

**The following are consolidated public comments and EPD's responses regarding the draft guidance document "Monitoring of Surface Water and Underdrain Systems at Solid Waste Facilities", dated March 2020:**

**-General Comment.** The use of the term "surface water" should be clarified as it relates to the intended purpose of the guidance, i.e. to monitor surface water runoff and underdrain systems at permitted landfills to determine the potential of these non-point sources of landfill leachate to adversely impact instream water quality in nearby streams and stream segments.

*EPD Response: Text has been revised to define "surface water" in the context of this guidance.*

**Background:**

"For the purpose of this guidance EPD considers surface water as defined by Rule 391-3-7-.01(aa): "State Waters" means any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, and other bodies of surface or subsurface water, natural and artificial, lying within or forming a part of the boundaries of the State which are not entirely confined and retained completely upon the property of a single individual, partnership, or corporation, except as may be defined in O.C.G.A. 12-7-17(8) (O.C.G.A. 12-7-3(16))."

**-General Comment.** The guidance should use standards stream nomenclature: perennial, intermittent, and ephemeral.

*EPD Response: Text has been revised to refer to stream channels as perennial, intermittent, or ephemeral, where applicable.*

**-General comment.** The definition of "underdrain" should be clarified to differentiate it from a piped stream.

*EPD Response: Text has been revised to clarify that, for the purposes of this guidance, any water channeled from below the waste disposal area to discharge at the surface is considered an "underdrain."*

**Background:**

"In addition, intermittent or perennial streams that originate on the property of a permitted waste facility have historically been piped below the waste disposal areas at the facility. EPD considers these piped streams as also being an underdrain."

**-General Comment.** The comparison to water quality standards should not require flagging anything "above" or that "exceeds" drinking water or surface water standards. Some of the sampling required in this guidance would be of non-jurisdictional waters, and as such, water quality criteria do not apply.

*EPD Response: Text has been revised to clarify that comparison to water quality standards does not constitute a determination of compliance, except for underdrain sampling locations.*

**Comparison to Water Quality Standards:**

"Please note that a comparison to the appropriate instream water quality standards is only a determination of compliance (to applicable standards) for underdrain sampling locations. Results from other surface water sampling points are for comparison purposes only."

**-Purpose.** The guidance should be clarified to replace "Industrial Landfills" with "Private Industry Solid Waste Disposal Facilities and Commercial Industrial Landfills," as "Industrial Landfills" are not defined in the rule and could cause confusion regarding what facilities are subject to the guidance.

*EPD Response: Text has been revised to include "commercial industrial landfills" and "private industry solid waste disposal facilities" for clarification.*

**Purpose:**

"This document clarifies monitoring and reporting requirements for surface water and underdrain systems at Municipal Solid Waste Landfills (MSWL), Construction & Demolition (C&D) Landfills, Commercial Industrial Landfills, and Private Industry Solid Waste Disposal Facilities in Georgia where groundwater monitoring is required, as detailed in the Rules for Solid Waste Management."

**-Purpose.** This section should be revised to indicate that this document does not apply to coal combustion residual (CCR) units, even if separate requirements are written for CCR units. Also, this section seems to separate these requirements from EPD's Watershed Protection "Authorization to Discharge Under the National Pollution Discharge and Elimination System Storm Water Discharges Associated with Industrial Activity."

*EPD Response: The text has been revised to clarify within the Purpose section that CCR units are not subject to this guidance document.*

**Purpose:**

"Coal Combustion Residuals (CCR) Units detailed in 391-3-4-.10 are not covered by this guidance."

**-Legal Authority.** The phrase "Underdrain discharge shall comply with surface water monitoring standards" should be clarified as it relates to the relevant rules. Standards should be specific (numeric criteria, narrative criteria, designated uses, etc.), and should be clarified as being applicable only to Waters of the State.

