PART 2, CHAPTER 22

CONTAMINATION

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22.1 OVERVIEW

22.1.1 Purpose

This chapter provides guidance on the identification, evaluation, and remediation of potential contamination issues associated with Florida Department of Transportation (FDOT) projects in the Planning, Project Development and Environmental (PD&E), Design, and Construction phases. For this chapter, contamination is defined by the presence of any regulated material or chemical within soils, waters, or structures. Contamination on, or adjacent to, FDOT property has the potential for liability and may require assessment, remediation, or special handling.

Contamination in soil, groundwater, surface water and structures may have the following impacts to an FDOT project: i) human exposure, ii) potential or actual human health concerns, iii) exacerbation of the contamination by FDOT construction activities, iv) design modifications or special construction provisions for work within contaminated areas, and v) requirements for the proper handling and disposal of contaminated material. FDOT must consider the potential for encountering contamination within the limits of every project, including proposed storm water management sites and other off-site activities. Addressing contamination issues properly can reduce costs and risks to FDOT. FDOT must utilize the best available information to identify and evaluate the potential contamination impacts early in the project development process to reduce potential costs and risks.

If areas with the potential for contamination are identified within or adjacent to a FDOT project, the Project Manager (PM) and District Contamination Impact Coordinator (DCIC) must work together to determine what actions, if any, need to be taken regarding these locations. The PM and DCIC shall ensure this information is provided in a timely and proactive manner to management and appropriate technical offices [such as Right of Way (ROW), Design, Construction, etc.] to allow for project-related decisions to be made.

22.1.2 Definitions

Asbestos - Includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that have been chemically treated and/or altered. For purposes of this definition "asbestos" includes Presumed Asbestos Containing Materials (PACM) and Regulated Asbestos Containing Materials (RACM).

Asbestos Containing Materials (ACM) - Means any material containing more than one percent (1%) asbestos as defined in ***29 CFR § 1926.1101, Occupational Health & Safety Administration (OSHA)***.

Brownfield – As per ***Section 376.79(3), Florida Statutes***, Brownfield means real property, the expansion, redevelopment or reuse of which may be complicated by actual or perceived environmental contamination.

Contamination Assessment and Remediation (CAR) Contractor – A vendor selected by FDOT that provides services related to hazardous and contaminated materials, emergency response services, site assessment and source removal services and other environmental services as required by the contract.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) - CERCLA, as amended by the ***Superfund Amendments and Reauthorization Act of 1986 (SARA)***, governs the Environmental Protection Agency's (EPA's) responses to releases of hazardous substances into the environment, along with EPA's cleanup of inactive hazardous waste disposal sites. EPA must designate which substances are to be considered hazardous and must set the minimum quantities for reporting releases.

Contamination - The presence of any regulated material or chemical contained within the soil, surface water or groundwater on or adjacent to FDOT property, or proposed property, that may require assessment, remediation, or special handling, or that has a potential for liability. These materials would include, but not be limited to, those substances normally referred to as petroleum or petroleum products, solvents, organic and inorganic substances, metals, hazardous materials or substances.

Contamination Screening Buffer – A contamination screening buffer is an area within and adjacent to the project site that should be evaluated for possible additional assessment. Current National Pollutant Discharge Elimination System permitting procedure requires that a 500 foot distance from petroleum and non-petroleum contamination sources should be evaluated as part of the permit application process.

Contamination Source - The place of origin or major concentration of contaminants from which contamination migrates to surrounding areas through the soil or groundwater.

Design Build (DB) - A method of construction combining the design and construction phases of a project into a single Contract.

Hazardous Material - All materials and substances which are now designated or defined as hazardous by federal or state law of this state or federal law or by the rules or regulations of this state or any federal agency.

Hazardous Waste as defined by the U.S. Environmental Protection Agency (EPA) - Under the ***Resource Conservation Recovery Act (RCRA)***, the statutory definition of a hazardous waste is: a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may

1. Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

2. Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

A waste is a hazardous waste if it is not excluded by regulation (***40 CFR § 261.4***) and if it is listed as a hazardous waste (***40 CFR § 261.30***).

Hazardous wastes can also be a mixture of one or more listed hazardous wastes, or exhibits one or more characteristics of hazardous waste (***40 CRF §§ 261.21-261.24***), which are:

1. Ignitability

2. Corrosivity

3. Reactivity

4. Toxicity

A “characteristic” waste remains hazardous only as long as it exhibits a hazardous characteristic, which is determined by sampling of the material.

Hazardous Waste Site - A site at which wastes as defined in ***Rule Chapter 62-730, Florida Administrative Code***, and ***40 CFR §§ 260-272***, have been disposed, treated, or stored.

Lead-based Paint - Paint or other surface coatings as defined in ***Section 381.983, Florida Statutes*** that contain lead equal to or exceeding 1.0 milligram per square centimeter, 0.5 percent by weight, 5,000 parts per million (ppm) by weight or 5,000 milligrams per kilogram.

Level of Investigation - To standardize contamination evaluations within FDOT, use the following definitions:

1. **Level I** - A Level I assessment will be the contamination screening evaluation.

2. **Level II** - A Level II assessment is an assessment of areas with suspected contamination impacts to construction, including physical sampling and laboratory analytical testing to determine the presence or absence of contamination. This investigation will also detail the concentrations of the existing contaminants, and make recommendations to support construction efforts, accordingly.

3. **Level III** - A Level III remediation is a development and implementation of a contamination Remedial Action Plan (RAP) based on Level II recommendations.

Metal-Based Coatings (MBC) – Surface coatings containing metals that could be considered hazardous including; Cadmium, arsenic, lead, zinc and hexavalent chromium.

Modified Special Provision (MSP) - A specification, prepared, signed, and sealed in accordance with ***Sections 471, 481, or 481 Part 2, F.S.***, that revises an implemented specification (Standard Specification, Supplemental Specification, or Special Provision) to address a project specific need and is approved for use by the State Specifications Engineer.

Municipal Separate Storm Sewer System (MS4) - A MS-4 system is a storm water conveyance system owned by a state, city, town or other public entity which discharges to waters of the United States but is not combined with a sewer system or part of a publicly owned treatment works (POTW).

Non-Petroleum Contaminated Parcel - A parcel which has non-petroleum contaminants (e.g. heavy metals, solvents, pesticides, herbicides, arsenic) in the soil or groundwater in quantities or levels in excess of the allowable maximum contaminant levels or risk based criteria established by rule or law. If both non-petroleum and petroleum contaminants are present, the parcel will be treated as a non-petroleum contaminated parcel.

National Pollutant Discharge Elimination System (NPDES) - the NPDES Stormwater Program is a comprehensive two-phased national program (the ***Clean Water Act***) for addressing the non-agricultural sources of stormwater discharges which adversely affect the quality of our nation's waters. The program uses the NPDES permitting mechanism to require the implementation of controls designed to prevent harmful pollutants from being washed by stormwater runoff into local water bodies.

Petroleum Contaminant - Any petroleum or petroleum product as defined in ***Sections 376.301 (32) and (33), Florida Statutes.***

Petroleum Contaminated Parcel - A parcel which has only petroleum contaminants in the soil or groundwater in levels in excess of established guidelines.

Presumed Asbestos Containing Material (PACM) - Thermal system insulation and surfacing material found in buildings constructed no later than 1980. PACM may be noted as present in other materials that cannot be adequately sampled. Sampling of these materials may be prohibited due to access, safety and compromising the building's structural integrity.

Resource Conservation and Recovery Act (**RCRA**) - the public law that creates the framework for the proper management of hazardous and non-hazardous solid waste. The law describes the waste management program mandated by Congress that gave EPA authority to develop the RCRA program.

Remediation - Those activities necessary to remove, treat, or otherwise reduce contamination to a level acceptable to the regulatory agency having jurisdiction in accordance with ***62-780 FAC***.

Regulated Asbestos Containing Material (RACM) – According to EPA, RACM is (a) friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

Reasonably Ascertainable - The information is publicly available, is obtainable within a reasonable time and cost constraints, and the information is practically reviewable.

Significant Contamination - The presence of any contamination that would meet the definition of "hazardous substance", “hazardous material” or "hazardous waste" and be regulated under ***Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)*** or ***Resource Conservation Recovery Act (RCRA)***. Petroleum contamination from underground storage tanks is not regulated by ***CERCLA*** or ***RCRA***. Petroleum contamination from underground storage tanks may be a significant contamination issue, but is not considered “significant contamination” as it is not hazardous.

Solid Waste - ***RCRA*** defines a solid waste as: “any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial or mining and agricultural operations, and from community activities . . . [excluding] . . . solid or dissolved materials in domestic sewage, or solid or dissolved materials in irrigation return flows, or industrial discharges which are point sources subject to permits under ***Section 402 of the Federal Water Pollution Control Act***.”

State-Wide Acceleration and Transformation (SWAT) team – FDOT cross-functional team including Work Program, Intermodal Systems Development (ISD)/Planning, Design, and Environmental Management Office (EMO). Each District SWAT team is responsible for achieving time savings through the state pre-construction process by assisting in efficiently scoping and scheduling projects. A key consideration of SWAT is determining the level of overlap between project development and design which can accelerate the process. ***See Part 1, Chapters 4 and 10***.

Superfund Site - A site on the National Priorities List as adopted by the United States Environmental Protection Agency.

