



Department of
**Environment &
Conservation**

Environmental Site Assessments Frequently Asked Questions (FAQs)

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1. What is an Environmental Site Assessment?

An Environmental Site Assessment (ESA) is a report prepared with the intent of identifying potential or existing contamination liabilities on a property.

2. What is a Phase I ESA?

A Phase I Environmental Site Assessment (sometimes referred to as a Phase I ESA) report is conducted primarily for real estate transactions to identify potential and/or existing environmental contamination issues. The primary intention of conducting a Phase I ESA is to protect the potential buyer, as well as the owner of the land from unnecessary liability or potential litigation.

3. Why is a Phase I ESA required?

A Phase I ESA may be required for a variety of reasons. In general, a Phase I ESA allows all parties involved in a transaction to understand the level of risk that may be incurred with purchase of a property. One of the most common reasons for preparing a Phase I ESA is the purchase of commercial real estate. In many cases, by showing due diligence in investigating potential site environmental contamination, a purchaser or lender may qualify for certain protections, such as [CERCLA Innocent Landowners Defense](#), designed to allow the owner of the property to defend against environmental liability created by a third party. When all parties understand the level of risk they might incur, the purchase of property can proceed. A Phase I ESA may also be required to qualify for the use of property for certain state or federal grants.

4. What is involved in a Phase I ESA?

A Phase I ESA is primarily a review of records from many sources, indicating the likelihood of the presence of hazardous chemicals, as well as petroleum and other sources of environmental contamination on a property. The records review may be from many sources, including but not limited to historical maps, tax records, and property deeds of previous businesses and owners. Ultimately the results of a Phase I ESA inform the opinion of the Environmental Professional serving in a consulting capacity, as well as the property owner. This opinion indicates whether further investigation is warranted, which allows the potential buyer to move on to the next steps, in order to determine the full extent of what type of work might be needed on the property under consideration.

5. Who conducts a Phase I ESA?

Phase I and II Environmental Site Assessments may be conducted by professional engineers, environmental consultants and/or professional geologists.

6. How much does a Phase I ESA cost?

One of the most common questions relating to Phase I ESAs is how much they cost. Unfortunately, there is not a set price for Phase I ESAs; instead, costs are based on a number of factors and can vary significantly from one situation to the next. Factors considered by consultants in determining a project cost include, the location of the property in question, how large and/or developed that property is, and how easy it will be to gather information from the relevant information sources.

7. How long does a Phase I ESA take?

The same factors that determine cost also affect the completion time for a Phase I ESA. These factors include, availability of historical records, response and availability of pertinent regulatory agencies and local governments, size and location of property, and a number of other variables. It is typical for a Phase I to take from one week up to a month for the Environmental Professional to render a written opinion.

8. What happens if you find something while performing a Phase I ESA?

An opinion regarding environmental risks and potential mitigation measures by an Environmental Professional is a part of a Phase I report and is considered standard practice. This opinion indicates what environmental risks exist, whether further investigation is warranted, and what mitigation measures may be advisable, and allows the potential buyer to determine if the land suits his/her needs or if additional information is necessary. Should you want to proceed, however, you may want to pursue a ***Phase II Environmental Site Assessment***.

9. What is a Phase II ESA?

A Phase II Environmental Site Assessment is conducted primarily for real estate transactions, to identify existing presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property.

10. When is a Phase II ESA required?

Previous uses of a property that can create the need for a Phase II ESA and subsurface investigation include: gas stations, dry cleaners, industrial activities, oilfield, agricultural activities, refineries, machine shops, manufacturing, hazardous waste storage, etc. Analysis into the specific site details during the Phase I ESA will determine, if any of these previous uses have created a **significant potential** for a release or if a known release has occurred. If so, a Phase II ESA performed by an individual with expertise in soil and groundwater contamination may be required. Phase II ESAs should be conducted by engineers or geologists with experience in this field.

The American Society for Testing and Materials (ASTM) has developed a standard guide for Phase II ESA, [ASTM E1903-11 Standard Guide for Phase II Environmental Site Assessment Process](#) which is used by professionals to inform Phase II ESA work.