*EPD Response: The Rules for Solid Waste Management do not establish surface water monitoring standards for landfills separate from those found in sections of the Federal Clean Water Act referenced in Rule 391-3-4-.07(3)(j). The Appropriate Instream Water Quality Standards detailed in Table 2 for the purposes of comparison are generic criteria for all waters referenced in Rule 391-3-6-.03(5)(e)(iv) under annual average or high stream conditions.*

**-Design of Surface Water and Underdrain Monitoring System.** The statement, "The most likely origin of non-point source impacts from a permitted solid waste facility is from surface run-off contaminated with leachate," is a speculative statement and should be revised.

*EPD Response: Text has been revised for clarity.*

**Design of Surface Water and Underdrain Monitoring System:**

"A significant origin of non-point source impacts from a permitted solid waste facility is from surface run-off contaminated with leachate."

**-Surface Water Monitoring Locations.** The use of "property boundary" may be problematic where there are great distances between the permit boundary and the property boundary. The phrase "property boundary or permit boundary, where applicable..." should be added. Anywhere in this guidance document "property boundary" is used should be updated with the new language.

*EPD Response: In the majority of cases the permit boundary is also the property boundary. However, the text has been changed to "permitted solid waste facility boundary" for clarity.*

**-Surface Water Monitoring Locations.** The use of "abut" or "abutted" should be consistent in this section so that this will apply to watercourses other than those that serve as a permit or facility boundary.

*EPD Response: Text has been revised to distinguish between streams that cross the property boundary and those that abut the property boundary.*

**Surface Water Monitoring Locations:**

"Surface Water Monitoring should be located at the following as applicable:

- At the upstream location where a perennial or intermittent surface water enters a permitted solid waste facility boundary, and at the downstream location where a perennial or intermittent surface water leaves the solid waste facility boundary;
- At the downstream location where a perennial or intermittent surface water leaves the solid waste facility boundary, where the perennial or intermittent surface water originates on the permitted solid waste facility;
- At the upstream location where an adjacent perennial or intermittent surface water first abuts a permitted solid waste facility boundary, and at the downstream location where the adjacent perennial or intermittent surface water abuts the solid waste facility boundary;
- ..."

**-Surface Water Monitoring Locations.** Clarify and revise language referring to "concentrated flow discharges going off-site," which may be difficult to interpret.

*EPD Response: Text has been revised to clarify this language.*

**Surface Water Monitoring Locations:**

- "Where no on-site or adjacent perennial or intermittent surface waters exist: where a stormwater detention pond or temporary stormwater impoundment is located at the permitted property boundary, the retained water in the pond itself should be sampled, but not the discharge from the outfall."

**-Surface Water/Underdrain Monitoring Procedures.** Clarify and revise number 2 in regard to sampling and observation at underdrains.

*EPD Response: All monitoring locations must be inspected to determine whether a quantity of flowing water is sufficient for sample collection.*

**-Analytical Requirements.** Sampling for Appendix I VOCs at surface water sampling points seems unnecessary and onerous for landfills not undergoing corrective action for groundwater.

*EPD Response: Such sampling is intended to detect potential surface water impacts prior to or separate from groundwater impacts.*

**-Analytical Requirements.** Add/verify parameters for MSWLs receiving CCR; "Appendix I Volatile Organic Compounds (VOCs)" is inconsistent with basic requirements for MSWL's as some parameters (pH, chloride, TDS) are missing for the analysis list.

*EPD Response: For MSWLs receiving CCR waste, Appendix III parameters should be analyzed in addition to Appendix I VOCs. For clarity, the list of Appendix III constituents including pH, chloride, TDS, and others has now been specified.*

**-Data Evaluation and Reporting.** It may be excessive to include trend charts of surface water parameters for a facility not undergoing groundwater corrective action since trend charts are not required for groundwater constituents.

