



Guidance Document

Phase I Environmental Site Assessments For Harris County Projects

As part of the Harris County Public Infrastructure Department – Architecture and Engineering Division (HCPID-AED) design and project process, consideration is given to avoidance and minimization in regard to hazardous materials and petroleum products that could negatively impact human health, worker protection, and the environment. It is best to consider the potential for the presence of hazardous materials and petroleum products early in the project development process.

HCPID-AED actions to address the potential for hazardous materials and petroleum products impacts start with a Phase I Environmental Site Assessment (ESA). A Phase I ESA should be performed on all projects as part of the due diligence process and to determine the potential for encountering hazardous materials and petroleum products during right of way (ROW) acquisition, property management and/or construction. “Due diligence” is the process of inquiring into the environmental characteristics of a parcel of commercial real estate or other conditions, usually in connection with a real estate transaction. Common acronyms used in this document are included as Appendix A.

1.0 PHASE I ENVIRONMENTAL SITE ASSESSMENT

A Phase I ESA is typically performed to satisfy one of the due diligence requirements to qualify for the innocent landowner, contiguous property or bona fide prospective purchaser limitations of EPA CERCLA liability. The CERCLA liability protection requirements are described in the 2005 EPA CERCLA All Appropriate Inquires (AAI) rule (40 CFR Part 312 Standards and Practices for AAI-Final Rule). The EPA AAI rule incorporates several changes in the provisions necessary to qualify for certain landowner liability protections under CERCLA. The ASTM E1527E-05 standard was updated to incorporate the criteria of the EPA CERCLA AAI rule and can be used to comply with EPA CERCLA AAI.

The typical purpose of a Phase I ESA is to identify “recognized environmental conditions” as defined by ASTM 1527E-05 and to meet AAI provisions for CERCLA liability protection. A “recognized environmental condition” is defined by ASTM E1527-05 as “the presence or likely presence of any hazardous substances or petroleum



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products on a property under conditions that indicate an existing release, a past release, or a material threat of 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. The term includes hazardous substances or petroleum products even under conditions of compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.” The Phase I ESA is a non-invasive assessment of the site conditions and specifically excludes services involving sampling and testing of materials for hazardous or petroleum product substances.

The changes to the EPA CERCLA AAI-Final Rule and the ASTM E1527E-05 standard did not affect the existing CERCLA innocent landowner liability protections for state and local governments that acquire ownership to properties involuntarily or through the exercise of eminent domain authority by purchase or condemnation in their functions as sovereigns, pursuant to CERCLA 42 U.S.C. §§9601 Sections 101(20)(D) and 101(35)(A)(ii). Involuntary acquisition of properties by state and local governments fall under those CERCLA provisions and EPA’s policy guidance on those provisions, not under the AAI provisions of CERCLA Section 101(35)(B).

As such, HCPID-AED will assess design and ROW requirements to determine how much inquiry is practical or appropriate for the Phase I ESA. Best management practices suggest the Phase I ESA scope of work incorporate those elements from the ASTM 1527E-05 standard, modified or expanded as necessary, that would assist in 1) identifying RECs, 2) determining the potential for encountering hazardous material and petroleum product contamination within existing and proposed ROW, and 3) evaluating the potential impacts to the project. The Phase I ESA information may also be used to determine areas that require additional research or consideration during the subsequent stages of project development.

An important initial step of the Phase I ESA process is selecting the environmental professional who will be preparing the Phase I ESA. Other individuals can contribute as long as they are working under the supervision or responsible charge of an individual that meets the definition of an “environmental professional”. The ASTM 1527E-05 definition of an “environmental professional” may be utilized as part of the selection process:



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- ◆ Hold a Texas PE or PG license or registration and have 3 years of relevant experience OR
- ◆ Be licensed or certified by the federal government, a state, tribe or US territory to perform environmental inquiries and have 3 years of relevant experience OR
- ◆ College degree in science or engineering and 5 years of relevant experience OR
- ◆ Have equivalent of 10 years of relevant experience.

