



assess.
advise.
restore.

405 Concord Avenue #352, Belmont, MA 02478

| 617-977-4304

| info@lspa.org

| www.lspa.org

By email to Greg.Braun@mass.gov

September 10, 2024

Greg Braun
MassDEP/ORS
100 Cambridge Street, Suite 900
Boston, MA 02114

Subject: Comments, Risk Characterization Guidance, Chapters 6 - 10, Public Review Draft

Dear Mr. Braun:

The LSP Association (LSPA), the 800-member professional non-profit association of LSPs and other environmental professionals, appreciates the opportunity to provide comments on the most recent MassDEP BWSC draft MCP Risk Characterization Guidance document, Chapters 6 - 10. The LSPA adhered to its typical process for collecting and submitting comments on draft documents: we solicited comments from the membership at large; the LSPA Regulations Committee formed a focused subcommittee of practitioners who drafted a set of comments based on those submitted and those from subcommittee members; and finally, the LSPA Board vetted the draft comments.

LSPA comments on the draft guidance document are presented in the final detailed six-page matrix of comments (attached). Two overarching recommendations are identified in the matrix and also warrant further discussion here.

- The draft document would benefit from a reorganization into (at least) two separate topics: Site Investigation and Risk Characterization.
- The draft document needs to acknowledge both the separate and intertwined roles and responsibilities of the LSP and the risk assessor in site investigation and risk characterization.

The draft document would benefit from a reorganization into (at least) two separate topics: Site Investigation and Risk Characterization. As previously noted in the LSPA comments on the public review draft of the Risk Characterization Guidance, Chapters 1-5, this draft document seems to attempt to address a number of LSP performance standards (e.g., sampling

approach/design, defining background, determining the nature and extent of contamination, REDUA conformance) in addition to providing salient risk characterization guidance. We recommend that this guidance be reorganized into (at least) two separate documents. One document would be a true “risk characterization” guidance that is focused on risk assessment exclusively, and predicated on the assumption that the LSP is collaborating with a risk assessor to achieve the performance standards set forth in the MCP, as is their obligation. Another separate document would address site investigation, including sampling design, defining background, etc. and other tasks that go beyond the scope of a typical risk characterization. For example, Section 6.2.4 Feasibility of Achieving Background is not related to risk characterization and should be removed from the risk portion of the guidance.

As mentioned in our June 5, 2024 letter regarding the Draft Chapters 1-5, this document intermingles site investigation guidance and risk characterization guidance in a way that could make the information less accessible for some practitioners. While the LSPA understands the interconnectivity of these two multifaceted subjects, practitioners are not always conducting both (e.g., risk assessors rarely collect samples) and separating the topics into different guidance documents or sections would provide better focus for the target audiences. The guidance document should also be retitled to reflect its content more accurately. We also suggest that a Table of Contents and Index be included in the final draft version (even if it is only a partial document) so that the structure of the document is more easily understood and accessed from the outset.

The draft document needs to acknowledge both the separate and intertwined roles and responsibilities of the LSP and the risk assessor in site investigation and risk

characterization. The introduction to Chapter 6 on Background states that the guidance provides information to answer three questions related to collecting background data and evaluating if Site conditions are consistent with Background. The focus then turns to the risk assessor’s role in this process and, while referencing the need for discussions with the “site manager,” the focus remains on the risk assessor. The LSPA strongly recommends that this discussion should first acknowledge the obligations of the LSP with respect to answering those three questions. It is understood that risk assessors may rely on this guidance more frequently than other professionals involved in the waste site cleanup process but the document should be more explicit regarding the role of the LSP in reliance on MassDEP published Background data and/or collecting Site-specific data to support Background evaluations. We think that the collaborative process between the site LSP and the risk assessor should be emphasized in these introductory paragraphs.

Moreover, reorganizing the guidance into two separate documents might itself allow further opportunity for discussion of the roles and responsibilities of the LSPA and the risk assessor. Such an effort might illustrate that, for example, while a risk assessor often conducts the

background evaluation, the LSP must characterize background as part of the Nature and Extent of Contamination. Should the Nature and Extent of Contamination conclude that all contaminants are present at background concentrations, no risk characterization would be necessary, thereby eliminating the need for a risk assessor. This is also consistent with Section 6.2.8 paragraph 2, which gives the LSP, not the risk assessor, the ability to use professional judgment to limit site investigation activities and still conclude concentrations are consistent with background via a technical justification.

