

MEMORANDUM

Department of Environmental Quality
Waste Division

SUBJECT: **Guidance Memo No. 03-2005** Guidance for the implementation of HB2192 regarding wetlands siting and increased groundwater monitoring originally issued as Guidance 02-1999

TO: Waste Compliance and Permitting Managers, Groundwater Managers and Staff

FROM: Karen Jackson Sismour
Director, Waste Division

DATE: [Signed 08/17/2005]

ATTACHMENT: Permit Conditions

Introduction

Va. Code §10.1-1408.5, containing special provisions regarding tidal wetlands or nontidal wetlands contiguous to any tidal wetland or surface water body, became effective on July 1, 1999. Legislation passed during the 2005 session of the General Assembly updated these provisions. This document identifies the special provisions and provides guidance regarding the updated provisions for waste program staff. Draft permit conditions are also provided as an attachment.

In addition to the updated requirements of the legislation, additional regulations affecting the siting of landfills in wetlands are contained in Virginia's wetlands laws (Virginia Water Protection Permit, VWPP Regulations: 9VAC 25-210 et seq, 9VAC 25-660 et seq, 9VAC 25-670 et seq, 9VAC 25-680 et seq, and 9VAC 25-690 et seq.), in 9 VAC 10-20-10 et seq. Chesapeake Bay Preservation Area Designation and Management Regulations, in § 404 of the federal Clean Water Act, and Subtitle D of the Resource Conservation and Recovery Act. In addition, wetlands siting restrictions are provided in the siting criteria contained in 9 VAC 20-80-250 A 4 b.

It should be noted that the provisions of §10.1-1408.5 do not apply to isolated wetlands.

Definitions

Contiguous is defined herein as adjacent to and touching.

Expansion of a municipal solid waste landfill shall include the siting and construction of

new cells or the expansion of existing cells at the same location.

Note: If a facility has a previously approved (prior to July 1, 2005) Siting (Part A) or Construction (Part B) plan that involved expansion into a wetland, the facility will not be subject to additional permitting requirements in §10.1-1408.5 B. Future expansions however will be subject to these requirements.

Landfill is defined under 9 VAC 20-80-10 as meaning a site which acts or has acted as a sanitary, industrial, or construction/demolition debris landfill. A *landfill* is defined by US EPA (175-B-97-001 / Glossary, Abbreviations, and Acronyms) as disposal sites ... for solid wastes. A *landfill* can include individual disposal areas or units, or may consist of a single disposal area or unit.

The VSWMR lack a definition of a *surface water body*. Using the U.S. Army Corps of Engineers (responsible for Federal oversight of wetlands) definition, a *surface water body* is a lake, natural pond, river, stream (including intermittent streams), estuary, or ocean water. Waste water treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act, are not surface waters.

Surface water means all state waters that are not ground water as defined in Sec.62.1-255 of the Code of Virginia. *State waters* means all water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands. A surface water body, using the U.S. Army Corps of Engineers definition, is a lake, natural pond, river, stream (including intermittent streams), estuary, or ocean water. Waste water treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act, are not surface waters. Contiguous is defined as adjacent to and touching.

Sec.62.1-255 of the Code of Virginia

"Ground water" means any water, except capillary moisture, beneath the land surface in the zone of saturation or beneath the bed of any stream, lake, reservoir or other body of surface water wholly or partially within the boundaries of this Commonwealth, whatever the subsurface geologic structure in which such water stands, flows, percolates or otherwise occurs.

A *wetland* is defined under 9 VAC 20-80-10 to be equivalent to that defined under 33 CFR 328. §10.1-1408.5 covers both tidal wetlands and nontidal wetlands (larger than or equal to

2 acres in size) that are contiguous to any tidal wetland or surface water body. The term *wetland*, as applied by this special provision, means any tidal wetland or a nontidal wetland contiguous to any tidal wetland or surface water body.

1.0 Permit Issuance, Special provision regarding wetlands §10.1-1408.5

1.1 Applicability

Under the provisions of §10.1-1408.5, the Director shall not issue any solid waste permit for a new municipal solid waste (MSW) landfill (sanitary landfill) or the expansion of a sanitary landfill that would be sited in tidal wetlands or nontidal wetlands contiguous to any tidal wetland or surface water body. The law prohibits the construction of a landfill in these areas even if it meets the provisions of the water regulations or the provisions of the Virginia Solid Waste Management Regulations.