As design and ROW requirements change or are finalized, the entire Phase I ESA or individual components of the Phase I ESA may need re-evaluating to determine if the findings are still valid. Validity of the Phase I ESA will be determined by HCPID-AED on a case-by-case basis. Updates to the ESA shall include interviews, environmental lien search, regulatory agency record search, visual inspection of the site and adjacent areas, and declaration by the environmental professional responsible for the update.

2.0 PHASE I ESA COMPONENTS

The individual components of the Phase I ESA for most HCPID-AED projects will include the following which are discussed in more detail in the following sections. A Phase I ESA checklist that can be utilized in performing the ESA activities is included as Appendix B.

- ◆ Statement of purpose and scope of work
- ◆ Site information and review of project-related reports and documents
- ◆ Physical setting
- ◆ Review of existing and previous land use, including interviews if applicable
- ◆ Review of federal, state, and local regulatory agency databases and files
- ◆ Site visit and area reconnaissance
- ◆ Data Gaps
- ◆ Report with supporting documentation

2.1 Statement of Purpose and Scope of Work

The purpose of a site assessment is to gather information about the project area to determine the potential for impacts to the project area from hazardous materials and



petroleum products for use in HCPID-AED's decision making process. The Phase I ESA report should include the following statement in the purpose section of the report:

“In addition to AAI provisions for CERCLA liability protection, the Phase I ESA was performed to determine the potential for encountering hazardous materials and petroleum products during right-of-way (ROW) acquisition, property management, and/or construction that could negatively impact human health, the environment, worker safety, construction schedule, and construction cost.”

2.2 Site Information and Review of Project-Related Reports and Documents

It is recommended that HCPID-AED or its agents should identify and provide the following project-related information, and reports and documents for review during the site assessment process.

- ◆ the purpose of the ESA (see Section 2.1)
- ◆ description and map for the entire project area (road ROW, detention pond, outfalls, utility easements, etc.) and potential future related ROW acquisitions (additional ROW, corner clips, etc.)
- ◆ drilling logs, borings for columns, piers, or drilled shafts
- ◆ description and map of excavations (including depth and extent)
- ◆ description and map of demolition or structure modification
- ◆ description and map of right-of-way acquisition, easements, and encroachments
- ◆ description and map of proposed utility and pipeline adjustments.

The HCPID-AED Precinct Coordinator will provide the environmental consultant with any knowledge or experience with the project area that may be pertinent to the ESA. It is the environmental consultants' responsibility to request this information from HCPID-AED. The available information contained within previously performed environmental assessments, testing, or studies can be utilized provided such information has not substantially changed since the date of the previous assessment and conditions likely to affect RECs in connection with the site have been updated and documented.

2.3 Physical Setting

The physical setting for the site and adjoining properties will be described based on a review of selected reference information. Available information for the general geology and hydrogeology in the vicinity of the subject site will be obtained and reviewed to



characterize the surface gradient and potential receptors (surficial and subsurface), subsurface geology (including faults), local soil types, regional and local hydrogeology, and site stratigraphy. A water well survey should be performed to determine if public and private water supply wells are present onsite and within a ½-mile radius of the site. Reference sources include, but are not limited to, the following:

- ◆ USGS 7.5 minute topographic map
- ◆ Geologic maps
- ◆ Local fault maps, where available
- ◆ USDA soil conservation survey
- ◆ Floodplain map
- ◆ TWDB Reports
- ◆ Water Well Survey

2.4 Existing and Previous Land Use Information

Selected historical sources, where reasonably ascertainable and readily available, will be reviewed in an attempt to document existing and obvious past land use of the site and adjoining properties. “Reasonably ascertainable” is defined in ASTM 1527E-05 as “information that is publicly available, can be obtained from the source within reasonable time and cost constraints, and is practically reviewable”. Readily available or “practically reviewable” information is defined as “information provided by the source in a manner and in a form that, upon examination, yields information relevant to the property without the need for extraordinary analysis of irrelevant data. The form of the information shall be such that the user can review the records for a limited geographic area.”