Thank you once again for providing this public comment opportunity and for considering our opinions. We respectfully suggest that MassDEP provide another opportunity for stakeholder discussion and comments on the full document (or documents) before issuance of the final version of the guidance on these topics. The LSPA is available at your convenience to discuss any of our comments.

Respectfully,

THE LSP ASSOCIATION, INC.



Joseph Roman, LSP, President



Wendy Rundle, Executive Director

cc:

Millie Garcia-Serrano, Assistant Commissioner, BWSC, MassDEP

Attachment:

LSPA Comments on the 2024 MassDEP Guidance for Disposal Site Risk Characterization (Draft Guidance for External Review): Chapters 6 through 10 (*matrix*)

**LSPA Comments on the 2024 MassDEP Guidance for Disposal Site Risk Characterization (Draft Guidance for External Review):
Chapters 6 through 10**

Provided below are the LSP Association’s detailed comments on the 2024 “MassDEP Guidance for Disposal Site Risk Characterization Chapters 6 through 10.”

“Page” refers to the pages in the 2024 Guidance for Disposal Site Risk Characterization (2024 Guidance for RC) made available electronically and published in PDF.

“Section” refers to the new Sections and Subsections in the 2024 Guidance for RC draft, unless otherwise noted.

The LSPA has made every effort to state the issue of concern, provide a specific example wherever possible, and propose suggested language changes (in red font color), where appropriate.

		LSPA Comment
All pages		As previously noted in the LSPA comments on Chapters 1-5, this draft document seems to attempt to address a number of LSP performance standards (e.g., sampling approach/design, defining background, determining the nature and extent of contamination, REDUA conformance) in addition to providing salient Risk Characterization Guidance. We recommend that this guidance be reorganized into (at least) two separate documents. One document would be a true “risk characterization” guidance that is focused on risk assessment exclusively, and predicated on the assumption that the LSP is collaborating with a risk assessor to achieve the performance standards set forth in the MCP, as is their obligation. Another separate document would address site investigation, including sampling design, background, etc.
Page	Section	LSPA Comments – Section 6 Background
1	6	Chapter 6 Background: The Introduction states that this guidance provides information to answer three questions related to collecting background data and evaluating if Site conditions are consistent with Background. The focus then turns immediately to the risk assessor’s role in this process without first acknowledging the obligations of the LSP with respect to answering those three questions. It is understood that risk assessors may rely on this guidance more frequently than other professionals involved in the waste site cleanup process but the document should be more explicit regarding the role of the LSP in reliance on MassDEP published Background data and/or collecting Site-specific data to support Background evaluations. The LSPA suggests adding something along the lines of “Although the LSP is responsible for conducting adequate site assessment to answer these three questions, the risk assessor should confirm and review the answers with the LSP at the outset of the process.” Or “Answering these questions may be a collaborative process between the LSP and the risk assessor.”
6	6.2.7	The draft guidance states that “reducing contaminant concentrations to background levels can minimize the assessment required at a disposal site...”. However, this seems inconsistent with the discussion in Section 6.4.1 that notes that small data sets can easily lead to the conclusion that site conditions are consistent with background when in fact they are not and references Chapter 4. How specifically can assessment be minimized?
6	6.2.7	First sentence last paragraph – “The risk assessor...” The LSPA recommends that this be changed to “The Licensed Site Professional (LSP)...” As noted in Section 6.2.2 and as identified in the MCP (310 CMR 40.0835(4)(f) Nature and Extent of Contamination includes characterization of background as well as items which go beyond the scope of typical risk assessment (for example, stability of any NAPL). While a risk assessor often conducts the background evaluation, the LSP must characterize background as part of the Nature and Extent of Contamination. Should the Nature and Extent of Contamination conclude that