For sanitary landfill expansions, the Director may issue a permit only if each of the following conditions are met:

- The proposed landfill is at least 100 feet from any surface water body;
- The proposed landfill is at least 1 mile from any tidal wetland;
- The Director determines based upon the existing condition of the wetland system, including, but not limited to, sedimentation, toxicity, acidification, nitrification, vegetation, and proximity to existing structures, that the construction or restoration of a wetland system in another location in accordance with a Virginia Water Protection Permit approved by the State Water Control Board would provide higher quality wetlands; and
- The permit requires a minimum two-to-one wetlands mitigation ratio.

Under the new legislative provisions, “Expansion of a municipal solid waste landfill” has been defined in §10.1-1408.5A. The section states that the term shall include “the siting and construction of new cell or the expansion of existing cells at the same location.” Therefore, any permit amendment which adds additional disposal area to an existing permit must comply with the provisions of the legislation if the construction will impact tidal wetlands or nontidal wetlands contiguous to any tidal wetland or surface water body.

The legislation states that the director shall not issue an approval for a permit for a new facility or an expansion other than as defined in the legislation. Therefore, facilities with previously approved permits (approved by July 1, 2005) for a new facility or an expansion which impact tidal wetlands or nontidal wetlands contiguous to any tidal wetland or surface water body are not affected by the siting provisions in the legislation.

1.2 Exemptions from Siting Provisions

There are exemptions to Va. Code §10.1-1408.5, which allow construction in tidal wetlands or nontidal wetlands contiguous to any tidal wetland or surface water body as follows:

1. For an expansion of an existing sanitary landfill located in a city with a population between 41,000 and 52,500 when the owner or operator is an authority created pursuant to §15.2-5102 which has applied for a permit under § 404 of the federal Clean Water Act prior to January 1, 1989, and the owner or operator has received a permit under § 404 of the federal Clean Water Act and § 62.1-44.15:5 of the Code and complied with all other applicable federal and state environmental laws and regulations. In addition, construction of a new MSW landfill is allowed in any county with a population between 29,200 and 30,000 according to the 1990 United States Census. It should be noted that the siting restrictions stated in item 2 below, do not apply to the facilities that are exempt based on population.

All facilities are subject to 9 VAC 10-20-10 et seq. Chesapeake Bay Preservation Area Designation and Management Regulations, 9VAC 25-210 et seq. Virginia Water Protection program, Virginia Tidal Wetlands Act, Subtitle III of Title 28.2 of the Code of Virginia (VMRC subaqueous lands permits), and §404 of the federal Clean Water Act.

2. For the expansion of a sanitary landfill, if the following conditions are met: 1) the proposed landfill site is at least 100 feet from any surface water body and at least one mile from any tidal wetland and 2) the director determines, based on the existing condition of the wetlands system, including but not limited to, sedimentation, toxicity, acidification, nitrification, vegetation, and proximity to existing permitted waste disposal areas, roads or other structures, that the construction or restoration of a wetland system in another location in accordance with a Virginia Water Protection Permit approved by the State Water Control Board would provide higher quality wetlands, and 3) the permit requires a minimum two to one wetlands mitigation ratio.
3. The final exemption states that the provisions of §10.1-1408.5 of the Code of Virginia do not apply to landfills which impact less than 2 acres of nontidal wetlands.

1.3 Permits for New Landfills

It should be noted that §10.1-1408.5 A states that the director shall not issue a permit for a new municipal solid waste (MSW) landfill. Since new landfills are not mentioned in §10.1-1408.5B, no new landfill can be sited in tidal wetlands or nontidal wetlands contiguous to any tidal wetland or surface water body unless it impacts less than 2 acres of nontidal wetlands or it meets the specific exclusion in §10.1-1408.5A(ii) which allows the construction of a new MSW landfill in any county within the specified population. New landfills cannot be sited in tidal wetlands or nontidal wetlands contiguous to any tidal wetland or surface water body under the provisions of §10.1-1408.5B. It should also be noted that in the definition of “expansion of an existing MSW landfill”, “new cells or the expansion of existing cells at the same location” does not mean new cells at a new location (new landfill). Although new landfills or expansions that impact less than 2 acres are not subject to §10.1-1408.5 of the Code of Virginia, they must still meet the wetlands siting provisions of 9 VAC 10-20-10 et seq. Chesapeake Bay Preservation Area Designation and Management Regulations 9 VAC 20-80-250 A 4 b, VWPP, and §404 of the federal Clean Water Act.