Technical Special Provisions (TSPs) - Specifications of a technical nature, prepared, signed, and sealed in accordance with ***Sections 471, 481, or 481 Part 2, F.S.***, that are made part of the contract as an attachment to the contract documents. TSPs describe

work that is not covered by the ***Standard Specifications*** or Workbook and are included as Appendices in a Specifications Package.

22.2 PROCEDURE

The DCIC is the District level contact for all issues related to contamination impacts within FDOT ROW. The DCIC is responsible for administration of the Districts contamination program, which includes management of the Contamination Assessment and Remediation (CAR) contract(s); coordination of contamination activities between all phases of the project development [i.e., Planning, Project Development and Environment (PD&E), Design and Construction]; maintenance and retention of documentation for all contamination work performed within the District; and coordination of hazardous materials and petroleum compliance issues with appropriate personnel for FDOT facilities and maintenance yards.

In support of environmental review and project delivery, an evaluation for contamination impacts begins during the earliest phase of the project development process and continues through construction. The evaluations degree of detail increases as the project moves from planning phase to construction phase.

FDOT's procedures to address contamination impacts in the Planning, PD&E, Design, and Construction phases of a project are outlined below.

Level of Assessment - To standardize contamination evaluations within FDOT, the Districts should follow the level of assessment guidelines as outlined below:

1. **Level I** - A Level I Assessment, should consist of initial site reconnaissance, photographic documentation of current conditions, and review of historical records to evaluate potential impacts to the proposed project. Level I Assessment is completed during PD&E phase or at 30% design plans for those projects which do not require a PD&E Study. The documentation of the Level I Assessment will be a ***Contamination Screening Evaluation Report (CSER)*** for PD&E projects***,*** and for projects that do not require a PD&E Study a ***Level I Assessment Report*** or, Technical Memorandum is prepared.

2. **Level II** - A Level II Assessment consists of the collection of samples for laboratory analysis from suspected locations of contamination, for sites listed as 'Medium' or 'High' in the Level I Assessment as needed in accordance with design and proposed construction activities. The DCIC may assign sites for Level II Assessment to the CAR Contractor. This is common during the Planning Phase of Minor Projects. The CAR Contractor's final submittal is an 'Impact to Construction Assessment' (ICA). Sites that may impact design or construction must be reevaluated if there is a design change.

3. **Level III** - A Level III remediation effort consists of a detailed plan for the removal and disposal of contaminated soil and groundwater that may directly impact construction activities. Level III remediation activities do not only take place during

construction they can also be performed during right-of-way acquisition or prior to construction to avoid construction delays. This should be based directly on the ICA investigation results or other information developed or received during design. When previously unidentified contamination is found, the CAR Contractor and will assess the potentially contaminated area and, with the DCIC, determine the course of action to resolve the issue, pursuant to the ***Standard Specifications, Section 120-1***. Sites with existing regulatory agency involvement should be coordinated with the state or local agency that is the project lead.

22.2.1 Determine Level of Effort

The assessment and documentation of contamination impacts during the PD&E phase depends on the complexity of the potential contamination issues within the project limits. Depending on the nature of the project, it may go through the Efficient Transportation Decision Making (ETDM) screening process using the Environmental Screening Tool (EST).

Detailed ***Level I Evaluation Reports*** are generally not warranted for transportation projects not qualifying for screening in the EST [typically Type 1 Categorical Exclusions (CEs) and Non-Major State Actions (NMSA)]. See ***Part 1, Chapter 2, Federal Highway Administration Class of Action Determination*** for clarification on projects that qualify for screening.

Projects qualifying for EST screening [typically Type 2 CE, Environmental Assessment (EA), Environmental Impact Statement (EIS), or State Environmental Impact Report (SEIR)] may warrant a more detailed level of analysis and documentation. Most PD&E projects will have received prior consideration of contamination impacts during the ETDM process. The results of the Programming Screen are available in a ***Programming Screen Summary Report***.

All new projects will now run through the State-Wide Acceleration and Transformation (SWAT) process. For accelerated projects, the Level I and Level II assessments may be combined. Level I and Level II Assessment results should be shared and coordinated with the project's ROW agent and design PM as appropriate.

22.2.1.1 Projects Not Qualifying for EST Screening

Contamination issues may be identified for projects that do not require EST screening and advance to the Design phase without a PD&E Study. A Level I Assessment is completed early in the Design phase for these projects. The Level I Assessment should sufficiently document any contamination in a ***Level I Assessment Report*** or technical memorandum. Contamination impacts will be documented in the project file and appropriately addressed into the final design plans. In cases where potential contamination involvement is identified, the anticipated coordination, assessment and/or remediation activities required to address each issue should be stated in the document for subsequent implementation.

Documentation in the Environmental Document is as follows:

1. **Type 1 Categorical Exclusions (CEs) –** Type 1 CEs may involve contamination as long as the documentation demonstrates the proposed project has no significant effect on a known area of contamination or existing contamination does not have a potential significant impact to the project. When no potential significant involvement with contamination is determined for these projects, check "No" next to the question on contamination the ***Type 1 Categorical Exclusion Checklist, Form No. 650-050-12*** ***(Part 1, Chapter 2, Federal Highway Administration Class of Action Determination)*** and reference the ***Level I Assessment Report*** or Technical Memorandum as supporting information.

2. **Non Major State Actions (NMSAs) –**For a NMSA mark "No" if no contamination involvement next to the question on contamination on the ***Non-Major State Action Checklist*** to document that there are no contamination impacts on the project ***(Part 1, Chapter 10, State, Local, or Privately Funded Project Delivery)***. Mark "Yes" if there is involvement and provide an explanation or description of how the involvement is addressed. For these projects include the ***Level I Assessment Report*** or Technical Memorandum as supporting information.

3. **Type 2 Categorical Exclusions (CEs) –** Some Type 2 CEs may not require EST screening. For these projects, contamination impacts are documented on the ***Type 2 Categorical Exclusion Determination Form, Form No. 650-050-11***. A Type 2 CE may not require evaluation of multiple alternatives and supporting documentation may be either a ***CSER***, Technical Memorandum or other assessment reports as appropriate for the project.

22.2.1.2 Project Qualifying for EST Screening

In accordance with ***Part 1, Chapter 2, Federal Highway Administration Class of Action Determination***, qualifying projects must complete the ETDM Programming Screen and may also have completed the Planning Screen. This is the first opportunity to inform the Environmental Technical Advisory Team (ETAT) and/or receive comments from them regarding potential project contamination issues; the DCIC should be engaged in this process.

As projects advance, the PM should ensure the following is considered:

1. **Planning Screen Evaluation** – Specific information identified in the EST screening includes information about known contaminated sites located in the project buffer areas for proposed alternatives. This is an opportunity to begin coordination with the DEP for potential assessment or remediation of petroleum contaminated facilities adjacent to or within future project ROW,

pursuant to the ***July 2014 MOU between FDEP and FDOT*** (discussed in ***Section 22.3)***.

2. **Programming Screen Evaluation** – Include discussion about known potential project involvement with contamination (based on the District familiarity with the project area and anticipated project activities, features or scope) in the Preliminary Environmental Discussion (PED) of the Advance Notification (AN). List all potential contamination concerns identified within the project area using online resources maintained by the DEP, local agencies and water management districts, as well as other data sources. Based on the effect of the project, state in the PED whether a Level I Assessment is anticipated. This is another opportunity to begin coordination or update status of coordination with the DEP on potential assessment or remediation of petroleum contaminated facilities adjacent to or within future project ROW, pursuant to the ***July 2014 MOU between FDEP and FDOT***.

   Coordinate with the ETAT and other appropriate stakeholders throughout the ETDM screening process. Coordination may include the District Drainage Engineer, Permit Coordinator, District Design Engineer, Design PM, the State Environmental Management Office (SEMO), DEP and others who may be involved in the project following the screening.

   After EST screening, review the ***Programming Screen Summary Report***, which includes ETAT comments related to contamination issues. While reviewing the report, pay close attention to any list of potential contamination sources that warrant further review. Review comments about potential effects and use this information to determine the level of potential contamination impacts and how they may be evaluated in the next phase of the project. Begin to prepare existing conditions for use in the Environmental Document.

3. **PD&E Evaluation** – Review the ***Programming Screen Summary Report*** for ETAT comments regarding contamination issues. Use information from the ETDM screening to determine what contamination assessment activities can be included in the scope of services.

   Determine appropriate stakeholders to be engaged and coordinate with them through the PD&E phase. Determine and evaluate avoidance alternatives.

   Complete the appropriate level of documentation based on the project and associated contamination impacts. Commitments should be documented in the Environmental Document and the ***Project Commitment Record, Form No. 700-011-35***.

   The Level I Assessment is the primary method to identify potential contamination impacts throughout the project that is more complex. The Level I Assessment is intended to be updated and modified throughout the PD&E phase, as well as for FDOT standard reviews for projects outside of PD&E.

4. **Final Design** – Incorporate any commitments made in the PD&E phase. Conduct Level II Assessments as warranted and coordinate with the assigned ROW agent and design PM as appropriate. Review design plans and identify if there are activities which could cause exposure to, excavation of or exacerbation of existing soil or groundwater contamination. Review the status of known or identified sites undergoing regulatory review or remedial action for baseline information. Consider if design modifications can be implemented to avoid or minimize involvement with contamination. Consider inclusion of plume identification, dewatering or proper contamination notes will be included in the contract plans when appropriate, or if Special Provisions for the project are needed. As warranted, update contamination status and location information; this may be supported by Level II activities or by activities conducted by DEP under the ***FDEP/FDOT MOU***. Verify all commitments are included in the final documents if design occurs during PD&E following ***Procedure No. 700-011-035, Project Commitment Tracking***. Coordinate with regulatory agencies as necessary, such as coordination with DEP concerning projects under the ***FDEP/FDOT MOU,*** or projects requiring dewatering permits. For design activities following PD&E, if there are any changes or updates made from the PD&E proposed project concept, document them in the project Reevaluation. The Reevaluation includes update of contamination status and commitments; these should reflect how contamination issues identified for the project have been resolved. Ensure the project meets federal and state regulations.