		all contaminants are present at background concentrations, no risk characterization is necessary, eliminating the need for a risk assessor. This comment is also consistent with Section 6.2.8 paragraph 2, which gives the LSP, NOT the risk assessor, the ability to use professional judgment to limit site investigation activities and still conclude concentrations are consistent with background via a technical justification.
6	6.2.7	Consistent with the previous comment and to provide consistent use of terms, please consider revising the first sentence of the 3rd paragraph as follows: The LSP in coordination with the risk assessor must determine which chemical concentrations are consistent with background and the risk assessor must document why these chemicals were not identified as Contaminants of Concern and therefore why it is appropriate to drop these chemicals from the risk assessment process.
7	6.4	“The bases for these levels and guidance for their use are discussed in Section 6.4.1.” Please replace “bases” with “ basis ”
9	6.4	“Metals are present at relatively low levels in natural soil in locations that have not been affected by human activity” - Low is a relative statement and is compound dependent. The LSPA suggests this edit: “Most metals are present at relatively lower levels in natural soil...”
9	Table 6.1	The “Natural” soil concentration for Lead should be increased to 200 mg/kg to reflect the soil natural background level in the MCP Toxicity.xls file used to establish MCP Method 1 Soil Standards.
9	Table 6.1	The LSPA suggests presenting the table all on one page
9	Table 6.1	The table is missing arsenic, chrysene, vanadium, and zinc
10	Table 6.1	The LSPA suggests removing “0.3” printed after “MERCURY”
10	Table 6.1	Methylnaphthalene is missing the 2-. The LSPA believes that the entry should read “2-Methylnaphthalene”
11	6.4.1	The LSPA recommends the following changes to this sentence: "However, in any case where site concentrations are substantially higher than the MassDEP-Derived Background Levels, the LSP and risk assessor will bear a relatively heavy burden of proof in using site-specific data to demonstrate consistency with background, and the site-specific evaluation will be closely scrutinized in any DEP review."
11	6.4.1	The guidance discusses having adequate sample size and data representativeness for assessing background conditions. The LSPA requests that clarification be added regarding the use of data collected at a site for purposes other than defining Nature and Extent of contamination related to the Release, for example, waste characterization sampling and analysis, which may report results for compounds unrelated to the Release. For example: unrelated metals at a petroleum site, where there may be only a couple of results below background).
12	6.5	Last paragraph of section: Suggest revising to “Note where there is inadequate information with which to characterize background, the risk assessor should assume the background is non-detect.” MassDEP documents a natural soil background concentration for 2,3,7,8-TCDD equivalents in the MCP Toxicity.xls file, used to develop MCP Method 1 Soil Standards, so the reference to a lack of background for chlorinated organic compounds is not valid.
12	6.5.1	3rd bullet: Please clarify what is meant by “small difference”. Small differences in concentrations are of greater concern for contaminants with higher toxicity. Suggest striking second sentence within this bullet.
13	6.5.2	Regarding the statement that “Background samples must <u>not</u> be collected off-site in areas affected by another disposal site”: The LSPA suggests it be revised to read that “Background samples must not be collected off-site in areas affected by another disposal site where the Release (as defined in 310 CMR 40.0006) includes the background compounds of interest.”

13	6.5.2	The last paragraph of Section 6.5.2 does not align with the first sentence of Section 6.5.2 or the MCP definition of background; the LSPA recommends it be revised. Specifically, background samples should be reflective of the environment at and in the vicinity of the site. Therefore, “optimal locations for collecting background samples are areas where minimal current or past human activity has occurred” is only correct for sites in areas where minimal current or past human activity has occurred. Given the Commonwealth’s history, population density, industry, and sources of Releases, it is likely that, for a large portion of sites, optimal locations for collecting background samples are in areas where current and past human activity has occurred. Further, background samples may be appropriate in areas of elevated screening data. Indeed, MassDEP has documented background concentrations in the <i>Technical Update: Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil</i> that include elevated concentrations, therefore, a site-specific soil background evaluation would likely be undertaken only when elevated concentrations of compounds that do not appear to be related to a site Release are present at a site.
15	6.5.3	The LSPA does not agree with the first sentence in the Indoor Air section and we recommend that it be removed or revised to allow for cases of site-specific indoor air background sampling, as there are cases where site-specific indoor air background sampling is possible. Examples include a large multi-story building with consistent use throughout (new/vacant, residential, healthcare, etc.), a new multi-building development, and buildings of similar age/construction/use/management (for example, adjacent dormitories, public housing buildings, or hospital wings).
19	6.5.4.2	2nd paragraph, last sentence. The objective of a background comparison is to determine whether a constituent concentration is consistent with, higher, or lower than background. The LSPA suggests changing the sentence to “Analyses performed with low statistical power could make incorrect conclusions about whether a constituent is consistent with background.”
20	6.5.4.3	The LSPA suggests deleting “Graphical depictions of data are under-rated and underused.” as this sentence is opinion and does not provide the reader with useful information.
22	References	The LSPA is unable to produce the following document: Licensed Site Professional Association (LSPA) 2001. Summary of Selected Results, LSPA Anthropogenic Fill Soils Project, April 2001. Personal Communication. Can MassDEP provide a hyperlink and identify who the people communicating are?
Page	Section	LSPA Comments – Section 7 Identifying Contaminants of Concern
23	7.2	Second paragraph of section, 1st sentence. (“...the term “low concentration” refers to the concentration of the chemical relative to the method detection limit.”) The LSPA suggests that “low concentration” be defined relative to a reporting limit, which is a more reliable value than the MDL, taking into consideration sample-specific characteristics, laboratory instrumentation accuracy, and overall sample variability. It would be helpful to be more specific in terms of what “low” means, such as suggesting an upper ratio limit relative to the RL (for example, values within 3 times the RL may be considered low).
24	7.2	First paragraph, 3rd sentence (“For example, a contaminant may only be detected in 1 out of 20 total samples...”). The way this sentence is written implies that a single detection could be a hot spot. While the LSPA agrees with this, we suggest adding additional clarifying language discussing the need to evaluate the singular detection in addition to low concentration and other factors such as history of the use of the chemical at the site.
25	7.3	First paragraph, 1st and 2nd sentences. Again, it would be helpful to define what “higher” and “comparable” mean - 2x? 3x?
25	7.5	The LSPA suggests changing the term “minimum daily requirement” to “dietary guidelines” or another broad category, as readily available values may vary by essential nutrient and depend on federal agency (Recommended Dietary Allowance (RDA), Adequate Intake (AI), Reference Daily Intakes (RDIs)).

