON 11)	75-69-4	10000	C	200	87	E	200	10000	2	H	87
FONOFOS	944-22-9	140	N	1	2.9	E	2.9	140	0.01	H	2.9
FORMALDEHYDE	50-00-0	24	N	100	12	E	100	24	1	H	12
FORMIC ACID	64-18-6	10000	C	1,900	210	E	1900	10000	19	N	210
FOSETYL-AL	039148-24-8	190000	C	11000	9,700	E	11000	190000	110	G	9700
FURAN	110-00-9	220	G	0.97	0.42	E	0.97	220	0.0097	N	0.42
FURFURAL	98-01-1	660	G	11	1.4	E	11	660	0.097	N	1.4
GLYPHOSATE	1071-83-6	22000	G	70	620	E	620	22000	0.7	M	620
HEPTACHLOR	76-44-8	4	G	0.04	0.68	E	0.68	4	0.0004	M	0.68
HEPTACHLOR EPOXIDE	1024-57-3	2	G	0.02	1.1	E	1.1	2	0.0002	M	1.1
HEXACHLOROBENZENE	118-74-1	11	G	0.1	0.96	E	0.96	11	0.001	M	0.96
HEXACHLOROBUTADIENE	87-68-3	44	G	0.1	1.2	E	1.2	44	0.001	H	1.2
HEXACHLOROCYCLOPENTADIENE	77-47-4	1500	G	5	91	E	91	1500	0.05	M	91
HEXACHLOROETHANE	67-72-1	220	G	0.1	0.56	E	0.56	220	0.001	H	0.56
HEXANE	110-54-3	3800	N	55	500	E	500	3800	0.55	N	500