The purpose of reviewing existing and previous land use information is to identify uses or occupation of the site and adjoining properties likely to have led to hazardous material and petroleum product contamination. The review of land use information should address not only potential sites within the proposed project limits within both the existing and proposed right of way, but should also assess the potential for contamination migrating from adjoining or surrounding properties. Common RECs in the Harris County area include landfills, industrial and manufacturing facilities, septic systems, filling or service stations, automotive service/repair facilities, junk/salvage yards, shooting ranges, hydraulic elevators, printing presses, oil and gas operations (including oilfield service facilities), dry cleaners, and uncontrolled fill or dredge material.



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Sources of existing and previous land use information include, but are not limited to, the following:

- ◆ USGS 7.5 minute topographic maps (current and historical)
- ◆ Aerial photographs (current and historical)
- ◆ USDA NRCS soil survey
- ◆ Sanborn fire insurance or fire hazard maps
- ◆ Local street or city directories
- ◆ Site plans

Property uses should generally be identified from the present back to the first developed use or 1940, whichever is earlier. Sources of contamination may exist from operations prior to 1940, therefore, research prior to 1940 may be necessary for some projects. Aerial photographs should be obtained at a minimum of 10 year intervals utilizing a readable scale (minimum 1 inch = 500 feet). Local street or city directories should be reviewed at five year intervals unless the site and surrounding land use history indicates otherwise.

It is preferred that the local street or city directory search be conducted by a member of the environmental professional firm and not ordered from a database company, or if performed by a database company, the data supplied must be checked and supplemented where necessary by a member of the environmental professional firm. Good quality copies of the aerial photos and maps, where available, with the project area clearly marked will be included in the report appendices. Aerial photos and maps should be provided in digital format on a CD.

A title records search is generally not included in a site assessment since it does not often provide information useful to determining historical and current land use that is not duplicated during other historical land use searches (e.g., aerial photographs, city directories, regulatory databases, etc.). However, if prior land use in the project area is dubious or other historical land use sources are not available or limited in extent, then a title records search (chain of title) should be considered. Title records can provide information including records of easements and environmental liens or deed recordations of contamination and closure requirements. In addition, names of previous property owners may suggest land use or previous operations on the project area.



2.4.1 Interviews

HCPID-AED personnel connected with the project and the current owner or their representative will be interviewed to provide information regarding past uses of the site and information pertaining to the use of hazardous substances and petroleum products on the site. Additionally, upon request of HCPID-AED, a reasonable attempt can be made to interview past owners, operators, and occupants of the site as well as regional and local regulatory agency staff to the extent that they are reasonably ascertainable within the scope of the ESA and are likely to have material information that is not duplicative of information already obtained through the assessment process. The interviews may be performed during the site and area reconnaissance or by phone, email, or letter. Written documentation of interviews, both successful and unsuccessful attempts, should be included in the Phase I ESA report.

However, due to the length of the project, number of parcels, and/or other acquisition constraints, interviews with current and past property owners, operators, employees, and local residents may not always be practical during the advanced planning stage of project development. Interviews concerning specific sites of concern with local entities or regional regulatory agencies may be more feasible.

2.5 Regulatory Agency Databases and File Reviews

The purpose of the regulatory agency database and file review is to identify known sources of contamination and involvement with registered or regulated sites. The date the regulatory agency database search is performed is important since the databases are regulatory updated and revised.

2.5.1 Regulatory Agency Database Search

The database search should address not only the regulatory status of sites within the proposed project limits within both existing and proposed right of way, but also assess the potential for contamination migrating from adjoining or surrounding properties. The minimum search distance should be sufficient to evaluate alternatives, minor shifts in the alignment, and other possible re-design options to avoid hazardous material involvement. The database search for the project area should be a “corridor” search



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rather than a “point” search unless HCPID-AED states otherwise. HCPID-AED will specify the length of the “corridor” to include in the database search.

The Texas Commission on Environmental Quality (TCEQ) and Environmental Protection Agency (EPA) provide regulatory database information under the Texas Public Information Act and Freedom of Information Act, respectively. A database firm is typically subcontracted to access governmental records used in this portion of the assessment. Additional federal, state, and local databases may be reviewed if provided by the database firm. Determining the location of unmapped facilities is beyond the scope of the regulatory agency database search firms. Include the database report on a CD with the ESA.

