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## Standard Guide for Development of Long-Term Monitoring Plans for Vapor Mitigation Systems<sup>1</sup>

This standard is issued under the fixed designation D8408/D8408M; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reappraisal. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reappraisal.

### 1. Scope

1.1 This guide presents factors to consider when developing Long-Term Monitoring (LTM) Plans for monitoring the performance of both active and passive vapor mitigation systems in buildings. This guide will also assist in developing appropriate performance standards to make sure that vapor mitigation systems remain protective of human health. Active and passive vapor mitigation systems have been used for a number of years on contaminated properties where residual volatile contaminants remain in the ground. This guide discusses a variety of vapor mitigations systems; however, its focus is on the development of long-term monitoring plans for vapor mitigation systems that are designed to remain in place for multiple years.

1.2 A LTM Plan provides clear performance goals for a vapor mitigation system which help to reduce potential confusion and ineffective project management. The LTM Plan also defines performance monitoring time frames to efficiently test the vapor mitigation systems' effectiveness without unnecessary and costly over-testing. This will also promote consistent monitoring. Vapor mitigation systems are often installed without adequate consideration of the long-term monitoring requirements necessary to make sure that they remain protective of human health for as long as the system remains in place. This guidance addresses the requirements of the LTM Plan to monitor a vapor mitigation system's continued effectiveness. Installation verification that the vapor mitigation system was installed correctly is typically addressed in the Remedial Design stage of a contaminated Property Management and is not covered in this document.

1.3 LTM Plan limitations, constraints and potential sources of error are discussed in this standard. This guide does not endorse a mitigation system vendor or testing of vapor mitigation systems. However, this guide does provide a reference

for the common procedures for testing vapor mitigation systems and related terms, as appropriate.

1.4 *Units*—The values stated in either International System (SI) units or English units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with the standard. Reporting of test results in units other than SI shall not be regarded as nonconformance with this standard. The values given in parentheses are provided for informational purposes only and are not considered standard.

1.5 All observed and calculated values shall conform to the guidelines for significant digits and rounding established in Practice D6026. For purposes of comparing a measured or calculated value(s) with specified limits, the measured or calculated value(s) shall be rounded to the nearest decimal of significant digits in the specified limit.

1.6 This guide offers an organized collection of information or a series of options and does not recommend a specific course of action. This document cannot replace education or experience and should be used in conjunction with professional judgment. Not all aspects of this guide may be applicable in all circumstances. This ASTM standard is not intended to represent or replace the standard of care by which the adequacy of a given professional service must be judged, nor should this document be applied with consideration of a project's many unique aspects. The word "Standard" in the title of this document means only that the document has been approved through the ASTM consensus process.

1.7 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.8 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the*

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