5. **Construction** – Verify completion of any contamination assessment activities and commitments made. Complete description of contamination-related project issues and how they were resolved. Verify compliance with federal and state regulations. For projects with identified contamination, the DCIC should attend the pre-construction meeting and coordinate closely with the construction PM to ensure the contractor is fully aware of potential involvement, commitments, required activities, avoidance measures or further coordination needed.

22.2.2 Planning Phase

In the Planning phase, qualifying projects should have an environmental screening and interagency review through the ETDM process. The ETDM process streamlines and supplements the planning, environmental review and permitting process of transportation projects by soliciting regulatory agency comments on qualifying projects. Additionally, this process provides stakeholders the opportunity for early input, involvement, and coordination. The ETDM process is described in the ***ETDM Manual, Topic No. 650-000-002***.

During the Planning phase, the DCIC should also begin coordination with the DEP for petroleum sites that are covered under the ***Memorandum of Understanding (MOU) between FDEP and FDOT, executed on June 16, 2014***. The details of this ***MOU*** are discussed in ***Section 22.3***, and can be found at http://www.dot.state.fl.us/emo/pubs/June%202014%20MOU.pdf

22.2.3 Project Development and Environmental (PD&E) Phase

Preliminary information on potential contamination issues can begin to be identified in the ETDM process prior to PD&E, but the majority of the identification of potential impacts occurs during PD&E. At the start of the PD&E phase, in coordination with the District SWAT Team, the PM develops a scope of work detailing activities necessary to complete the PD&E Study. The Project Manager must work with the DCIC to identify the assessment needs and the level of evaluation effort for the project. The PM must review contamination issues identified and summarized in the ***Programming Screen Summary Report*** and include them in the scope of services for the PD&E Study. A thorough scope of services is important to ensure all contamination issues are identified early.

To support development of the PD&E Environmental Document (Type 2 CE, EA, EIS, or SEIR) a documented contamination evaluation will be prepared, typically in the form of a ***CSER***. This evaluation documents potential sites of concern and potential for project involvement for various alternatives considered. Initial site identification may draw from multiple sources, including ETDM Screening Summary Reports, field review, and regulatory agency records review. (see ***Section 22.2.31)***. Once potential sites of concern have been identified they are evaluated for impacts to the project and assigned a risk rating. Based on the risk rating assigned and the scope of work in the areas of potential contamination, the PM and the DCIC will coordinate on future actions that must be taken to best address the contamination issue. This may include determining if the ***MOU*** applies to any sites (if not yet completed), conducting Level II activities or recommending Level III or remedial activities, notes to the plans, design modifications and/or special provisions prior to or during construction. In some instances, remedial activities are identified to best occur prior to construction. These activities require coordination for appropriate contracting communication prior to construction letting. In certain cases, the PM, in coordination with the DCIC, may implement changes to the original Design to avoid or limit actions within contaminated areas. If contamination concerns are identified in the PD&E phase, commitments may be made to continue to evaluate potential contaminated sites of concern, or those assigned higher risk ratings. The DCIC will need to ensure that issue resolutions are documented in the project Construction phase Reevaluation.

22.2.3.1 Data Collection

All projects will be assessed for identification of potentially contaminated sites within or adjacent to the existing and proposed ROW. The extent of each assessment is based on the current phase of the project and the expected inclusion of subsurface activities (e.g., drainage structures, mast arms bases, ponds, buried utilities). This should include records, desktop and/or field reviews for contamination screening. Desktop reviews can be done by FDOT staff in the early stages of the project to provide a baseline for the evaluation and the level of assessment in the field review phase. Before starting any field assessment, the PM and DCIC should meet and discuss any specific project, site or design considerations.

Records Review/Desktop Review

The purpose of this review is to identify potential contaminated sites and to evaluate the potential for encountering contamination from current and previous land uses where that information is reasonably ascertainable. Some of the data elements are available by using the EST, while other data may need to be collected from publicly available sources or private environmental data service companies.

Databases maintained by federal, state, or local governments or regulatory agencies are the most reliable sources of data.

The following items are considered to be the "minimum effort" data elements required for evaluation of contamination on a project.

1. DEP OCULUS database,
2. DEP Map Direct Geographic Information Services (GIS) Application,
3. DEP Contamination Locator Map,
4. DEP Institutional Control Registry,
5. Historical/Current Aerial Photos, such as Google Maps,
6. FDOT ROW map notes, and,
7. Other state and local data resources that may be applicable and available.

At this point, the DCIC should inform the State Contamination Impact Coordinator (SCIC), of those sites that may qualify for the ***FDOT/FDEP MOU*** process. The SCIC will coordinate with DEP and ensure that DEP -tracked properties are properly noted and a current status of the assessment or remediation is available.

Field Review/Site Reconnaissance

A field review or site reconnaissance is required during the PD&E phase to identify or verify potentially contaminated sites. The field review should also be used as an opportunity to verify the locations of potential sites of concern identified during the desktop review. The EST contamination data layer and comparisons of old and new aerial photographs may assist in identifying any land-filling or other earth disturbing activities, past agricultural uses, trucking facilities, possible cattle ranching activities, and heavy industrial uses (e.g. ship yards).

The DCIC or representative should participate in the field reviews. It is important to note that a ***Property Access Agreement*** may be needed to access some properties that have not been acquired or that have tenants currently occupying them. The District Office of

General Counsel, District Right of Way Office and PM should be contacted for coordination of a ***Property Access Agreement***.

For parcels that have structures that might be purchased as part of the ROW (either whole or partial-take), it is important to also view building interiors, if possible. This should include a search for the potential for Asbestos Containing Materials (ACM) (if not addressed by a separate District ROW contract), hazardous materials storage, staining, or other conditions that may indicate that contamination is or may be present. If contamination concerns are identified, the DCIC should coordinate with the District ROW Office and provide any information required for the appraisal of the property.

Field observations to determine potential contamination can include observations of apparent changes in topography such as depressions or mounds indicative of subsurface concerns. Additionally, visual indications of surface spills, surface staining, areas of suspect liquids, tanks, suspicious odors, apparent sink holes, distressed vegetation, ventilation pipes, drums, or chemical storage containers can be used to screen potentially contaminated media. Photographs should be taken of each site that warrants additional assessment, as well as any specific areas of concern noted during the site visit.

As part of this process, a determination should be made whether survey or abatement actions are required for facilities or structures that have or may have ACM.

The lack of visual characteristics for contamination does not imply the media is not contaminated. It may be necessary to collect and analyze samples of soil, groundwater or surface water samples during the field review because some types of contamination may require environmental testing. The notification requirements to enter the property of others to conduct a survey, drill a test well, and collect samples is contained in ***Section 337.274, Florida Statutes.*** Any testing should be conducted in accordance with existing ***FDEP Standard Operating Procedures*** contained in ***Chapter 62-160, F.A.C***.

For projects involving existing bridge structures and existing or abandoned utilities (which will be moved or destroyed), physical samples may be collected to determine the presence and quantities of potentially ACM or Metal Based Coating (MBC) coatings containing lead, cadmium, chromium, or other hazardous substances. These conditions require coordination with the District Structures Engineer, District Maintenance Engineer or District Bridge Engineer. The DCIC should also be involved to determine District preferences for the extent and timing of the sampling.

The District Structures Engineer, District Bridge Engineer or the District Facilities Engineer may have additional information acquired during bridge surveys or previous maintenance activities regarding ACM and MBC on structures/bridges within the corridor. The District Maintenance Office and District Construction Office may also have information about existing contamination from previous projects along the corridor. It is FDOT's responsibility to protect the health and safety of its employees, contractors, consultants and the traveling public through inspections and proper handling, management and removal of ACM or MBC. Therefore, ACM and MBC surveys must occur as early as possible in the Design phase, possibly as early as the PD&E phase, to

allow for an evaluation of the impacts prior to the Construction phase. The asbestos and paint surveys must be conducted according the ***Right of Way Procedures Manual, Topic No. 575-000-000***

This data collection effort should result in information for inclusion in the ***CSER*** or ***Level I Assessment Report.***

22.2.3.2 Determination of Risk Rating

A clear determination of potential contamination impacts must be made for each suspected site or property within or adjacent to all proposed ROW limits of each project alternative. Such determination is documented in the ***CSER or Level I Assessment Report*** or Technical Memorandum. Further information on evaluation considerations are outlined in ***Section 22.2.3.1***.

A rating system is used by FDOT to evaluate the relative degree of concern that contamination may have on the project's design, construction, or schedule. For example, known contamination issues do not always mean that a "high" risk is present if that contamination does not impact the planned construction, or the scope of work in the area(s) of potential contamination may not cause direct contact with the contaminated media. A regulatory agency may also be performing corrective actions to known contamination issues which may fully remediate or substantially reduce contamination prior to project construction.