During review of list search information, caution should be used when interpreting the information since sites can be misplotted or have incorrect addresses, sites shown as “case closed” may still have contaminated soil and/or groundwater present since certain site closures may allow contamination to remain in place, and sites not listed as regulated or registered may be contaminated from unreported or unknown releases of hazardous materials or petroleum products. The regulatory list search should be field-checked as practicable for unmapped sites that could be possible RECs relative to the project area and incorrect addresses.

Federal and state regulatory agency databases and their minimum search distances based on requirements identified in ASTM standards are outlined below :

Database	Description	Radius (Miles)
Federal		
NPL	The National Priorities List (NPL) is the USEPA’s database of uncontrolled or abandoned hazardous waste facilities that have been listed for priority remedial actions under the Superfund Program. Delisted NPL refers to facilities that have been removed and archived from its inventory of NPL sites.	1.0
Delisted NPL	The Delisted NPL is the USEPA’s database of facilities that have been removed and archived from its inventory of NPL sites.	0.5
CERCLIS/ NFRAP	The CERCLIS database is a compilation of facilities which the USEPA has investigated or is currently investigating for a release or threatened release of hazardous substances pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980. NFRAP (No Further Remedial Action Planned) refers to facilities that have been removed and archived from its inventory of CERCLA sites.	0.5



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Database	Description	Radius (Miles)
CORRACTS	The USEPA maintains a database of RCRA facilities associated with treatment, storage, and disposal (TSD) of hazardous materials that are undergoing "corrective action". A "corrective action" order is issued when there has been a release of hazardous waste or constituents into the environment from a RCRA facility.	1.0
RCRIS-TSD	The Resource Conservation and Recovery Act (RCRA) RCRIS-TSD Database is a compilation by the USEPA of facilities that report storage, transportation, treatment, or disposal of hazardous waste. Unlike the CORRACTS database, the RCRIS-TSD database does not include RCRA facilities where corrective action is required.	0.5
RCRIS Generators	The RCRA Generators database, maintained by the USEPA, lists facilities that generate hazardous waste as part of their normal business practices. Generators are listed as large, small, or conditionally exempt. Large quantity generators (LQG) produce at least 1000 kg/month of non-acutely hazardous waste or 1 kg/month of acutely hazardous waste. Small quantity generators (SQG) produce 100-1000 kg/month of non-acutely hazardous waste. Conditionally exempt small quantity generators (CESQG) are those that generate less than 100 kg/month of non-acutely hazardous waste.	Site/ Adjacent
IC/EC	A listing of sites with engineering and/or institutional controls in place. EC include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health. IC include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.	Site
ERNS	The Emergency Response Notification System (ERNS) is a listing compiled by the USEPA on reported releases of petroleum and hazardous substances to the air, soil and/or water.	Site
State/Tribal		
TXSF	The Texas Commission on Environmental Quality (TCEQ) maintains a database of State Superfund facilities.	1.0
VCP	The TCEQ maintains a database of facilities accepted in the State of Texas Voluntary Cleanup Program (VCP).	0.5
SWF	The TCEQ maintains a database of Solid Waste Facilities (SWF) located within the State of Texas. The database information may include the facility name, class, operation type, area, estimated operational life, and owner.	0.5
LPST	The TCEQ provides a computer-generated database of the Leaking Petroleum Storage Tanks in the State of Texas.	0.5
PST	The TCEQ has compiled a database of registered Petroleum Storage Tanks in the State of Texas, which may include the owner and location of the PSTs. This database may also include registered Aboveground Storage Tanks (ASTs).	Site/ Adjacent
SPILLS	Listing of spills reported to the TCEQ.	Site
IOP	The TCEQ maintains a database of information on all sites that are in the Innocent Owner/ Operator Program (IOP).	0.5
IHW	The TCEQ maintains a database of Industrial & Hazardous Waste (IHW) registered facilities reported by waste handlers, generators and shippers in Texas.	0.1



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Database	Description	Radius (Miles)
DCR	The TCEQ maintains a database of DCR listings that includes dry cleaning facilities and drop stations registered with the TCEQ.	0.25

2.5.2 Local Environmental Record Sources

To enhance and supplement the standard environmental record sources, an attempt will be made to review reasonably ascertainable and useful local lists or records such as Brownfield sites, landfill/solid waste disposal sites, registered storage tanks, land records, emergency release reports, and contaminated public wells. These local sources often keep records of complaints, inspections, environmental violations or other incidents, past or present environmental issues, and spills or releases of hazardous material or petroleum products.