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REGULATED SUBSTANCE	CASRN	SHS[1] (residnetial, used aquifer, TDS<2500 mg/L)					Permit By Rule	Permit By Rule[3]			Permit by Rule
		Direct Contact(RDC)		*Soil to Groundwater Pathway Numeric Value*			Historic Fill	Soil/Dredged Material Exceeding Safe Fill or			Segregated BBC from
		Soil MSC[2] (RDC) mg/kg (lowest)		100XMSC (M) mg/kg	Generic Value (GV) mg/kg		Section 287.102(n) mg/kg Higher of M to GV	Impacted by Spill/Release:Section 287.102(m) RDC[4] (soil) mg/kg	SPLP[5] mg/L		C/D Waste, 271.103(i) Lower of RDC or RGV mg/kg
HEXYTHIAZOX (SAVEY)	78587-05-0	5500	G	50	820	E	820	5500	0.5	S	820
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	0.064	N	0.00088	0.000098	E	0.00088	0.064	0.0000088	N	0.000098
HYDROQUINONE	123-31-9	8800	G	150	20	E	150	8800	1.5	G	20
INDENO[1,2,3-CD]PYRENE	193-39-5	25	G	0.09	7000	E	7000	25	0.0009	G	25
IPRODIONE	36734-19-7	8800	G	150	430	E	430	8800	1.5	G	430
ISOBUTYL ALCOHOL	78-83-1	10000	C	290	76	E	290	10000	2.9	N	76
ISOPHORONE	78-59-1	10000	C	10	1.9	E	10	10000	0.1	H	1.9
KEPONE	143-50-0	1.1	G	0.0041	0.56	E	0.56	1.1	0.000041	G	0.56
MALATHION	121-75-5	1400	N	10	34	E	34	1400	0.1	H	34
MALEIC HYDRAZIDE	123-33-1	110000	G	400	47	E	400	110000	4	H	47
MANEB	12427-38-2	1100	G	18	2	E	18	1100	0.18	G	2
MERPHOS OXIDE	78-48-8	6.6	G	0.11	15	E	15	6.6	0.0011	G	6.6
METHACRYLONITRILE	126-98-7	13	N	0.19	0.031	E	0.19	13	0.0019	N	0.031
METHAMIDOPHOS	10265-92-6	11	G	0.18	0.022	E	0.18	11	0.0018	G	0.022
METHANOL	67-56-1	10000	C	490	58	E	490	10000	4.9	N	58
METHOMYL	16752-77-5	5500	G	20	3.2	E	20	5500	0.2	H	3.2
METHOXYCHLOR	72-43-5	1100	G	4	630	E	630	1100	0.04	M	630
METHOXYETHANOL, 2-	109-86-4	220	G	3.7	0.41	E	3.7	220	0.037	G	0.41
METHYL ACETATE	79-20-9	10000	C	3700	690	E	3700	10000	37	G	690
METHYL ACRYLATE	96-33-3	6600	G	110	27	E	110	6600	1.1	G	27
METHYL CHLORIDE	74-87-3	180	N	0.3	0.038	E	0.3	180	0.003	H	0.038
METHYL ETHYL KETONE	78-93-3	10000	C	280	54	E	280	10000	2.8	N	54
METHYL ISOBUTYL KETONE	108-10-1	1500	N	19	2.9	E	19	1500	0.19	N	2.9
METHYL METHACRYLATE	80-62-6	10000	C	190	26	E	190	10000	1.9	N	26
METHYL METHANESULFONATE	66-27-3	180	G	0.67	0.083	E	0.67	180	0.0067	G	0.083
METHYL PARATHION	298-00-0	17	N	0.2	0.42	E	0.42	17	0.002	H	0.42
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	1300	G	22	120	E	120	1300	0.22	G	120
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	10000	C	2	0.28	E	2	10000	0.02	H	0.28
METHYLENE BIS(2-CHLOROANILINE), 4,4'-	101-14-4	140	G	0.51	3.9	E	3.9	140	0.0051	G	3.9
METHYLNAPHTHALENE, 2-	91-57-6	4400	G	73	2,900	E	2900	4400	0.73	G	2900
METHYLSTYRENE, ALPHA	98-83-9	15000	G	68	120	E	120	15000	0.68	N	120
NAPHTHALENE	91-20-3	4400	G	10	25	E	25	4400	0.1	H	25
NAPHTHYLAMINE, 1-	134-32-7	9.9	G	0.037	0.3	E	0.3	9.9	0.00037	G	0.3
NAPHTHYLAMINE, 2-	91-59-8	9.9	G	0.037	0.012	E	0.037	9.9	0.00037	G	0.012
NAPROPAMIDE	15299-99-7	22000	G	370	860	E	860	22000	3.7	G	860
NITROANILINE, M-	99-09-2	13	G	0.21	0.033	E	0.21	13	0.0021	G	0.033
NITROANILINE, O-	88-74-4	13	G	0.21	0.038	E	0.21	13	0.0021	G	0.038
NITROANILINE, P-	100-01-6	13	G	0.21	0.031	E	0.21	13	0.0021	G	0.031
NITROBENZENE	98-95-3	110	G	1.8	0.79	E	1.8	110	0.018	G	0.79