1.4 Permits for Expansions

It should be noted that §10.1-1408.5 A states that the director shall not issue a permit for an expansion of an MSW landfill except as allowed by the section. §10.1-1408.5 B allows expansions of municipal solid waste landfills if they meet the specific requirements. §10.1-1408.5 D states that the section does not apply to “landfills” which impact less than two acres of nontidal wetlands. Because the term “landfill” is used in the law, the 2 acres mentioned in the law applies to the landfill as a whole rather than each expansion occurring at the facility even if the facility boundary is expanded. Any MSW landfill may impact less than 2 acres of nontidal wetlands without becoming subject to the provisions of §10.1-1408.5. As indicated above, although facilities that impact less than 2 acres are not subject to §10.1-1408.5 of the Code of Virginia, they must still meet the wetlands siting provisions of 9 VAC 10-20-10 et seq. Chesapeake Bay Preservation Area Designation and Management Regulations, 9 VAC 20-80-250 A 4 b, 9VAC 25-210 et seq. Virginia Water Protection program, Virginia Tidal Wetlands Act, Subtitle III of Title 28.2 of the Code of Virginia (VMRC subaqueous lands permits),, and §404 of the federal Clean Water Act.

1.5 Impacts to Wetlands

The provisions of §10.1-1408.5 D were established in 1999. Originally the provisions stated

that the requirement of the section did not apply to landfills impacting less than 1.25 acres of nontidal wetlands. Now the provision states that the section does not apply to landfills impacting less than two acres. Because the provision was modified rather than provided as a new requirement, landfills that previously impacted less than 1.25 acres may impact additional acreage as long as the total impact for the landfill since July 1, 1999 is less than 2 acres.

2.0 Quarterly Groundwater Monitoring, Special provision regarding wetlands §10.1-1408.5

2.1 Applicability

Va. Code §10.1-1408.5. requires that groundwater monitoring be conducted at least quarterly by the owner or operator of a solid waste management landfill that is accepting MSW, if the landfill meets any one of three conditions: 1) It was constructed on tidal wetlands or nontidal wetlands contiguous to any tidal wetland or surface water body, 2) It has a potential hydrologic connection to tidal wetlands or nontidal wetlands contiguous to any tidal wetland or surface water body in the event of an escape of liquids from the facility, or 3) It is within a mile of such a wetland, unless the Director determines that less frequent or more frequent monitoring is necessary.

Because the Va. Code uses the word landfill and not landfill ‘unit’, or landfill disposal ‘area’, the Code provision is applicable to any landfill site which received municipal waste after June 30, 1999. In other words, a landfill that is otherwise subject to semi-annual groundwater monitoring requirements under the VSWMR, including facilities in post-closure care monitoring, is potentially subject to the requirements of quarterly monitoring if the landfill site was active and has received municipal solid waste on or after July 1, 1999 and:

- was constructed on a tidal wetland or a nontidal wetland larger than or equal to 2 acres;
- has a potential hydrologic connection to a tidal wetland or a nontidal wetland larger than or equal to 2 acres;
- is within a mile of tidal wetland or a nontidal wetland larger than or equal to 2 acres, unless the Director determines that less frequent monitoring is necessary.

Note that the 2 acre allowance for nontidal wetlands mentioned above is discussed further Section 1.2, Exemptions from Quarterly Monitoring.

Solid waste facilities, accepting MSW, meeting the conditions of Code of Virginia §10.1-1408.5 shall monitor groundwater quarterly until the above-noted demonstrations are approved

by the Director. If a demonstration has been approved by the Director that is solely based on an engineering design which prevents a release from the facility and a release from the facility is detected, then the monitoring frequency shall become quarterly. A release, for the purpose of this demonstration, is a statistically significant increase in any monitored constituent or a discharge of leachate to surface water.

2.2 Exemptions from Quarterly Monitoring

The Code states that the provisions of §10.1-1408.5 of the Code of Virginia do not apply to landfills which impact less than 2 acres of nontidal wetlands.

Prior to the most recent modification of the Code, §10.1-1408.5 applied to all MSW landfills unless they impact less than 1.25 acres of nontidal wetlands. Under the new legislative requirements, §10.1-1408.5 applies to all MSW landfills unless they impact less than 2 acres of nontidal wetlands. Therefore, some MSW landfills which originally had been subject to the requirements of the section because they impacted 1.25 acres or more may no longer be subject to the section if they impact less than 2 acres of wetlands. This may affect some facilities which are performing quarterly groundwater monitoring. Facilities which impacted 1.25 acres or more after July 1, 1999, but impacted less than 2 acres may cease quarterly groundwater monitoring after filing and obtaining approval from the department with an amended wetlands demonstration. Facilities that have historical impacts to tidal wetlands or nontidal wetland impacts totaling 2 acres or more must monitor groundwater quarterly. Further details are provided in the attached permit conditions.