A written request for information or an interview with a staff member of the local government agencies will be included in the supplemental regulatory record review. Records of communication shall be provided for State, County and local inquiries in an appendix to the report and should include the name of the person interviewed, their title, the date, and the department and phone number where that person can be reached.

The following local government agencies will be contacted as deemed necessary and as reasonably ascertainable:

Local Agency	Description	Radius (Miles)
Fire Department	Spills or releases of hazardous materials and petroleum products	Site
Health Department- Environmental Division	Records of complaints, spills/releases, inspections, and violations or other incidents	Site
Building Inspections Department	Building permits/inspection	Site
Houston-Galveston Area Council (HGAC)	Multi-county Closed landfill inventory (CLI) of permitted and unpermitted closed landfills	0.5



Local Agency	Description	Radius (Miles)
Environmental Liens/Activity and Use Limitations (AUL)	A database firm or title company or professional is typically subcontracted to undertake a search of reasonably ascertainable recorded land title records and lien records for environmental liens currently or historically recorded against or relating to the site	Site
Oil and Gas Well Review	A database firm is typically subcontracted to access governmental records used in this portion of the assessment Railroad Commission of Texas (RRC) records of oil and gas wells.	Site/ Adjacent

2.5.3 File Review

The information contained in databases may not be sufficient to determine the potential for encountering contamination. Additional information from state, county, or local regulatory agencies may be necessary. Investigation reports and correspondence contained in case files can be reviewed at the regulatory agency regional office and/or obtained from the state central records office. The requested files may not be available from regulatory agencies within the project schedule. If the results of the regulatory records review/local agency inquiry appear to warrant a review of applicable regulatory agency files, HCPID-AED will be notified for authorization to request the applicable regulatory agency files and to incur additional costs associated with obtaining and reviewing the regulatory agency files.

In the following situations, it is recommended that the relevant files be reviewed to verify the existence of soil and/or groundwater impact and whether that impact has migrated or could potentially migrate onto the site:

- ◆ Site is included on PST, LPST, Landfill, Spills, RCRA, NPL or CERCLIS databases; in local agency files; and/or onsite oil/natural gas activity is identified
- ◆ Adjoining sites are included on PST, LPST, NPL or CERCLIS databases; in local agency files; and/or oil/natural gas activity is identified
- ◆ Cross-gradient or upgradient sites within 1/4-mile of the project area are included on the PST, LUST, NPL or CERCLIS databases
- ◆ Suspect sites identified in the field within an 1/8-mile radius, but not listed on reviewed databases.



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If a file review is performed, copies of pertinent information (including groundwater gradient maps and soil and/or groundwater testing data) should be copied and included as an appendix in the final report.

2.6 Site Visit and Area Reconnaissance

A site and area reconnaissance will be conducted to identify RECs in the project area and on adjoining properties. Field notes should be taken during the project site visit and area reconnaissance. The location and condition of onsite RECs (e.g., dry cleaners, UST systems, ASTs, chemical storage, monitoring wells, sumps, oil/gas wells, impacted soil and/or groundwater plume, etc.), and the location and distance of adjoining property RECs relative to the project area should be included in the field notes and on a site map. Photographs will be taken during the site and area reconnaissance to document site and adjoining property conditions (publicly accessible areas only) and identified RECs. The locations, distances, and compass orientation/ directions of photographs should be noted on available maps or site plans.

Site Reconnaissance

The reconnaissance will consist of visual observations of the site from the boundaries and selected interior portions of the site. If the project area or site is identified on a regulatory list during the regulatory database search, the current status and deviations from the listed status (i.e., change in ownership, type of business, function, existence of RECs, etc.) will be documented.

The site reconnaissance will include physical characteristics of the site and, where applicable, an interview with site personnel who the client has identified as having knowledge of the project area or site. The interviews may be performed during the site reconnaissance or by phone, email, or letter. Records of communication shall be provided for interviews, both successful and unsuccessful attempts, in an appendix to the report. Phone interview records should include the name of the person interviewed, their title or relation to the property, the date, and the phone number where that person can be reached.