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		Soil MSC[2] (RDC) mg/kg (lowest)		100XMSC (M) mg/kg	Generic Value (GV) mg/kg		Section 287.102(n) mg/kg Higher of M to GV	Impacted by Spill/Release:Section 287.102(m) RDC[4] (soil) mg/kg	SPLP[5] mg/L		C/D Waste, 271.103(i) Lower of RDC or RGV mg/kg
NITROPHENOL, 2-	88-75-5	1800	G	29	5.9	E	29	1800	0.29	G	5.9
NITROPHENOL, 4-	100-02-7	1800	G	6	4.1	E	6	1800	0.06	H	4.1
NITROPROPANE, 2-	79-46-9	0.12	N	0.0016	0.00026	E	0.0016	0.12	0.000016	N	0.00026
NITROSODIETHYLAMINE, N-	55-18-5	0.0073	N	0.0001	0.000018	E	0.0001	0.0073	0.000001	N	0.000018
NITROSODIMETHYLAMINE, N-	62-75-9	0.023	N	0.00031	0.000041	E	0.00031	0.023	0.0000031	N	0.000041
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	3.3	G	0.0027	0.0033	E	0.0033	3.3	0.000027	N	0.0033
NITROSODI-N-PROPYLAMINE, N-	621-64-7	2.6	G	0.0094	0.0013	E	0.0094	2.6	0.000094	G	0.0013
NITROSODIPHENYLAMINE, N-	86-30-6	3700	G	13	20	E	20	3700	0.13	G	20
NITROSO-N-ETHYLUREA, N-	759-73-9	0.13	G	0.00047	0.000054	E	0.00047	0.13	0.0000047	G	0.000054
OCTYL PHTHALATE, DI-N-	117-84-0	4400	G	73	10,000	C	10000	4400	0.73	G	4400
OXAMYL (VYDATE)	23135-22-0	5500	G	20	2.6	E	20	5500	0.2	M	2.6
PARATHION	56-38-2	1300	G	22	130	E	130	1300	0.22	G	130
PCB-1016 (AROCLOR)	12674-11-2	15	G	0.05	14	E	14	15	0	P	14
PCB-1221 (AROCLOR)	11104-28-2	36	G	0.05	0.24	E	0.24	36	0	P	0.24
PCB-1232 (AROCLOR)	11141-16-5	36	G	0.05	0.19	E	0.19	36	0	P	0.19
PCB-1242 (AROCLOR)	53469-21-9	36	G	0.05	6	E	6	36	0	P	6
PCB-1248 (AROCLOR)	12672-29-6	9.9	G	0.05	24	E	24	9.9	0	P	9.9
PCB-1254 (AROCLOR)	11097-69-1	4.4	G	0.05	100	E	100	4.4	0	P	4.4
PCB-1260 (AROCLOR)	11096-82-5	30	G	0.05	230	E	230	30	0	P	30
PEBULATE	1114-71-2	10000	C	180	300	E	300	10000	1.8	G	300
PENTACHLOROBENZENE	608-93-5	180	G	2.9	230	E	230	180	0.029	G	180
PENTACHLORONITROBENZENE	82-68-8	69	G	0.25	5	E	5	69	0.0025	G	5
PENTACHLOROPHENOL	87-86-5	150	G	0.1	5	E	5	150	0.001	M	5
PHENACETIN	62-44-2	8100	G	30	12	E	30	8100	0.3	G	12
PHENANTHRENE	85-01-8	66000	G	110	10,000	E	10000	66000	1.1	S	10000
PHENOL	108-95-2	130000	G	400	66	E	400	130000	4	H	66
PHENYLENEDIAMINE, M-	108-45-2	1300	G	22	3.1	E	22	1300	0.22	G	3.1
PHENYLPHENOL, 2-	90-43-7	9200	G	34	490	E	490	9200	0.34	G	490
PHORATE	298-02-2	13	N	0.19	0.41	E	0.41	13	0.0019	N	0.41
PHTHALIC ANHYDRIDE	85-44-9	190000	C	7,300	2,300	E	7300	190000	73	G	2300
PICLORAM	1918-02-1	15000	G	50	7.4	E	50	15000	0.5	M	7.4
PRONAMIDE	23950-58-5	17000	G	5	3.1	E	5	17000	0.05	H	3.1
PROPANIL	709-98-8	1100	G	18	9.2	E	18	1100	0.18	G	9.2
PROPHAM	122-42-9	4400	G	73	17	E	73	4400	0.73	G	17
PROPYLBENZENE, N-	103-65-1	2200	G	150	290	E	290	2200	1.5	G	290
PROPYLENE OXIDE	75-56-9	75	G	0.28	0.049	E	0.28	75	0.0028	G	0.049
PYRENE	129-00-0	6600	G	13	2200	E	2200	6600	0.13	S	2200
PYRIDINE	110-86-1	67	N	0.97	0.11	E	0.97	67	0.0097	N	0.11
QUINOLINE	91-22-5	1.5	G	0.0055	0.018	E	0.018	1.5	0.000055	G	0.018