Each property is evaluated for potential contamination-related impacts to the project, and assigned a contamination rating. These ratings are as follows:

1. **No** - A review of available information on the property and a review of the design plans indicates there is no potential for contamination to impact the project. It is possible that contaminants had been handled on the property. However, all information (assessment reports, monitoring well abandonments, results of recent soil and groundwater sampling, etc.) indicate that contamination impacts are not expected.

2. **Low** - A review of available information indicates that former or current activities on the property have an ongoing contamination concern, has a hazardous waste generator identification (ID) number, or handles hazardous materials in some capacity. However, based on all available information and current design plans, it is not likely that there would be any contamination impacts related to this project.

3. **Medium** - After a review of all available information, the potential contamination has been identified. This may include known soil and/or groundwater contamination that may not require remediation, is currently being remediated, or that is currently in the monitoring only phase. The complete status of remediation is important to determine what FDOT must do if the property were to be acquired. If there is insufficient reliable information (such as regulatory records or site historical documents) to make a determination as to the potential for

contamination, and there is reasonable suspicion that contamination may exist, the property should be rated at least as a “Medium”.

A recommendation should be made for each property in this category based on whether it would be within the proposed project, what additional assessment or remedial actions might be required if the property is acquired, and the possible requirements for additional actions if there is a need to avoid the property.

This ranking is the lowest possible rating a currently operating petroleum fueling or storage facility can receive in an assessment document, based on its distance to the ROW, contamination type, need for dewatering in the area, etc.

4. **High** - After a review of all available information and current conceptual or design plans, there is a reasonable potential for contamination impacts during construction. Once the Design Alternative has been selected, sites rated with high contamination potential require further assessment to confirm and delineate potential contaminants and to determine if remediation or special construction provisions will be needed during construction.

   The recommendation for this rating should include a listing of the parameters of concern and media to be assessed, and if known, what construction activities will occur within or adjacent to the contaminated media. Properties used historically as gasoline stations and which have not been evaluated or assessed would likely receive this rating.

After the Level I Assessment is completed, properties identified as having a “Medium” or “High” ranking, may require further assessment to verify or determine the extent of contamination concerns depending upon the proposed construction. The Level I may have to be reviewed and revised based on changes during the design phase.

Planned ROW acquisition and project features should be considered in determining the potential for contamination. There may be instances when contamination involvement can be avoided with minor design changes; for example, moving drainage structures or changing installation of French drains to reinforced concrete pipe in areas identified as having potential for soil or groundwater contamination.

Documentation to the file, which may be in the form of a Technical Memorandum, demonstrates that contamination involvement was considered and addressed as appropriate.

22.2.3.3 Contamination Screening Evaluation/Level I Assessment Report

The documentation of the Level I Assessment can be reported in three ways. For a Level I Assessment completed for a PD&E study, the results are reported in a ***CSER***. If the Level I Assessment is completed during the Design phase the report is titled ***Level I Assessment Report***. Both of these reports are prepared as described in this section.

When the Level I Assessment finds no contamination impacts associated with the project, a Technical Memorandum may be used as documentation in lieu of a ***CSER*** or ***Level I Assessment Report***.

The ***CSER or Level I Assessment Report*** should be a concise document that provides details on the desktop and field reviews of potential contamination impacts detailed in ***Section 22.2.3.1***, including: data reviewed, findings, previous remedial actions, risk ratings and conclusions with recommendations for additional assessment actions.

The cover page should always include the 7-digit Work Program Item Segment Number (WPI Segment No.) or the 11 digit Financial Management Number (FM).

The sections detailed below discuss the information that should be included in the ***CSER*** or ***Level I Assessment Report***:

1. **Introduction** - The introduction should be a brief overview statement explaining the purpose of the report and provide details on the basics of the project. A summary of the purpose and need used in the final environmental document should be included. An example introduction could be:

   "The purpose of this report is to present the findings of a contamination screening evaluation for the proposed roadway project. This report identifies and evaluates known or potential contamination problems, issues, presents testing or remedial recommendations concerning these problems, and discusses possible project impacts or impacts to the proposed project."

2. **Project Description** - This section should briefly describe the proposed improvements and define the project limits. The description should note if the project is anticipated to include ROW acquisition. A summary of the project description for improvements from the Environmental Document should be included. An example of a project description would be:

   "The Florida Department of Transportation is proposing improvements to _____ miles of _____ Road to accommodate present and future traffic demands. These improvements include widening the existing two-lane road to five lanes configured as four traffic lanes and a center two-way continuous left-turn lane. The project begins at _____ Street and terminates at _____ Highway. Beyond the traffic lanes, improvements include shallow swales for surface drainage, grass side strips, and sidewalks."

3. **Alternative Corridors or Alignments** - In this section, a brief description of each viable alternative considered in the project should be provided. Maps or other figures should be used to illustrate the alternatives. An evaluation matrix, as outlined in 14 (b), should be included as part of this section or as a separate table.

4. **Land Uses** - This section should contain a brief description of the existing land uses within the project area and provide a summary of planned future land uses.

Land use information is important to understand the nature of potential contaminants, for example, the contamination issues will be vastly different for a project in an industrialized area versus one going through a rural area. An example of a land use description would be:

"_____ Street, development has been in strip form fronting on _____ Road. The depth of commercial development is very shallow with residential apartments and single-family homes immediately behind the commercial property. A 23-acre shopping mall is located at the intersection of _____ Street. The area is fully developed with no open spaces remaining."

Identify the current legal owner and previous land use of every suspect property on each alignment (this is not intended to be a "Title Search"). This information should be available from the District ROW Survey and Mapping Office or from the County Property Appraisers office.

Identify the current and previous users of each property and the type of business conducted. This information should be available through county records (most are now online), city directories, Sanborn Insurance maps, plat maps and in the local public library.

5. **Hydrologic Features** - This section should include a very brief description of the hydrologic features within and adjacent to the project limits. This should be no longer than one page in length, unless there is a specific reason to provide more extensive detail. An example of a hydrologic features description would be:

   "This County is generally underlain by the _____ aquifer, which is characterized by high porosity sands and limestone which typically allows rapid infiltration of rain-fall and surface runoff. The groundwater surface generally follows the ground surface with a North to South gradient at a depth of _____ feet below ground surface. Flow rates are estimated to be _____ feet per day. There are no surface water features (lakes, canals, etc.) or wells within the immediate project area. The _____ is located _____ from the project area and is considered outside any possible zone of influence. Existing surface drainage is flat, relying primarily on infiltration for removal."

6. **Methodology** - This section should include a brief description of the processes used to complete the contamination impact assessment. An example for a preliminary ***CSER or Level I Assessment Report*** may be:

   "A preliminary evaluation of _____ Road was conducted to determine potential contamination issues within the proposed project limits from properties or operations located within the vicinity of the project. This evaluation consisted of the following tasks:

   a. A description of the coordination with agencies contacted (such as FDOT DCIC, FDOT PM, local government agencies, WMDs, etc.).

b. A detailed description of data collected and their sources (such as database names, environmental database providers, local regulatory agencies, information on hazard classes obtained from generators, transporters, etc., stationary tanks, and known leaks and spills).

c. A review of the aerial photographs (including historical aerials) used to determine the potential contamination problem areas.

d. A summary of field observations performed to verify information provided and to identify other potential sources within the vicinity of the project. Clearly state the number of sites evaluated within the proposed project limits and the results of the evaluation.

e. A determination of the potential contamination risk rating (i.e., No, Low, Medium or High) for each potential contaminated site or property within the proposed project limits.

7. **Project Impacts** - This section should be a narrative presentation of the potential contamination impacts identified for each alternative (detailed in ***Section 22.2.3.2***). The narrative should include a table with details of each site or property by alternative that would be impacted. This table should include, at a minimum, the following information:

   a. Property description - Including facility name, physical address, and former site names, etc.

   b. Permit or ID numbers - Include DEP program identification numbers or other permit numbers.

   c. Type of Contamination Impact - List each hazardous material or potential hazard.

   d. List of storage tanks - Located within the property boundaries as well as information on whether they are above ground tanks (ASTs) or USTs along with tank size(s), contents, age, if they remain in place, etc.

   e. Distance - Of known contamination plumes (or storage tank) from ROW (existing and/or proposed). DEP's dewatering permits now include a 500 foot rule for dewatering for both petroleum and non-petroleum sites, as per ***Chapter 62-621.300 F.A.C***.

   f. Identify the contamination risk rating (per ***Section 22.2.3.***) for each site and alternative.

8. **Contaminants:** Evaluation of potential contaminants and sources normally associated with the type of business that is, or has been, conducted on the property that would impact construction. For example:

   a. Landfills.

b. Agricultural sites (cattle dip vats and disposal areas), petroleum storage, pesticides, fungicides, fertilizers.

c. Dry cleaning solvent sites.

d. Junkyards, waste recycling facilities or gasoline, oil, solvents, and UST's at gasoline service stations.

e. Surfaces coated with potentially hazardous substances, such as ACM or MBC.

f. Floor drains, hydraulic lifts or other potential contamination sources that will be difficult to sample prior to construction or demolition.

This list should not be considered to be a complete list of potential contaminant sources. Any observed potential contamination issue may require further assessment.

Pathways for contamination to enter the ground should also be considered. For example, an auto repair shop that uses a floor drain connected to a septic tank rather than public sewer may have a greater opportunity to impact the property.