Pertinent observations from the site reconnaissance will be documented including, but not limited to, the following:

- ◆ Site description and land use



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- ◆ General site operations, including process and maintenance areas, along with general housekeeping practices (e.g. good, fair, poor, etc.), as applicable
- ◆ Barren or discolored surface conditions, including signs of dead/stressed vegetation
- ◆ Aboveground chemical or waste storage drums, containers or tanks
- ◆ Visible underground chemical or waste storage sumps or tanks, drainage, or collection systems (e.g., oil/water separator, floor drains, USTs, septic systems)
- ◆ Groundwater monitoring wells or drinking water wells and surface water bodies (e.g., drainage, pits, ponds, lagoons)
- ◆ Electrical transformers
- ◆ Obvious visual release of hazardous substances or petroleum products

Area Reconnaissance

Project site visits and field surveys should also include observations of surrounding and adjoining land use to determine the potential for contamination to migrate into the proposed project limits from surrounding properties. The area reconnaissance will not include trespassing on private land or property, or non-public areas of commercial or other non-residential property. The adjoining property reconnaissance will consist of visual observations of the accessible public areas of adjoining/surrounding properties to identify potential RECs (drums or other chemical storage areas, monitoring wells, belowground tanks, etc.), a windshield survey within one-quarter to one-half mile of the proposed project limits or corridors along accessible public right-of-ways, and interviews with occupants or owners of adjoining non-residential properties that have been identified as RECs (existing, potential, or historical).

Interviews may be performed during the area reconnaissance or later by phone, email, or letter. Records of communication shall be provided for interviews, both successful and unsuccessful attempts, in an appendix to the report. Phone interview records should include the name of the person interviewed, their title or relation to the property, the date, and the phone number where that person can be reached.

2.7 Data Gaps



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Data gaps are a lack of or inability to obtain information required by the ASTM 1527E-05 standard, despite good faith efforts by the “environmental professional” or prospective owner. The environmental professional is “required to identify data gaps, address when possible, and document their significance” and determine whether the gaps affect overall findings and the ability to identify conditions indicative of a release.

If a significant data gap is identified, HCPID-AED will be notified prior to completion of the report to discuss possible strategies to eliminate or minimize the gap, if possible. Strategies could include performing a title record search (chain-of-title) and/or additional interviews or file reviews.

2.8 Report and Supporting Documentation

The Phase I ESA report should include the purpose and scope of work; documented observations, evaluations, and findings; identification and evaluation of data gaps; supporting documentation; presenting an opinion and conclusions regarding RECs; a declaration by the environmental professional responsible for the report, and a copy of the approved proposal as an attachment.

A site map with the project area and significant onsite and offsite features clearly marked will be prepared for inclusion in the Phase I ESA report. The location of identified onsite and adjoining property RECs (dry cleaners, UST systems, ASTs, chemical storage, monitoring wells, sumps, oil/gas wells, impacted soil and/or groundwater plume, etc.) relative to the project area should be clearly marked on the site map. Include storm water discharge pipes from industrial development and potential illicit discharge points into the County ROW.

Photographs documenting site and adjoining property conditions, and identified RECs will be included in the Phase I report. The compass orientation/directions of photographs, as relevant, should be included in the photograph description.

Good quality copies of the supporting documentation such as the regulatory database search, land use maps, historical maps and photos, city directory notes or pages, and file review documents, with the project area clearly marked as applicable, will be



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included in the Phase I ESA report appendices. If the supporting documentation is voluminous and not easily included in a bound report, the data can be copied onto a CD that will be attached to the Phase I ESA report. The database report and historical aerial photos and topographic maps should be included as an electronic copy on a CD.