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		Direct Contact(RDC)		*Soil to Groundwater Pathway Numeric Value*			Historic Fill	Soil/Dredged Material Exceeding Safe Fill or			Segregated BBC from
		Soil MSC[2] (RDC) mg/kg (lowest)		100XMSC (M) mg/kg	Generic Value (GV) mg/kg		Section 287.102(n)	Impacted by Spill/Release:Section 287.102(m)			C/D Waste, 271.103(i)
							mg/kg Higher of M to GV	RDC[4] (soil) mg/kg	SPLP[5] mg/L		Lower of RDC or RGV mg/kg
QUIZALOFOP (ASSURE)	76578-14-8	2000	G	30	47	E	47	2000	0.3	S	47
RONNEL	299-84-3	11000	G	180	280	E	280	11000	1.8	G	280
SIMAZINE	122-34-9	150	G	0.4	0.15	E	0.4	150	0.004	M	0.15
STRYCHNINE	57-24-9	66	G	1.1	0.89	E	1.1	66	0.011	G	0.89
STYRENE	100-42-5	10000	C	10	24	E	24	10000	0.1	M	24
TEBUTHIURON	34014-18-1	15000	G	50	83	E	83	15000	0.5	H	83
TERBACIL	5902-51-2	2900	G	9	2.2	E	9	2900	0.09	H	2.2
TERBUFOS	13071-79-9	1.7	N	0.09	0.12	E	0.12	1.7	0.0009	H	0.12
TETRACHLOROBENZENE, 1,2,4,5-	95-94-3	66	G	1.1	5.1	E	5.1	66	0.011	G	5.1
TETRACHLORODIBENZO-P-DIOXIN, 2,3,7,8- (TCDD)	1746-01-6	0.00012	G	0.000003	0.032	E	0.032	0.00012	0.00000003	M	0.00012
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	690	G	7	18	E	18	690	0.07	H	18
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	5.5	N	0.03	0.0093	E	0.03	5.5	0.0003	N	0.0093
TETRACHLOROETHYLENE (PCE)	127-18-4	340	G	0.5	0.43	E	0.5	340	0.005	M	0.43
TETRACHLOROPHENOL, 2,3,4,6-	58-90-2	6600	G	29	450	E	450	6600	0.29	N	450
TETRAETHYL LEAD	78-00-2	0.022	G	0.00037	0.0046	E	0.0046	0.022	0.0000037	G	0.0046
TETRAETHYLDITHIOPYROPHOSPHATE	3689-24-5	33	N	0.49	0.73	E	0.73	33	0.0049	N	0.73
THIOFANOX	39196-18-4	66	G	1.1	0.12	E	1.1	66	0.011	G	0.12
THIRAM	137-26-8	1100	G	18	47	E	47	1100	0.18	G	47
TOLUENE	108-88-3	7600	N	100	44	E	100	7600	1	M	44
TOLUIDINE, M-	108-44-1	75	G	0.28	0.13	E	0.28	75	0.0028	G	0.13
TOLUIDINE, O-	95-53-4	75	G	0.28	0.32	E	0.32	75	0.0028	G	0.32
TOLUIDINE, P-	106-49-0	94	G	0.35	0.32	E	0.35	94	0.0035	G	0.32
TOXAPHENE	8001-35-2	16	G	0.3	1.2	E	1.2	16	0.003	M	1.2
TRIALLATE	2303-17-5	2900	G	47	240	E	240	2900	0.47	G	240
TRIBROMOMETHANE (BROMOFORM)	75-25-2	290	N	10	4.4	E	10	290	0.1	M	4.4
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	190000	C	8300	2600	E	8300	190000	83	N	2600
TRICHLOROBENZENE, 1,2,4-	120-82-1	2200	G	7	27	E	27	2200	0.07	M	27
TRICHLOROBENZENE, 1,3,5-	108-70-3	1300	G	4	31	E	31	1300	0.04	H	31
TRICHLOROETHANE, 1,1,1-	71-55-6	4400	G	20	7.2	E	20	4400	0.2	M	7.2
TRICHLOROETHANE, 1,1,2-	79-00-5	20	N	0.5	0.15	E	0.5	20	0.005	M	0.15
TRICHLOROETHYLENE (TCE)	79-01-6	190	N	0.5	0.17	E	0.5	190	0.005	M	0.17
TRICHLOROPHENOL, 2,4,5-	95-95-4	22000	G	370	2,300	E	2300	22000	3.7	G	2300
TRICHLOROPHENOL, 2,4,6-	88-06-2	1600	G	6	17	E	17	1600	0.06	G	17
TRICHLOROPHENOXYACETIC ACID, 2,4,5- (2,4,5-T)	93-76-5	2200	G	7	1.5	E	7	2200	0.07	H	1.5
TRICHLOROPHENOXYPROPIONIC ACID, 2,4,5- (2,4,5-TP) (SILVEX)	93-72-1	1800	G	5	22	E	22	1800	0.05	M	22
TRICHLOROPROPANE, 1,1,2-	598-77-6	1100	G	18	3.1	E	18	1100	0.18	G	3.1
TRICHLOROPROPANE, 1,2,3-	96-18-4	0.16	N	4	[3.3] 3.2	E	4	0.16	0.04	H	0.16
TRICHLOROPROPENE, 1,2,3-	96-19-5	1100	G	18	11	E	18	1100	0.18	G	11