9. **Regulatory Status of Sites** - This section should describe pertinent activities taken by regulatory agencies for each site or property and briefly outline the potential contamination issue(s) that would have an impact on the proposed project or alternative. If applicable, this section should also discuss any pertinent comments from the ETAT during ETDM, as well as any coordination with the agencies in PD&E.

   The purpose of the records review is to determine, through a review of reasonably ascertainable public records, the potential for contamination impacts to the transportation project and to FDOT. Obtain from federal, state and local regulatory agencies any reasonably ascertainable information concerning past or present assessment, remediation or closure actions that could impact the proposed project. Useful records in regulatory agency files include compliance inspection reports, enforcement notices, contamination assessment reports, remedial action plans, initial remedial action reports, source removal reports, etc.

   Many county environmental agencies may have additional information available. Because each county is different, the evaluator must determine what information is available and useful and use it in the appropriate evaluation.

10. **Historical Information -** This section should include a brief description of historical information that has been gathered for each site along each alternative. This section should indicate any historic land uses that may have resulted in contamination impacts to the subject properties.

Obtain aerial photos of the area as applicable to determine the history of the potentially impacted sites. Comparison of historical records from different time periods provides valuable information about changes in land use or previous uses which may be dischargers of contamination. Historical documents are available on the EST, through FDOT's and DEP's websites and, also, through online map collections.

The evaluation of aerial photos, city directories, plat maps, and Sanborn Insurance Maps can identify potential problem areas (because of scale-large depressions or overgrowth), which are often overlooked on the ground. Additionally, these images may be the only resource to identify the location of older demolished buildings or abandoned solid waste disposal sites.

Evaluation of historical aerial photography and historical facility photos can assist with the identification of sources of potential contamination such as landfills, lagoons, storage areas, drums, tanks, landscaping, and even spill-related ground staining from spills. City directories, historic maps and other reference material can provide specific historic land uses that may reveal potential contamination concerns within or near the project.

Photographs of each potentially impacted site should be taken, as well as any specific areas of concern noted during the field review. A photographic log should be prepared and include a caption indicating site location, the photographer position and camera direction.

11. **Interviews** - Interviewing site owners, utility personnel, local officials or current and long-time residents may be necessary to determine any present or past issues that could indicate contamination concerns. Examples of officials and utility personnel that should be interviewed include, but are not limited to, the following:

    a. City / County engineers.

    b. WMD personnel.

    c. Fire department staff.

    d. Telephone, cable, other utility and waste management company personnel.

    The City/County engineer should be able to provide current or historical permit information. The local WMD personnel can provide information on water wells in the area, problems associated with water quality, and discharge requests that have been approved, disapproved, or are under consideration.

    Utility companies may be able to provide additional information concerning the services provided to the site, such as a sewer connection or septic system, how much electrical capacity is provided to the facility, (e.g., large electrical capacity

could mean large equipment for manufacturing) or any documentation of prior polychlorinated biphenyl (PCB) use, if present.

Utility companies may also have information on materials used to construct their utility lines (i.e., transite asbestos-containing pipes).

12. **Recommendations** - This section should discuss the potential contamination issues identified for each alternative. This should include recommendations for further assessment that may be required for each site or property within the proposed project corridor and each alternative as warranted. When ascertainable, this section should note if the contamination issues identified relate to ROW acquisition as well as potential involvement with construction. Unusual or notable issues, such as ***CERCLA*** sites should be noted. Pertinent agency or stakeholder comment, coordination or commitments should be summarized. If this report is intended to be shared with other agencies or stakeholders for additional coordination, it can be stated in this section.

    This section should also include a statement regarding potential needs for specialized construction methods, e.g., dewatering permits.

    This section should also include a very brief discussion of estimated costs for assessment and remediation, if known.

13. **Figures**

    a. Project Location Map: An area map (region, county, state, etc.) showing the general location of the proposed project, including project limits with a detailed map of the immediate project area.

    b. Land Use Map: A map or maps of the proposed project corridor and surrounding area showing current or future land uses (i.e., commercial, multi and single-family residential, schools, malls, parks, etc.).

    c. Contamination Site Location Map: A detailed map of the proposed project, including project limits, showing the locations of all potential contamination sites for each alternative.

    d. The scale of all maps must be appropriate to provide useful information and discern features or structures, if warranted and should be consistent. Multiple maps and enlarged sub-maps may also be utilized.

14. **Tables**

    a. Potential Contamination Sites: This table should present information on each contaminated site or property that was evaluated as part of this document.

b. Potential Contamination Sites per Alternative: This table should present the number of contaminated sites or properties with risk rating for each of the alternatives being considered. An example of this table would be:

Alternative	Contamination Risk			
	No	Low	Medium	High
A	X	X	X	X
B	X	X	X	X
C	X	X	X	X

X = number of sites per rating and per alignment

15. **Appendices** - The document should include appendices that provide additional information required to support the risk rating, as well as provide information on current regulatory status. Examples of the information that could be included are as follows:

    a. Electronic regulatory database radius search documents.

    b. Potential Hazardous Waste Generator documentation and permits.

    c. Other Permit information.

    d. Tank registration data.

    e. Regulatory agency assessment documents including maps, diagrams, etc.

    f. Regulatory compliance reports.

    g. Copies of historical aerial photographs

16. **Pond Clearances** - The potential pond sites, floodplain compensation (FPC) areas should be evaluated during the Level I assessment. Additionally, drainage structures and drainage easements should be investigated if there is a potential for contamination impacts to construction. Plan revisions must be monitored by the DCIC to ensure that facilities and structures are assessed properly.

22.2.3.4 Environmental Documents

The findings of the Level I Assessment are summarized into the appropriate Environmental Document prepared for each project.

Type 2 Categorical Exclusions (CEs)

Projects which are Type 2 CEs may have an involvement with contamination so long as the involvement is determined not to be significant. The determination of significance should be agreed upon by the DCIC, District Environmental Administrator, and the PM following the guidance in ***Part 1, Chapter 2, Federal Highway Administration Class of Action Determination***. If the project is determined to be a Type 2 CE, based on item 6.D.4 being identified as "Sig" or "Non-Sig", a Level I Assessment must be completed. The documentation of the Level 1 Assessment may be a ***CSER*** or, if there are no contamination impacts or anticipated minimal involvement with contamination, a Technical Memorandum. It is unlikely that a "significant" contamination impact would be encountered for the first time on a design project. Potential significant impacts should be identified during the ETDM Screening events for qualifying projects, project scoping, work program development, and/or SWAT Planning or Kick-off meetings as well as through the PD&E contamination evaluation (***CSER*** or technical memorandum) prepared during the preliminary engineering phase.

For a Type 2 CE, check ***Section 6.D.4*** of the ***Type 2 Categorical Exclusion Determination Form, Form No. 650-050-11*** with the applicable impact determination. The ***Type 2 Categorical Exclusion Determination Form, Form No. 650-050-11*** should indicate where a copy of the ***CSER*** is available for Public Review.

1. If there are no contamination issues on the recommended alternative, "NoInv" is marked for contamination, a technical memorandum that supports that determination should be attached.

2. If "NONE" is marked for contamination then contamination may be located within the recommended alternative but not impacted by the project, a brief summary of the Level I Assessment or technical memorandum should be attached and referenced in the Basis for Decision line.

3. If "NotSig" is marked for contamination, then a brief summary of the ***Level I Assessment Report*** should be attached and referenced in the Basis for Decision line. Any supporting documentation and the ***CSER*** should be included in the project file.

Environmental Assessment (EA) / Environmental Impact Statement (EIS)

For EAs and EISs the PM's responsibility is to document project related contamination impacts in a Level I Assessment with conclusions and recommendations summarized in the project's Environmental Document and the ***Preliminary Engineering Report (PER)***.

The discussion of contamination in the Affected Environment and Environmental Consequences sections of an EIS or the Impacts section of an EA is generally limited to an overall summary of the Level I Assessment. Where applicable, the following statement should be provided:

> *"The State of Florida has evaluated the proposed right-of-way and has identified potentially contaminated sites for the various proposed alternatives. Results of this evaluation will be utilized in the selection of a preferred alternative. When a specific alternative is selected for implementation, a site assessment will be performed to the degree necessary to determine levels of contamination and, if necessary, evaluate the options to remediate along with the associated costs."*

The Environmental Consequences section of an EIS or Impacts section of an EA must include a Contamination sub-section that summarizes and references the Level I Assessment. Specific references to the items discussed in the Level I Assessment are included as appropriate. A summary table of impacts for each alternative should also be provided. Coordination which occurred during the contamination impact assessment must be discussed in this section. The Comments and Coordination section should discuss and append letters from agencies expressing comments on the Level I Assessment. Resolution of comments shall also be documented in this section.

For an EA with FONSI, the document will include a brief statement indicating the effect of the project. The availability of the CSER/Level I Assessment in the District Office should be noted.

State Environmental Impact Reports (SEIRs)

For SEIRs, include the results of the coordination in the Environmental Analysis section of the ***FDOT Project Evaluation Form*** by placing an "X" in the appropriate column indicating the level of impact. If there are no contaminated sites within the project area, mark the column indicating “NOINV.” If the project will be a benefit to the contaminated site by required clean up, mark the column indicating “ENHANCE”. If there is contamination in the area but there is little or no impact, mark the column indicating “NO.” If there is a potential impact, mark the column “YES”. Provide justification of decision in the Basis for Decision column and supplement with attachments as necessary to substantiate the impact determination. A ***CSER*** or Technical Memorandum should be prepared as appropriate to reflect the evaluation conducted and support the contamination issue identification, recommendations and conclusions summarized in the SEIR. All commitments made through coordination efforts should be documented in the Commitments section of the ***FDOT Project Evaluation Form***.