An example Phase I ESA table of contents and declaration is included in Appendix C. Common deficiencies in Phase I ESA reports include, but are not limited, to the following:

- ◆ Mis-located regulatory facilities
- ◆ Facilities closed by regulatory agencies are considered “clean” and not further evaluated
- ◆ Historical reviews do not extend back to 1940 and standard sources are not reviewed or evaluated
- ◆ Property land uses are not identified or not identified with respect to hazardous materials/petroleum products
- ◆ Property and adjacent property observations are inadequate
- ◆ No interviews with knowledgeable property owners or project personnel or insufficient questions
- ◆ Report is incomplete, technically inaccurate, and/or internally inconsistent.
- ◆ Conclusions are not supported by findings
- ◆ Supporting documentation is inadequate

A Draft Phase I ESA report should be submitted to HCPID-AED for review as soon as it is complete so that revisions incorporated into the final Phase I ESA report can also be included in the PER and the need for a Phase II ESA can be identified early. The Engineering Prime Consultant will review the draft Phase I ESA before submittal to HCPID-AED Project Manager to verify that the Phase I ESA was completed according to the approved scope of work, and that the project description and limits are correct (ROW, detention ponds, easements, etc.).

2.9 Determine Need for Further Investigation, Consideration, or Coordination



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If hazardous material and/or petroleum product contamination and RECs are not identified during the Phase I ESA, then further research, investigation, consideration, or coordination may not be necessary. In general, additional research or regulatory file review should be completed before the next stages of project development to resolve whether investigation, consideration, or coordination is needed. Issues that arise during the Phase I ESA may warrant more assessment or investigation in subsequent stages of project development. The need for additional investigation may also depend upon the project design and ROW requirements.

At the time the Draft Phase I ESA report is submitted for review, a meeting should be scheduled with HCPID-AED to discuss RECs associated with the project. If a Phase II ESA is recommended in the Phase I ESA, include a map separate from the Phased I ESA report that shows the RECs and the proposed investigative scope of work (i.e., boring and/or monitoring well locations).

2.10 Other Environmental Considerations

The following items are not included in a typical Phase I ESA; however, they can be added on an “as needed” basis depending on the type of site and the objectives of the HCPID-AED project.

- ◆ Asbestos-Containing Materials
- ◆ Lead-Based Paint
- ◆ Radon
- ◆ Wetlands
- ◆ Natural Resources (endangered species, cultural or historical, ecological)
- ◆ Indoor Air Quality and/or Microbial Contamination (Mold)

Draft for Review

APPENDIX A

COMMON ACRONYMS

AST	Aboveground storage tank
ASTM	American Society for Testing and Materials
AUL	Activity and use limitation
CERCLA.....	Comprehensive Environmental Response, Compensation, and Liability Act
CFR.....	Code of Federal Regulations
DCR	Dry Cleaner Registration
DOT.....	United States Department of Transportation
EPA.....	United States Environmental Protection Agency
IHW	Industrial & Hazardous Waste
IOP	Innocent Owner/Operator Program
LPST	Leaking petroleum storage tank
NOV	Notice of violation
NPL	National Priority List
NRCS	USDA Natural Resource Conservation Service
PE	Professional Engineer
PG	Professional Geoscientist
PST	Petroleum Storage Tank
RCRA	Resource Conservation and Recovery Act
REC.....	Recognized Environmental Condition
SWF	Solid Waste Facility
TSD	Treatment/Transportation, Storage, or Disposal
USDA	United States Department of Agriculture
USGS	United States Geological Survey
USC.....	United State Code
UST	Underground storage tank
VCP	Voluntary cleanup program

Draft for Review

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Draft for Review

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APPENDICES

APPENDIX A	Figures
APPENDIX B	Historical and Site Information Documentation
APPENDIX C	Environmental Database Information and Local Regulatory Agency Inquiries
APPENDIX D	Site Photographs
APPENDIX E	Credentials

DECLARATION

I, <ENVIRONMENTAL_PROFESSIONAL> declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312; and I have the specific qualifications based on education, training, and experience to assess a site of the nature, history, and setting of the subject site. I have developed and performed the Phase I ESA in general conformance with the standards and practice set forth by the HCPID-AED scope of work and guidance document, except as noted in the report.

<ENVIRONMENTAL_PROFESSIONAL>
<TITLE>
<COMPANY NAME>.

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ACKNOWLEDGEMENTS

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CONDITIONAL USE OF THIS DOCUMENT

This document is meant as guidance only; additional or revised information may be required.

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