The quarterly groundwater monitoring requirements do not apply to a solid waste management facility that did not receive MSW on or after July 1, 1999. In other words, a facility that is subject to groundwater monitoring requirements is not required to monitor groundwater quarterly unless the facility was active and had received MSW on or after July 1, 1999. Facilities that have stopped receiving MSW are not required to continue quarterly monitoring.

If a sanitary landfill receives only MSW ash, then the groundwater monitoring shall be conducted semiannually, unless more frequent monitoring is required by the Director.

2.3 Examples and Required Demonstrations

There are three separate conditions under Va. Code §10.1-1408.5, that require a facility to conduct quarterly groundwater monitoring. Three examples have been provided to outline the demonstrations that must be provided to avoid quarterly groundwater monitoring.

Example 1: The groundwater monitoring frequency shall be quarterly for landfills, accepting MSW, that were constructed on tidal wetlands or nontidal wetlands contiguous to any tidal wetland or surface water body, unless a demonstration is made that the engineering design of the facility will not allow escape of liquids from the landfill.

Such demonstrations may include (but not be limited to) a double liner system with a witness zone, a slurry wall, or modeling that demonstrates no potential release of liquids from the facility. The demonstration may also include such information as a copy of the National Wetlands Inventory map, USDA Soil Survey and USGS Topographic quadrangle map (if these sources show pre-construction site conditions), US Army Corps of Engineers confirmed delineation for surface waters. If a Part A exists for the facility, then the Part A shall also be used to determine whether the facility was constructed on a wetland.

Example 2: Solid waste facilities, accepting MSW, that are potentially hydrologically connected to tidal wetlands or nontidal wetlands contiguous to any tidal wetland or surface water body in the event of an escape of liquids from the facility shall monitor groundwater on a quarterly basis, unless a demonstration is made that there is no connection to the wetland.

The demonstration may include National Wetlands Inventory map, USDA Soil Survey, USGS Topographic quadrangle map, and site specific groundwater flow rate and direction information (from the most recent Annual Report submission), or other appropriate information (including engineering controls) and approved by the Director.

Example 3: Solid waste facilities, accepting MSW, that are within one mile of tidal wetlands or nontidal wetlands contiguous to any tidal wetland or surface water body shall monitor quarterly unless it is demonstrated that the sanitary landfill cannot potentially be connected to the wetlands within a one mile radius.

For that demonstration, the facility owner/operator should submit a topographic map clearly delineating a one mile radius and a National Wetlands Inventory map or other appropriate wetland information (aerial photography), along with sufficient information (including engineering controls) that demonstrates no potential connection. Such information should include, but not be limited to, local and regional groundwater flow directions, hydrogeologic isolation/separation, or other site-specific information.

For sites that have a potential hydraulic connection to or may be located within a mile of tidal wetlands or nontidal wetlands contiguous to any tidal wetland or surface water body, based

on the information outlined above, the facility owner or operator may wish to confirm the accuracy of the wetlands information from the data sources listed above. Any further demonstration in addition to the information suggested in the examples above or any confirmation whether the 2 acre threshold is met or exceeded must be supported by a Jurisdictional Determination (confirmation of wetland delineation boundaries according to 9 VAC 25-210-80-B 1 k(2).) A delineation map must be provided of the geographic area of a delineated wetland for all wetlands on the site, in accordance with 9VAC25-210-45 (cited below), including the wetlands data sheets, and the latitude and longitude (to the nearest second) of the center of the wetland impact area. Wetland types shall be noted according to their Cowardin classification or similar terminology. A copy of the USACE delineation confirmation, or other correspondence from the USACE indicating their approval of the wetland boundary, shall also be provided at the time of application, or if not available at that time, as soon as it becomes available during permit review. The delineation map should also include the location of all impacted and non-impacted streams, open water and other surface waters on the site. The approximate limits of any Chesapeake Bay Resource Protection Areas (RPAs) shall be shown on the map as additional state or local requirements may apply if the project is located within an RPA.

9VAC25-210-45. Wetland delineation.

Each delineation shall be conducted in accordance with the USACE "Wetland Delineation Manual, Technical Report Y-87-1, January 1987, Final Report" (Federal Manual). The Federal Manual shall be interpreted in a manner consistent with USACE guidance and the requirements of this regulation, and any delineation guidance adopted by the board as necessary to ensure consistency with the USACE implementation of delineation practices.

The Department notes that area measurements taken, or otherwise interpreted from the U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI) map series may be inappropriate since those maps delineate wetlands based on vegetation, visible hydrology, and geography identified from the analysis of high altitude color infra-red photographs. The delineated boundaries shown on NWI maps are not equivalent to 'regulated' wetlands defined under Federal regulations (see 33 CFR 328) or the solid waste regulations (9 VAC 20-80-10).