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							mg/kg Higher of M to GV	RDC[4] (soil) mg/kg	SPLP[5] mg/L		Lower of RDC or RGV mg/kg
TRIFLURALIN	1582-09-8	1700	G	0.5	0.96	E	0.96	1700	0.005	H	0.96
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	95-63-6	110	N	1.6	9	E	9	110	0.016	N	9
TRIMETHYLBENZENE, 1,3,5-	108-67-8	110	N	1.6	2.8	E	2.8	110	0.016	N	2.8
TRINITROTOLUENE, 2,4,6-	118-96-7	110	G	0.2	0.023	E	0.2	110	0.002	H	0.023
VINYL ACETATE	108-05-4	3800	N	55	6.5	E	55	3800	0.55	N	6.5
VINYL BROMIDE (BROMOETHENE)	593-60-2	160	G	0.14	0.068	E	0.14	160	0.0014	N	0.068
VINYL CHLORIDE	75-01-4	1.3	N	0.2	0.027	E	0.2	1.3	0.002	M	0.027
WARFARIN	81-81-2	66	G	1.1	2.6	E	2.6	66	0.011	G	2.6
XYLENES (TOTAL)	1330-20-7	8300	N	1,000	990	E	1000	8300	10	M	990
ZINEB	12122-67-7	11000	G	180	29	E	180	11000	1.8	G	29

[1] Statewide health standards

[2] Medium specific concentration as defined in Section 250.1 of Act 2 regulations

[3] Soil must meet both the RDC and GWMSC numeric standards under this permit by rule

[4] Residential direct contact numeric standards as listed in Tables 3A of Chapter 250, Appendix A, to be met in soil exceeding safe fill stds or soil impacted by spill/release

[5] Waste not to exceed groundwater MSC by SPLP analysis

G - Ingestion

N - Inhalation

C - Cap

E - Number calculated by the soil to groundwater equation in 25 Pa. Code Section 250.308

M - Maximum Contaminant Level

H - Lefetime Health Advisory Level

S - Aqueous solubility cap

P - For MSC in groundwater for PCBs, look under polychlorinated biphenyls (PCBS)

APPENDIX A

TABLE 6. Numeric Standards for Metals in Historic Fill, in Soil or Dredged Material Exceeding Safe Fill Standards or Soil Impacted by Release or in Segregated BBC from C/D Waste