Page	Section	LSPA Comments – Section 8 Risk Characterization Method Selection
26	8.2.1	The LSPA suggests this edit,“(c) all the contaminants of concern present have Method 1 standards...”
27	8.2.2	Second to last paragraph. The LSPA recommends that a distinction be made between sites that are considered “ecological habitat” versus no habitat at a site because a Method 3 may not be necessary for a site that does not have ecological receptors (e.g., heavily developed sites). This concept is more clearly stated in 310 CMR 40.0971(3).
29	8.3.6	The LSPA recommends rewriting this sentence as shown: “A Method 2 Risk Characterization should always include a characterization of the risk of harm to safety posed by the contaminant conditions, as described in the MCP at 310 CMR 40.0960.”
30	8.3.6	Example box at top of page regarding TPH. The LSPA suggests removing the last sentence (re: PAHs/BTEX) from the example, since this is really a separate issue related to site characterization rather than use of a risk characterization method. We think that the use of TPH as an example is problematic. We suggest that TPH be replaced by one constituent, rather than a mixture, which would more simply serve as an example for when Method 2 is not an option. Furthermore, collection and use of TPH data for site and risk characterization is no longer considered to be consistent with CAM requirements or REDUA.
30	8.4	Example box at bottom of page: “Given the proximity of the release to the pond, the possibility of impacts on the pond should be addressed.” The LSPA suggests adding “...to determine the nature and extent of contamination.”
31	8.5	In the first sub-bullet, the LSPA suggests the following edit: “evaluate all potential exposure pathways for each identified receptor of concern, even those exposures occurring at points beyond the portion of the site considered in the Permanent or Temporary Solution Statement, or”
31	8.5	The LSPA suggests adding text relative to the importance of defining the Disposal Site Boundary when preparing a Permanent or Temporary Solution for a portion of a disposal site.
Page	Section	LSPA Comments – Section 9 Method 1
34	9.1	Prior chapters require defining COCs for human health and ecological receptors separately. The LSPA suggests this word change: “The Method 1 approach compares site conditions to promulgated standards...”
35	9.3	Footnote 3 does not direct to the numerical standards derivation directly but to the section in which the material is located.
35	9.3	Appendix 9-A and 9-B have not been provided for review yet. The LSPA looks forward to reviewing those in the future and considering how they relate to this section.
35	9.3	Combine ground water to read groundwater.
37	9.3	Figure 9-1. Are there arrows missing on the yes line between “Are there chemicals which bioaccumulate...” and the yes arrow coming out of the box “Is human exposure predominately from contaminants...”?
38	9.4	“Activity and Use Limitations are established (if necessary) to limit future use of the site and are described.”
39	9.5	Last paragraph, please edit “...(2) ...and evaluation” to “an evaluation”
39	9.5	The performance standards for the LSP characterizing the nature and extent of contamination do not differ for different risk assessment methods; the LSPA recommends that this general information be provided at the beginning of each “Method” section. The LSPA encourages MassDEP to revise this section to clarify that the expectation for use of Method 1 is that the CSM confirms that soil and groundwater are the sole (or primary) media to which humans may be exposed. Also, the last paragraph, item (2) seems to imply that migration from the source area is always occurring, and that it migrates “off the property. “ It may be more prudent to link this discussion to development of a technically supported and valid CSM, and reference guidance