PERMIT CONDITION
Quarterly Groundwater Monitoring
Requirements for Facilities in Detection Monitoring
Under the Provisions of 9 VAC 20-80-300 B 2 a

Groundwater monitoring frequency for solid waste management landfills that impact wetlands and that accepted municipal solid waste on or after July 1, 1999.

- (a) The monitoring frequency for all constituents listed in Table 5.5 shall be quarterly for any existing sanitary landfill that was constructed on a tidal wetland or a nontidal wetland larger than or equal to 2 acres;
- (b) The monitoring frequency for all constituents listed in Table 5.5 shall be quarterly for any sanitary landfill that has a potential hydrologic connection to a tidal wetland or a nontidal wetland larger than or equal to 2 acres in the event of an escape of liquids from the facility; or
- (c) The monitoring frequency for all constituents listed in Table 5.5 shall be quarterly for any sanitary landfill within one mile of a tidal wetland or a nontidal wetland larger than or equal to 2 acres.
- (d) The Director may determine that less frequent monitoring than quarterly is necessary or require that monitoring be conducted more frequently than quarterly.
- (e) The monitoring frequency for all constituents listed in Table 5.5 shall be semiannually for any sanitary landfill that accepts only ash, unless the Director determines that more frequent monitoring is necessary.

PERMIT CONDITION
Quarterly Groundwater Monitoring
Requirements for Facilities in Assessment Monitoring
Under the Provisions of 9 VAC 20-80-300 B1 e

Groundwater monitoring frequency for solid waste management landfills that impact wetlands and that accepted municipal solid waste on or after July 1, 1999.

- (1) The monitoring frequency for all constituents listed in Table 5.5 and those constituents in Appendix 5.1 detected in response to 9 VAC 20-80-300 B 3 b shall be quarterly for any existing sanitary landfill that was constructed on a wetland larger than or equal to 2 acres;
- (2) The monitoring frequency for all constituents listed in Table 5.5 and those constituents in Appendix 5.1 detected in response to 9 VAC 20-80-300 B 3 b shall be quarterly for any sanitary landfill that has a potential hydrologic connection to a tidal or nontidal wetland larger than or equal to 2 acres in the event of an escape of liquids from the facility; or
- (3) The monitoring frequency for all constituents listed in Table 5.5 and those constituents in Appendix 5.1 detected in response to 9 VAC 20-80-300 B 3 b shall be quarterly for any sanitary landfill within one mile of a tidal wetland or a nontidal wetland larger than or equal to 2 acres.
- (4) The Director may determine that less frequent monitoring than quarterly is necessary or require that monitoring be conducted more frequently than quarterly.
- (5) The monitoring frequency for all constituents listed in Table 5.5 shall be semiannually for any sanitary landfill that accepts only ash, unless the Director determines that more frequent monitoring is necessary.

PERMIT CONDITION
For Facilities Exempt from Landfill Siting
Requirements Contained the Code of Virginia
Provided in 9 VAC 20-80-250 A 4

Wetlands

1. New sanitary landfills and lateral expansions of existing facilities shall not be located on 2 acres (total for the facility) or more of nontidal wetlands or any tidal wetlands, unless the facility meets one of the following conditions:
 - The facility is an expansion of an existing sanitary landfill located in a city with a population between 41,000 and 52,500 when the owner or operator is an authority created pursuant to §15.2-5102 which has applied for a permit under § 404 of the federal Clean Water Act prior to January 1, 1989, and the owner or operator has received a permit under § 404 of the federal Clean Water Act and § 62.1-44.15:5 of the Code and complied with all other applicable federal and state environmental laws and regulations; or
 - The facility is new MSW landfill in any county with a population between 29,200 and 30,000 according to the 1990 United States Census.

2. An expansion of an existing sanitary landfill shall not be located on less than 2 acres of nontidal wetlands (total for the facility) or any tidal wetlands, unless the owner or operator can make the following demonstrations to the Director:
 - The proposed landfill site is at least 100 feet from any surface water body and at least one mile from any tidal wetland; and
 - The director determines, based on the existing condition of the wetlands system, including but not limited to, sedimentation, toxicity, acidification, nitrification, vegetation, and proximity to existing permitted waste disposal areas, roads or other structures, that the construction or restoration of a wetland system in another location in accordance with a Virginia Water Protection Permit approved by the State Water Control Board would provide higher quality wetlands; and
 - The permit requires a minimum two to one wetlands mitigation ratio.