REGULATED SUBSTANCES *Metals including Chlorides*	CASRN	SHS[1] (residential, used aquifer, TDS≤2500mg/L)											
						Permit By Rule	Permit By Rule[3]					Permit By Rule	
		Direct Contact (RDC) Soil MSC[2]		100XMSC	Generic Value	*Historic Fill* Section 287.102(n)	*Soil Exceeding Safe Fill or Impacted by Spill/Release*: Section 287.102(m)					*Segregated Brick, Block, Concrete* Section 271.103(i)	
		mg/kg		mg/kg	mg/kg	Higher of 100xMSC or GV	RDC[4] mg/kg		GWMSC[5] mg/L			ower of RGV or RDC mg/kg	mg/L[8]
ALUMINUM	7429-90-5	190000	C	na	na	na	190000	C	0.2	SMCL		190000	0.2
ANTIMONY	7440-36-0	88	G	0.6	27	27.0	88	G	0.006	M		27	0.006
ARSENIC	7440-38-2	12	G	5	150	150.0	12	G	0.05	M		12	0.05
ASBESTOS (fibers/L)	12001295	na		na	na	na	na		7,000,000	M		na	7,000,000
BARIUM AND COMPOUNDS	7440-39-3	15000	G	200	8200	8200.0	15000	G	2	M		8200	2
BERYLLIUM	7440-41-7	440	G	0.4	320	320.0	440	G	0.004	M		320	0.004
BORON AND COMPOUNDS	7440-42-8	20000	G	60	6.7	60.0	20000	G	0.6	H		6.7	0.6
CADMIUM	7440-43-9	47	G	0.5	38	38.0	47	G	0.005	M		38	0.005
CHLORIDES[7]		na	na	na	na	na	na		250	SMCL		na	250
CHROMIUM III	16065-83-1	190000	C	10	190000	190000.0	190000	C	0.1	M		190000	0.1
CHROMIUM VI	18540-29-9	94	G	10	190	190.0	94	G	0.1	M		94	0.1
COBALT	7440-48-4	13000	G	220	24	220.0	13000	G	2.2	G		24	2.2
COPPER[6]	7440-50-8	8200		100	36000	4300.0	4300		1	M		8200	1
CYANIDE, FREE	57-12-5	4400	G	20	200	200.0	4400	G	0.2	M		200	0.2
IRON	7439-89-6	66000	G	NA	NA	NA	66000	G	0			66000	0
LEAD	7439-92-1	500	U	0.5	450	450.0	500	U	0.005	M		450	0.005
MANGANESE	7439-96-5	31000	G	NA	NA	0.0	31000	G	0			31000	0
MERCURY	7439-97-6	66	G	0.2	10	10.0	66	G	0.002	M		10	0.002
NICKEL	7440-02-0	4400	G	10	650	650.0	4400	G	0.1	H		650	0.1
SELENIUM	7782-49-2	1100	G	5	26	26.0	1100	G	0.05	M		26	0.05
SILVER	7440-22-4	1100	G	10	84	84.0	1100	G	0.1	H		84	0.1
THALLIUM	7440-28-0	15	G	0.2	14	14.0	15	G	0.002	M		14	0.002
TIN	7440-31-5	130000	G	2200	240	2200.0	130000	G	22	G		240	22
VANADIUM	7440-62-2	1500	G	26	26000	26000.0	1500	G	0.26	G		1500	0.26
ZINC[6]	7440-66-6	66000	G	200	12000	7500.0	7500	G	2	H		12000	2

[1] Statewide healtth standards

[2] Medium specific concentration as defined in Section 250.1 of Act 2 regulations

[3] Soil must meet both the RDC and GWMSC numeric standards under this permit by rule

[4] Residential direct contact numeric standards as listed in Tables 3A of Chapter 250, Appendix A, to be met for soil exceeding safe fill stds. or for soil impacted by spill/release.

[5] Groundwater MSC - by SPLP analysis

[6] Due to the plant toxicity of copper and zinc, numeric values under both PBRs are based on the 40 CFR Part 503 regulations

[7] Chlorides are required for dredged material from tidal basins only

[8] GWMSC by SPLP if placement into or along waterways as part of an active or abandoned mine or abandoned quarry reclamation and where groundwater monitoring is being conducted.