		for that component.
40	9.7	Without further description of the access at a property next to an elementary school, this example may not be a true statement "(e.g., a property located next to an elementary school is likely to may be routinely visited by school-age children.)" The property next to a school could be a Fire Department or Police Department where routine visits by children are counter to their operations. The entire ground surface may be paved and therefore the access to soil may be limited for these property uses. The LSPA suggests including Table 40.933(9) Soil Category Selection Matrix - Human Exposure Potential in this section.
41	9.8	It would be useful to have an Exposure Assessment Section to reference and rely upon for Section 9.8, which discusses receptors/exposure pathways/accessibility, etc.
41	9.8	In the last sentence there is a missing parenthesis (310 CMR 40.0973(5)).
48	9.9.3	The LSPA supports the language that the EPC should be "a conservative estimate of the mean" and suggests that it should form the basis of the discussion of EPCs, such as in section 4.3.6 of the risk assessment guidance.
48	9.10	"... the risk characterization is simply the comparison of the exposure point concentrations to the applicable Method 1 standards."
49	9.12	Second paragraph, "... (and where there is no risk to safety) a condition of no significant risk of harm to safety) ..."
49	9.12	Third paragraph suggested word changes: "For some sites where a Method 1 risk characterization has indicated that a condition of No Significant Risk has not been achieved, the site-specific approach might demonstrate that, in fact, a level of No Significant Risk does exist. Of course, the more detailed evaluation could also reach the same conclusions as the Method 1 assessment, but at significantly greater cost. " Cost for risk characterizations should be considered in the context of the cost of remediation and is not the subject of this guidance document.
50	9.14	Typo: "... (e.g., the e.g., composite soil samples..."
Page	Section	LSPA Comments – Section 10 Method 2 Modifications
52	10.1	Paragraph 3. There are exposure assumptions that are more conservative than some Method 1 assumptions and there are limitations on the degree of site-specificity for some exposure assumptions included in Method 3, based on federal and state guidance, particularly if using the MassDEP Short Forms. Proposed word changes: "Thus, Method 1 and Method 3 represent opposite ends of the extremes on the generic/site-specific continuum."
52	10.1	This statement (Section 10.1, paragraph 4, page 52), "A Method 2 Risk Characterization is a blend of Method 1 and Method 3 Risk Characterizations." conflicts with this statement (Section 10.2, paragraph 1, page 53), "The applicability of Method 2 is similar to that of Method 1, as noted at 310 CMR 40.0942(2), as both approaches rely upon the use of chemical-specific standards in soil and groundwater." Method 2 is more site-specific than Method 1 but it is not a cumulative risk approach and therefore is not a blend of Methods 1 and 3.
53	10.1	First paragraph on page 53. The evaluation of vapor intrusion exposures requires direct measurement of indoor air contaminant levels. Add "soil gas and/or" before indoor air
56	10.4.1 under the second 2	Both sub-slab soil gas and indoor air should be analyzed as receiving media - there are site-specific conditions where sampling indoor air is not indicative of a release under the building, such as an automotive repair facility or facilities where occupational activities may confound results. The LSPA suggests revising to reflect this.

55-56	10.4.1	This text uses a numbering system that is 1,2,3 and 1,2,3 again. The LSPA suggests using a different convention such as a,b,c or bullets
62	10.4.2.2	Paragraph 3. Proposed addition: “...(i.e., a Method 2 <i>GW-3</i> standard)...”
62	10.4.2.2	<i>The box indicates:</i> “Only the attenuation component of GW-3 standards may be modified. The factor of 10 for dilution at the point of discharge to surface water cannot be increased or eliminated”. The Method 1 GW-3 standards are derived with a dilution factor and an attenuation factor. The dilution factor accounts for dilution between the site (monitoring well/monitoring well network) and the point of discharge (the nearest surface water body/nearest downgradient surface water body). The attenuation factor accounts for attenuation once the groundwater enters surface water. Both of these factors are related to site-specific conditions. Calling out dilution as something that cannot be changed in the Method 2 section seems counter-intuitive to the intent of Method 2 which allows for site-specific modification of the Method 1 standards. The LSPA proposes that both the dilution and attenuation factors may be modified to calculate a Method 2 GW-3 groundwater standard with appropriate documentation.