22.2.4 Design Phase

During the Design phase, site assessment should be performed early to evaluate the potential contamination impact to construction activities on the project. For projects that had a PD&E Study, this may include an update to the Level I Assessment, as appropriate, or performing a Level II Assessment. For projects that did not have a PD&E Study, a Level I Assessment with a ***Level I Assessment Report*** (see ***Section 22.2.3.3***) or technical memorandum should be completed, followed by a Level II Assessment.

Design Build (DB) and Public, Private Partnership (P3) projects often require an increased level of effort much earlier in the Design phase to identify potential impacts. Contamination-related impacts to a project's schedule must also be considered if a project is advanced in Design or if there is a long period of time between the PD&E and Design phases.

The level of effort related to contamination impact assessment during the Design phase depends on the potential for contamination impacts and the type of construction contracting method for the project. DB and P3 contracting methods often have an increased level of up front assessment effort, to ensure contamination issues are given full consideration in the DB or P3 process. For these projects, the FDOT has the authority to adjust the assessment requirements based on additional information and the plans that are made available for review during the process. All identified impacts should be assessed, regardless of the nature of the project.

Any change to contamination impacts after approval of the Environmental Document must be documented in the appropriate Reevaluation consistent with ***Part 1, Chapter 13, Reevaluations***. Updates to contamination status anticipated activities to resolve next steps, etc., and coordination should be contained in the Section 2.D.4 Contamination of the ***Reevaluation Form***. A Construction Advertisement Reevaluation should reflect resolution of previously identified contamination issues; resolution may include a description of how the issue will be handled if it is best addressed just prior to or during construction.

22.2.4.1 Level II Assessment

Medium to High ranked contamination sites with potential to impact the project, identified during the Level I Assessment, must be verified by a Level II Assessment. A Level II Assessment should normally be prepared only on projects identified for property acquisition or construction in FDOT's 5-year work program.

A Level II Assessment is performed during the Design phase of a project to identify and assess contamination. Typically, this assessment is completed prior to, or during, the ROW phase. In some instances, a limited Level II Assessment may be performed during the PD&E phase to help determine a preferred alternative or a Level I and Level II Assessment may be combined for an accelerated project.

It is important to note that a Property Access Agreement may be needed to access some properties that have not been acquired or that have tenants currently occupying them. The District Office of General Counsel and District Right of Way Office should be contacted for coordination of a Property Access Agreement.

The assessment methodology should first be discussed with and agreed upon by the DCIC to ensure that District preferences and protocols are met before performing any project related assessment. For guidance on assessment methods and cleanup target levels, refer to the DEP's website as well as ***Chapters 62-780 and 62-777***, ***F.A.C.***, and if necessary consult with DEP.

A Level II Assessment, should consist of site access, installation of soil borings and monitor wells, and collection of soil and groundwater samples for sites listed as “Medium” or “High” in the Level I Assessment that may impact construction, unless otherwise directed by the DCIC. In addition, depending on the results of the Level I Assessment and project concerns, specialized sampling may be required for asbestos, metal based coatings, air quality.

If the Level II Assessment indicates that the sites identified in the Level I Assessment have no contamination present, no further assessment should be required unless additional discharges of a contaminant occur.

If the Level II Assessment indicates that contamination is present at a site listed in the Level I Assessment, further assessment may be necessary to define the contamination impacts to construction. This may not necessarily require a full delineation of contamination, and should only be completed to the extent necessary to determine the area of construction impacts.

When possible, a decision should be made by the District (Environmental, ROW, and Construction Offices) for advance parcel acquisition as early as possible during the ROW acquisition phase, to allow sufficient time for contamination remediation and meet the production schedule. Coordination with each office is required to insure that where contamination is identified, and is likely to affect construction, appropriate steps are taken to:

1. Avoid the contamination by design or alternative changes,

2. Minimize potential for worker exposure through various engineering controls, or

3. Remediate contamination prior to construction activity at that location by the CAR Contractor in coordination with DCIC.

Contaminants in the soil or groundwater, within or near the ROW, may require the adjustment of the schedules for acquisition and project construction to allow sufficient time for FDOT to complete remediation activities required for construction to occur.

When appropriate, coordination between FDOT, any appropriate regulatory agency, the current tenants, or current property owners will be necessary to ensure that the assessment is completed in a timely manner. It is possible that FDOT’s production schedule will progress much faster than the regulatory agency and current property owner’s assessment and remediation schedule. Where the agency or property owner assessment and remediation schedule might affect FDOT’s construction schedule, it may be necessary for FDOT to assume the responsibility for conducting the assessment within the ROW and complete remediation activities in advance of, or concurrent with, construction. A final report related to the type and level of assessment or remediation that was conducted should be provided once the work has been completed. Interim

reports or other report types may also be requested, based on the project needs or situation.

22.2.4.2 Project Note Development

Contamination-related project impacts must be provided to the project design team through technical (or modified) special provisions (TSPs or MSPs), contamination memos, plan notes, and/or other documentation. The information should include details of the contaminant levels and locations, as well as an outline of anticipated CAR Contractor actions to support construction efforts. The DCIC should coordinate with the Design PM, and the District Specifications Engineer regarding the schedule and protocol for development of these project notes.

22.2.4.3 Areas of Unidentified Contamination

Unidentified Areas of Contamination should be handled in accordance with ***Section 120-1.2 of the Standard Specifications for Road and Bridge Construction***.

22.2.5 Construction Phase

22.2.5.1 Level III Remediation

When contamination impacts are identified on a project, and there is a potential for handling contaminated media during construction activities, precaution is required to protect construction personnel and ensure the construction activities will not exacerbate or spread existing contamination.

Each site with construction contamination impacts should have a clearly defined scope of work, which conforms to the requirements of the appropriate regulatory agency as appropriate. Generally, the provisions published by the DEP for assessment and remediation of contaminated sites will be adequate for most regulatory agencies. The liability provisions in ***Section 337.27, F.S.***, should always be considered when identifying the need for regulatory involvement.

The Level III scope of work should include a summary of the Level II Assessment with recommendations on the limits of contamination and required remediation. If soil or groundwater remediation is necessary, the procedures should follow applicable standards of the appropriate regulatory agency.

Based on the ***MOU between FDOT and FDEP***, the DEP may conduct cleanup or provide funding to assist with cleanup activities for petroleum contamination sites. Any remedial action or actions should consider the provisions outlined within the ***MOU***.

If an EPA ***CERCLA*** or abandoned Superfund site has contamination within the project limit, the Office of General Counsel must be contacted if the contamination has the potential to be exacerbated by project activities. The EPA (and/or DEP if they have been

given delegation) must be involved with any remedial action decisions that are made for that site.

If avoidance of contamination is not possible, steps must be taken to remove or render safe the contamination materials prior to construction activity in the contaminated area. Project notes, special provisions or other appropriate notation should be included within the construction contract to address any known areas of contamination that will be encountered during construction. These should address contaminated soils and groundwater, as well as other contaminated liquids, sludge and solids.

If an ACM or MBC survey has not been conducted previously, the DCIC should insure that a survey has been performed on all bridge structures prior to demolition. If possible, perform any required abatement prior to construction.

For coastal bridge replacement projects, consideration may be given to using clean bridge debris material for use as an artificial reef. This determination must be made as part of the coordination and consultation process with the regulatory and resource agencies as well as other stakeholders once it has been determined that demolition is the preferred alternative. This work should be coordinated between the Design PM and the DCIC and should occur as early in the design phase as possible. Consideration will include, but will not be limited to, management, testing, storage, cost and/or transport of the material as well as permitting and agreements that may be necessary.

22.2.5.2 Dewatering During Construction

In cases where a high water table is present, dewatering may be necessary. Often, dewatering operations must obtain a NPDES Generic Permit for Petroleum Contaminated Sites and, if necessary, treat the produced groundwater to limits set by the NPDES permit. Many sites have insufficient retention, drainage, or ROW spaces to accommodate storage or recovery of contaminated groundwater. The prime roadway contractor, remediation contractor (as a sub to the prime contractor) or CAR Contractor may need to discharge effluent into FDOT's Municipal Separate Storm Sewer System (MS-4) system. As part of the process for obtaining a DEP National Pollutant Discharge Elimination System (NPDES) Generic Permit for Discharge of Groundwater from Dewatering Operations, an evaluation of potential contamination impacts to the dewatering operations must be completed. See **Part 1, Chapter 12, Environmental Permits** and **Part 2, Chapter 20, Water Quality Impact Evaluation** for guidance on NPDES permitting. This evaluation should include sampling for the contaminants of concern to determine if groundwater treatment is necessary prior to discharge and defining the extent of the contamination within the ROW, if possible. When dewatering treatment is required, requisite sampling and reporting is required per the associated permit(s).

22.3 FDEP/FDOT MEMORANDUM OF UNDERSTANDING

DEP and FDOT entered into an ***MOU*** addressing discharges of petroleum pollutants from off-site source properties to the state transportation facilities on June 16, 2014. A copy of the ***MOU*** is available on the ***SEMO website***.

The ***MOU*** allows and encourages cooperation between the FDOT and DEP to identify, assess, and remediate petroleum contamination within FDOT's ROW or property that may impact transportation projects.