*EPD Response: Groundwater data requires a higher standard of care using statistical analyses outlined in the Rules for Solid Waste Management (Rules). A trend chart for surface water is a lower standard of data analysis than that required for groundwater. The purpose of surface water monitoring is to identify potential surface water impacts that may either precede observable groundwater impacts or bypass the groundwater pathway. In EPD's experience, surface water can be impacted even when a facility is not in corrective action for groundwater compliance.*

**-Comparison to Water Quality Standards.** Add a statement to the Comparison to Water Quality Standards section in the guidance document, slightly modified to replace the word "monitoring" with the word "quality," i.e.: "Underdrain discharge shall comply with surface water quality standards." That way there is no question about comparison of the water quality standard for underdrains. If the text just says "monitoring standard" that could be interpreted to mean monitoring parameters and not water quality standards.

*EPD Response: The text in the Legal Authority section, "Underdrain discharge shall comply with surface water monitoring standards," is quoted from the Rules and cannot be changed in this guidance document. This guidance will serve to clarify what standards and procedures will be used to demonstrate compliance with the Rules for underdrains, and the standards for comparison purposes for other sampling locations.*

**-Leachate Releases.** The term "release of leachate" should be clearly defined, along with criteria for reporting to EPD, corrective action to be taken, and when to cease sampling.

*EPD Response: Text has been revised to include the definition of "release" from the Rules along with the criteria for reporting and corrective actions.*

**Leachate Releases:**

"Within 48 hours of a release of leachate that was uncontained for more than 24 hours and/or has reached outside the lined area of the facility, the facility shall report the release to the Solid Waste Management Program and the local District Office of EPD . Within 7-days of reporting the leachate release to EPD, the facility will initiate the sampling and analysis of all surface water and/or underdrain monitoring points for the appropriate chemical constituents listed in this guidance, along with additional site-specific analyses that may be requested by EPD based on site conditions. [...] Sampling of these locations will be conducted every 7-days while a leachate release continues at the facility. Sampling may stop when the release has been contained or when the results show no more impact from the release."

**-Leachate Releases.** The language "listed in this guidance" should be replaced to reference an "approved Surface Water Plan" because additional site-specific chemical constituents may be added to the plan, and the language "EPD may request additional analyses depending on site conditions" should be removed because it adds ambiguity to the guidance. If EPD is requiring additional analyses, they should provide the parameters in this guidance or in site specific Environmental Monitoring Plans.

*EPD Response: Text has been revised to account for additional site-specific analyses.*

**Leachate Releases:**

"Within 7-days of reporting the leachate release to EPD, the facility will initiate the sampling and analysis of all surface water and/or underdrain monitoring points for the appropriate chemical constituents listed in this guidance, along with additional site-specific analyses that may be requested by EPD based on site conditions."

**-Leachate Releases.** Sampling "all" surface water monitoring locations is onerous and unnecessary if the leachate outbreak does not meet a surface water body or occurs down gradient or downstream of certain monitoring locations.

*EPD Response: The intent of this monitoring is to determine the extent of any leachate impact to surface water. Requiring all surface water monitoring locations to be sampled ensures that the true extent of any impacts from leachate releases requiring reporting under this guidance.*

**-Leachate Releases.** The guidance should clarify whether water monitoring plans should be updated immediately through a minor permit modification or during the next 5-year permit review.

*EPD Response: Text has been revised to clarify the timing of updating facility water monitoring plans.*

**Purpose:**

"To align with the provisions of this guidance, updated surface water monitoring plans should be submitted as part of the facility's next 5-year permit review."

**-Leachate Releases.** Regarding soil testing after a release, Type 1 Risk Reduction Standards (RRS) are not necessarily appropriate for remediation depending on the property use (other standards such as Type 2, 3, or 4 may be more appropriate).

*EPD Response: Text has been revised to indicate that Type 3 or 4 non-residential RRS may be appropriate.*

**Leachate Releases:**

"Where soil testing has been conducted to establish if there have been impacts to stormwater detention ponds or other areas impacted by the release, constituents should be compared to Type 3 or 4 Risk Reduction Standards for Soil in the Hazardous Site Response Rules 391-3-19-.07."