11. What is involved in a Phase II ESA?

A common procedure is for a buyer to conduct a limited Phase II ESA, which would involve determining the presence and extent of contamination on the site, to make the following decisions:

1. The contaminant is minor or inconsequential.
2. The contaminant is confirmed and may pose more of a risk than the buyer is willing to accept.
3. The contaminant is confirmed and more study is needed to quantify the extent of pollutants discovered in order to make an appropriate decision.

A comprehensive Phase II ESA includes extensive sampling to fully characterize the extent of contamination and analysis of potential off-site contamination so that necessary cleanup activities and costs can be estimated.

12. How much does a Phase II ESA cost?

The cost for the Phase II ESA ranges greatly, depending on the site specific details. The site specifics include: type of lab analyses required, drilling method needed, access to the subsurface, overhead constraints, groundwater testing required, etc. Costs for due diligence Phase II ESAs can range from \$6,000.00 to \$25,000.00 but could cost significantly higher.

13. How long does a Phase II ESA take?

The length of time for preparation of a Phase II ESA is dependent upon a number of site-specific characteristics, including but not limited to, the historical use of the property, geotechnical concerns and the level of development of the property. Additionally, depending upon the presence or absence of certain contaminants, the entire Phase II ESA process could take as little as a few days or as long as several months.

14. What happens if you find something while performing a Phase II ESA?

Depending upon the situation, the discovery of contaminants on a piece of property may require remediation of the contaminants or may halt a real estate transaction or further commercial or agricultural use of the property. The nature and extent of contamination will dictate what next steps may follow a Phase II ESA. The following hypothetical example illustrates activities that could occur during the Phase I and II ESA and ensuing activities:

A buyer had a Phase I ESA performed on a commercial property. The Phase I identified two recognized environmental contaminants on the property:

1. The property formerly had an underground waste oil storage tank.
2. The property contained a building that was used as a machine shop and the shop floor drains connect to an on-site French drain.

The Limited Phase II included:

Underground Storage Tank

1. 2-3 soil borings in the area of the former underground tank.
2. Field screening of soil samples for volatile organic compounds (VOCs).
3. Laboratory analysis of stained soil samples and/or highest field screening result.
Analysis included volatile and semi-volatile petroleum hydrocarbon compounds and heavy metals.
4. Installation of groundwater monitoring points or wells.
5. Collection of groundwater samples for laboratory analysis of volatile and semi-volatile petroleum hydrocarbon compounds and heavy metals.
6. Comparison of all laboratory analytical results to applicable state and Federal standards.

French Drain Area

1. 2-3 soil borings in the area of the French drain.
2. Field screening of soil samples for VOCs.
3. Laboratory analysis of stained soil samples and/or highest field screening. Analysis included volatile and semi-volatile petroleum hydrocarbon compounds, chlorinated solvents, and heavy metals.
4. Installation of groundwater monitoring points or wells.
5. Collection of groundwater samples for laboratory analysis of volatile and semi-volatile petroleum hydrocarbon compounds, chlorinated solvents, and heavy metals.
6. Comparison of all laboratory analytical results to applicable state and federal standards.

Based on the results of the Limited Phase II ESA, the buyer elected to proceed with a comprehensive Phase II ESA that included:

- Additional borings and soil samples to fully characterize the areal extent of soil contamination identified in the area of the underground tank. Sample analysis was limited to the compounds identified in the Limited Phase II.
- Additional borings and soil samples to fully characterize the areal extent of soil contamination identified in the area of the French drain. Sample analysis was limited to the compounds identified in the Limited Phase II, which were different than the compounds detected in the area of the UST.
- Installation of additional monitoring wells and collection of groundwater samples to fully determine the extent of groundwater contamination. In this case, the groundwater contaminant plumes were commingled and the analysis consisted of the entire suite of chemicals previously detected in the Limited Phase II ESA.
- Determination of groundwater flow direction.
- Evaluation of potential migration pathways for accumulation of hazardous concentrations of soil vapor.
- Evaluation of potential down-gradient groundwater receptors.

In this case, the buyer concluded there was sufficient information to determine that the cost of a cleanup was worth the discounted price of the property. He also determined that cleanup activities would not prohibit development of the property and that there was adequate documentation to present for regulatory approval of the assessment and cleanup of the property.