The process outlined in the ***MOU*** has been developed to better locate, assess, plan for and remediate petroleum contaminated sites that potentially impact FDOT projects identified as "economically significant" transportation projects or other significant projects of mutual agreement. Generally the ***MOU*** covers sites that are either Petroleum Trust Fund Eligible projects or the result of a petroleum spill or release by a third party within FDOT ROW.

Once a determination is made of ***MOU*** eligibility, FDOT can request the DEP to prioritize assessment and remediation of the site, regardless of the site score. FDOT also has the option to move forward with assessment and remediation and then seek reimbursement for the eligible discharge. A flowchart of this ***MOU*** provision is provided in the ***Figure 22-2.***

Additionally, the ***MOU*** provides for contamination that has migrated to the ROW and is determined to not be a threat to human health, public safety or the environment (or cannot be feasibly remediated), the discharger may request a No Further Action (NFA) or Site Rehabilitation Completion Order (SRCO) from DEP once the following information has been provided:

1. A Map Note on DOT ROW maps that clearly outlines the site.
2. A summary of all soil and groundwater data.
3. A legal description of the location of the Map Note.
4. A Specific Purpose Survey, Boundary Survey or Sketch of the site tied to FDOT bearing base or GPS coordinates.
5. Draft language for future property conveyance.
6. An indemnification agreement.
7. Other information, as required.

22.4 INITIAL CONTAMINATION EVALUATION OVERVIEW

There are several considerations related to contamination impacts on projects, which the DCIC and PM must take into account. Below are examples of issues or questions that must be answered or coordinated for a successful project. Since contamination issues can vary with projects, the DCIC and PM should be both flexible and innovative in addressing them.

1. Pre-existing contamination within or immediately adjacent to the existing or proposed ROW

    a. If contamination is present, what is the current status of the assessment or remediation by the DEP or third party?

    b. What is the size / extent of the contamination plume and what planned construction activities does it affect? Should FDOT conduct further assessment (Level II) to better define extent or potential involvement?

    c. If not petroleum, what is the contaminant? What other regulatory considerations exist for the contaminant?

    d. If contamination exists, is it only petroleum or are there non-petroleum components?

    e. If the contaminant is petroleum, has there been coordination with DEP and/or is it eligible for remediation in accordance with the 2014 ***MOU***?

2. USTs in the ROW

    a. Are there known or suspected USTs within the existing or proposed ROW that could impact construction?

    b. Are there known or suspected USTs within areas of proposed ROW acquisition which could impact ROW clearance and demolition?

    c. What must be done to address them?

    d. Should removal occur prior to construction?

    e. Is UST removal appropriate for consideration under the ***FDEP/FDOT MOU***?

3. Impacts to the Design

    a. How will the known or suspected contamination impact the design?

    b. Is there a viable avoidance alternative, design modification or notation?

    c. Are there remediation or construction costs to be considered in coordination with the Work Program Office?

    d. Are areas of contamination marked on the design plans?

4. Impacts to Construction

    a. How will the known or suspected contamination impact the planned construction?

b. Has the design and construction PM been advised and coordinated with?

c. What notifications need to be made to the construction contractor?

d. Will remediation or removal be complete prior to construction?

e. Are there anticipated additional time or costs to construction?

f. How will impacts to the construction contractors planned activities be minimized?

5. Exacerbation Potential

a. The DCIC must ensure that the known or suspected contamination is not exacerbated, or made worse, by the FDOT project through activities such as dewatering, stockpiling, etc.

b. What actions need to be taken to ensure this?

c. Will dewatering exacerbate a ground water contamination plume?

d. Consider proximity to ***Comprehensive Environmental Response Compensation Liability Act (CERCLA)***/Superfund sites (see below)

6. ***CERCLA***/Superfund Sites

a. Are there known ***CERCLA***/Superfund Sites within a ½ mile radius of the project limits?

b. What impact do these sites have on the project?

c. Is there potential of project activities to exacerbate, encounter contamination from, or acquire any portion of a ***CERCLA*** Site?

d. Has the District Office of General Counsel been advised of potential ***CERCLA*** involvement when identified?

7. Is contractor exposure and health & safety a concern

a. Do the contamination impacts pose an exposure or health & safety concern for the construction contractor?

b. How will FDOT address these issues?

8. Site Contamination Removal and Remediation

a. If removed, how will contaminant be transported?

b. What type of documents will be required for transporting waste from the site?

c. What is the status of current site assessment and remediation on the DEP's OCULUS website? (see ***Section 22.5*** for link to website)

d. Have contractual and funding mechanisms and funds been established for costs of remediation and disposal?

22.5 REFERENCES

23 Code of Federal Regulations (CFR) Part 771

33 CFR §§ 1341–1344

40 CFR §§ 230-300

40 CFR §§ 1500-1508

42 CFR Part 300

42 CFR Part 4321

49 CFR §§ 171 and 172

Chapter 62-520, Florida Administrative Code (F.A.C.), Ground Water Classes, Standards, and Exemptions

Chapter 62-528, F.A.C., Underground Injection Control

Chapter 62-610, F.A.C., FDEP Standard Operating Procedures

Chapter 62-621, F.A.C., Generic Permits

Chapter 62-701, F.A.C., Solid Waste Management Facilities

Chapter 62-730, F.A.C., Hazardous Waste

Chapter 62-761, F.A.C., Underground Storage Tank Systems

Chapter 62-761, F.A.C., Contaminated Site Cleanup Criteria

Chapter 62-762, F.A.C., Aboveground Storage Tank Systems

Chapter 62-777, F.A.C., Contaminant Cleanup Target Levels

Chapter 62-780, F.A.C., Contaminated Site Cleanup Criteria

Department of Environmental Protection's (DEP) OCULUS website. http://depedms.dep.state.fl.us/Oculus/servlet/login

Federal Highway Administration, Technical Advisory T6640.8A, "Guidance for Preparing and Processing Environmental and Section 4(f) Documents," October 30, 1987.Florida Administrative Code, Chapter 62-302, Surface Water Quality Standards

Florida Department of Transportation (FDOT), Efficient Transportation Decision Making (ETDM) Manual, Topic No. 650-000-002

FDOT, Local Agency Program Manual, Topic No. 525-010-300

FDOT, Right-of-Way Procedures Manual, Topic No. 575-000-000

FDOT, Standard Specifications for Road and Bridge Construction, Section 120

FDOT, Statewide Stormwater Management Plan, September 2012

Section 334.27, Florida Statutes (F.S.), Soil or Groundwater Contamination Liability

Sections 337.27 and 337.274, F.S., Exercise of Power and Entering Land

Sections 376.031 and 376.301, F.S., Definitions

Section 381.983, F.S., Definitions

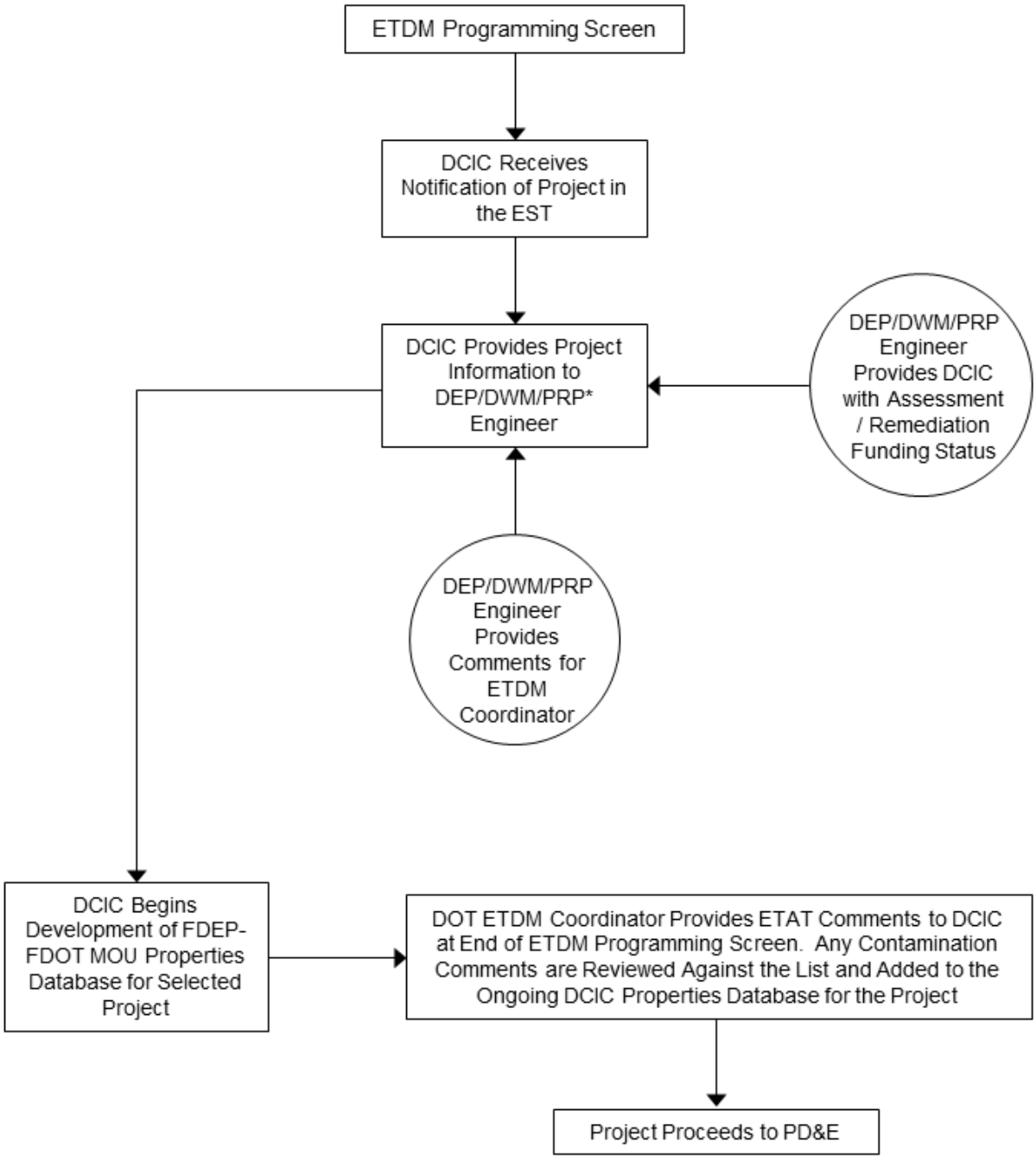
Section 403.031, F.S., Definitions

Title 29 United States Code §§ 1910 and 1926, U.S. Department of Labor, Occupational Health and Safety Administration (OSHA)