SMCL - Secondary Maximum Contaminant Level

G - Ingestion; N - Inhalation;

C - Cap

E - Number calculated by the soil to groundwater equation in 25 Pa. Code Section 250.308

H - Lifetime Health Advisory Level

M - Maximum Contaminant Level

Pennsylvania Department of Environmental Protection
Rachel Carson State Office Building
P.O. Box 2063
Harrisburg, PA 17105-2063
January 18, 2002

The Secretary

Phone: 717-787-2814
E-Mail: DavidHess@state.pa.us

Mr. Robert E. Nyce, Executive Director
Independent Regulatory Review Commission
14th Floor, Harristown #2
333 Market Street
Harrisburg, PA 17120

RE: Proposed Rulemaking: Safe Fill Regulations (#7-372)

Dear Bob:

Enclosed is a copy of a proposed regulation for review and comment by the Commission pursuant to Section 5(a) of the Regulatory Review Act. This proposal is scheduled for publication as a proposed rulemaking in the *Pennsylvania Bulletin* on February 2, 2002, with a 60-day public comment period. Three public meetings and three public hearings have been scheduled as indicated on the enclosed public notice. This proposal was approved by the Environmental Quality Board (EQB) on November 20, 2001.

The proposal revises the municipal and residual waste regulations with respect to the management of uncontaminated and contaminated soil and other materials. The proposal is the result of public comments on the Department of Environmental Protection (DEP's) efforts to update a policy and numeric standards for determining when fill is safe enough to use in an unrestricted manner. The existing standards are based on the land recycling regulations proposed in 1996. Since that time, the DEP has proposed changes to its interim policy on two occasions for consistency with existing Act 2 standards, with opportunities for public comment. The first draft policy was published on August 28, 1997. Comments on this draft policy prompted a second draft safe fill policy package, which was published on March 11, 2000.

The proposal adds a definition for "safe fill" that includes uncontaminated and contaminated soils, dredge material, used asphalt and segregated brick, block, and concrete. Other major provisions include adding five permits-by-rule to allow for the beneficial use of these materials, with certain conditions, as well as materials that do not meet safe fill standards. The proposal also amends the definition of "construction/demolition waste" and adds new definitions for "historic fill," "sediment," and "site undergoing remediation activities."

The Department will provide the Commission with any assistance required to facilitate a thorough review of this proposal. Section 5(g) of the Act provides that the Commission may, within ten days after the expiration of the Committee review period, notify the agency of any objections to the proposed regulation. The Department will consider any comments or suggestions received by the Commission, together with Committee and other public comments prior to final adoption.

For additional information, please contact Sharon Trostle, Regulatory Coordinator, at 787-4526.

Sincerely,

David E. Hess
Secretary

Enclosures

ENVIRONMENTAL QUALITY BOARD
NOTICE OF PUBLIC MEETINGS AND HEARINGS

PROPOSED PROVISIONS FOR THE MANAGEMENT OF SAFE FILL AND CONTAMINATED MATERIALS

The Environmental Quality Board (EQB) recently adopted proposed regulations pertaining to the management of safe fill. The proposal was published for public comment on February 2, 2002, with a 60-day public comment period. Three public meetings and three public hearings will be held on the proposal as indicated below.

Summary of the Proposal

The proposal revises the municipal and residual waste regulations with respect to the management of uncontaminated and contaminated soil and other materials. The proposal is the result of public comments on the Department of Environmental Protection's (DEP's) efforts to update a policy and numeric standards for determining when fill is safe enough to use in an unrestricted manner. The existing standards are based on the land recycling regulations proposed in 1996. Since that time, the DEP has proposed changes to its interim policy on two occasions for consistency with existing Act 2 standards, with opportunities for public comment. The first draft policy was published on August 28, 1997. Comments on this draft policy prompted a second draft safe fill policy package, which was published on March 11, 2000.

The proposal adds a definition for "safe fill" that includes soils, dredge material, used asphalt and segregated brick, block and concrete. Other major provisions include adding five permits-by-rule to allow for the beneficial use of contaminated materials, with certain conditions, as well as materials that do not meet safe fill standards. The proposal also amends the definition of "construction/demolition waste" and adds new definitions for "historic fill," "sediment," and "site undergoing remediation activities."