Memorandum of Understanding between FDOT and FDEP, June 16, 2014

22.6 HISTORY

12/10/2003



*** DEP/DWM/PRP = DEP, Division of Waste Management, Petroleum Restoration Program**

Figure 22-1 FDEP-FDOT MOU Petroleum Cleanup Flow Chart

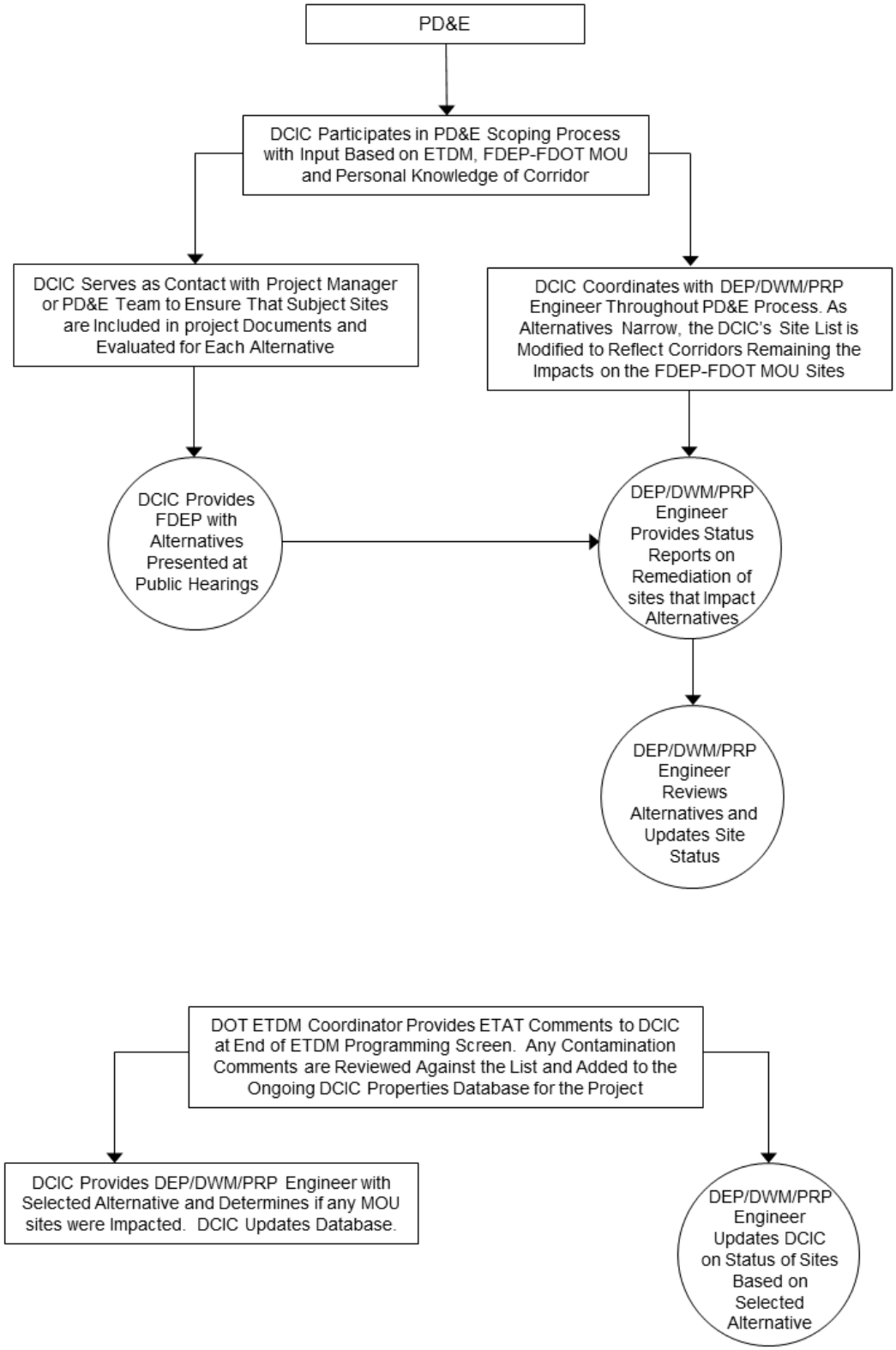


Figure 22-1 FDEP-FDOT MOU Petroleum Cleanup Flow Chart (Page 2 of 3)

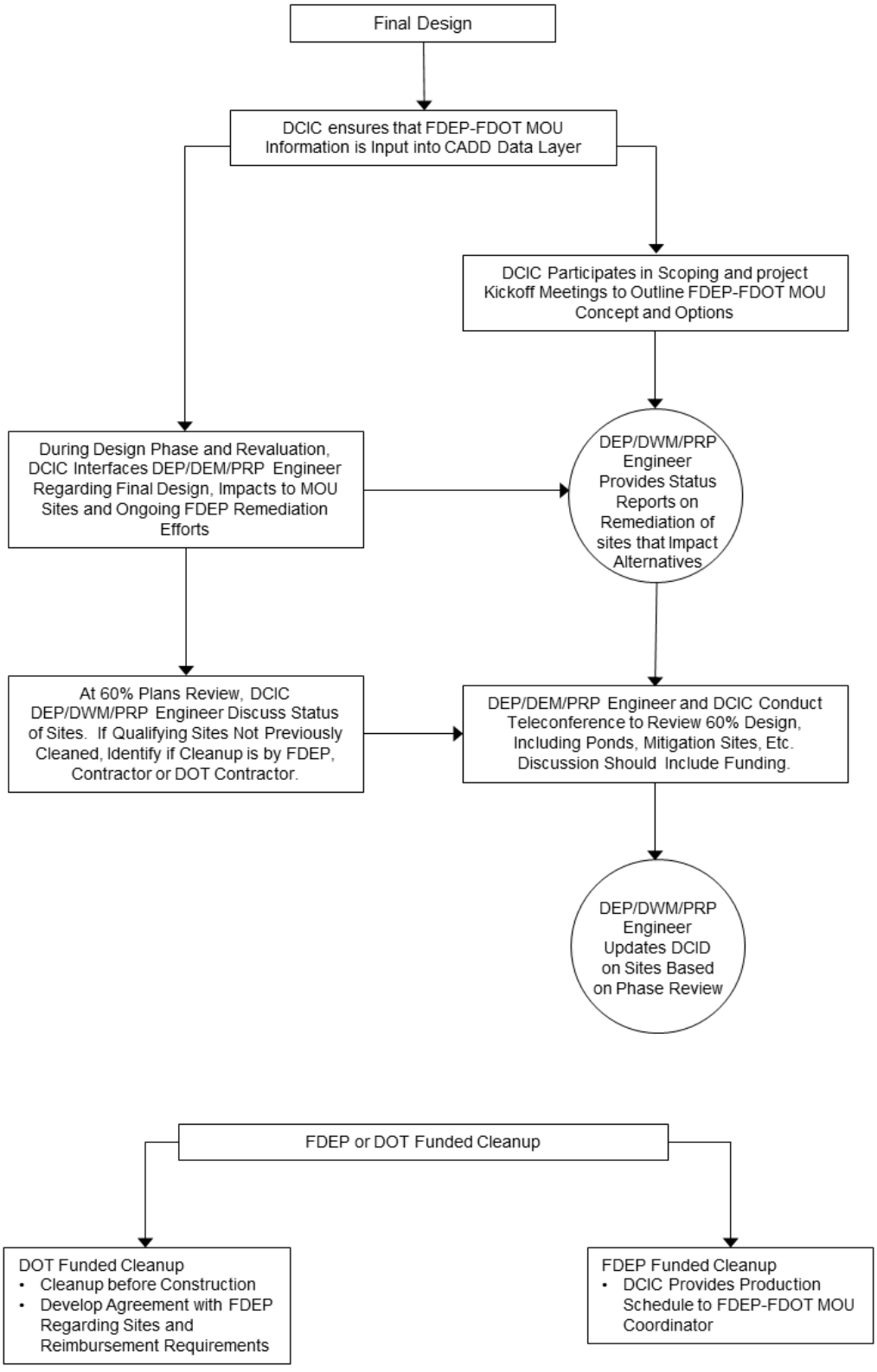


Figure 22-1 FDEP-FDOT MOU Petroleum Cleanup Flow Chart (Page 3 of 3)