In addition to the management of uncontaminated and contaminated materials, the proposed regulations include amendments to the permit-by-rule in the municipal waste regulations for mechanical processing by enlarging the tons per day of segregated construction/demolition waste that may be managed under the permit.

Public Meetings and Hearings

The DEP will hold three public meetings to explain the proposed amendments and to respond to questions from participants. The meetings will be held at 7:00 p.m. as follows:

February 13, 2002	Four Points Sheraton – Pittsburgh North 910 Sheraton Drive Mars, Pa.
February 19, 2002	Department of Environmental Protection Auditorium, Rachel Carson State Office Building 400 Market Street Harrisburg, Pa.
February 25, 2002	Upper Merion Township Building Freedom Hall 175 West Valley Forge Road King of Prussia, Pa.

The EQB will hold three public hearings at 7:00 p.m. as follows:

March 6, 2002	Four Points Sheraton – Pittsburgh North 910 Sheraton Drive Mars, Pa.
March 11, 2002	Upper Merion Township Building Freedom Hall 175 West Valley Forge Road King of Prussia, Pa.
March 19, 2002	Department of Environmental Protection Auditorium, Rachel Carson State Office Building 400 Market Street Harrisburg, Pa.

Persons wishing to present testimony at one of the hearings are requested to contact Debra Failor at the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477, (717) 787- 4526, at least one week in advance of the hearing to reserve a time to present testimony. Oral testimony is limited to ten minutes for each witness. Witnesses are requested to submit three written copies of their statement at the hearing. Each organization is limited to designating one witness to present testimony on its behalf.

Persons with a disability who wish to attend a hearing and require an auxiliary aid, service or other accommodation in order to participate should contact Debra Failor at (717) 787-4526, or through the Pennsylvania AT&T Relay Service at 1-800-654-5984 (TDD), to discuss how their needs may be accommodated.

Written Comments

In lieu of or in addition to presenting oral testimony at the hearings, interested persons may submit written comments, suggestions, or objections regarding the proposed regulations to the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477 (express mail: Rachel Carson State Office Building, 15th Floor, 400 Market Street, Harrisburg, PA 17101-2301). Comments on the proposal must be received by April 3, 2002. Comments submitted by facsimile will not be accepted. Electronic comments may be submitted to RegComments@state.pa.us.

In addition to written or electronic comments, interested persons may submit a summary of their comments to the EQB. The summary cannot exceed one page in length and must also be received by April 3, 2002. One-page summaries will be provided to each member of the EQB in the agenda packet distributed prior to the meeting at which the final regulations will be considered.

Availability of the Proposal

Copies of the proposal are available from Khatija Satyaswaroop, Bureau of Land Recycling and Waste Management, P.O. Box 8471, Harrisburg, PA 17105-8471, at (717) 787-7381 (email: ksatyaswar@state.pa.us. The proposal is also available on the DEP Website at http://www.dep.state.pa.us *(select Participate!* tab, then *Proposals Open for Comment*).

DAVID E. HESS
Chairman

TRANSMITTAL SHEET FOR REGULATIONS SUBJECT TO THE REGULATORY REVIEW ACT

I.D. NUMBER:	7-372
SUBJECT:	Safe Fill Regulations
AGENCY:	DEPARTMENT OF ENVIRONMENTAL PROTECTION

TYPE OF REGULATION

X Proposed Regulation

Final Regulation

Final Regulation with Notice of Proposed Rulemaking Omitted

120-day Emergency Certification of the Attorney General

120-day Emergency Certification of the Governor

Delivery of Tolled Regulation
a. With Revisions b. Without Revisions

FILING OF REGULATION

DATE	SIGNATURE	DESIGNATION
1-18-02	Cindy Zeiss	HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY
1-2	Robert Castelli	SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY
1-18-02	E Pasyon	INDEPENDENT REGULATORY REVIEW COMMISSION
		ATTORNEY GENERAL
1/18/02	Mayra Garces	LEGISLATIVE REFERENCE BUREAU

January 8, 2002