

CHAPTER 11 REMOVAL DESIGN

11-1. Introduction.

a. This chapter provides information on the removal design process that occurs prior to the removal action phase of an OE response action. The OE Design Center is responsible for the removal design in coordination with the PM.

b. Instead of completing a formal removal design, USACE typically performs the tasks associated with removal design during the development of the SOW, Work Plan and ESS for the removal action. The level of detail for the removal design phase is dependent on the complexity of the work to be performed and the type of contract to be utilized.

c. The purpose of the removal design process is to describe the technical details of how the removal action will be performed. The removal design process includes the following components, which are illustrated in Figure 11-1 and discussed below:

(1) Preparation of the removal action SOW and IGE.

(2) Completion of a site visit to gather additional information on the nature and extent of contamination at the site.

(3) Preparation of planning documentation (e.g., Work Plan, SSHP, and ESS) and completion of all coordination tasks prior to the Notice-to-Proceed for the removal action.

11-2. Preparation of the Removal Action Scope of Work and Independent Government Estimate.

The OE Design Center is responsible for executing and approving the OE removal action SOW and IGE. SOW and IGE preparation and quality excellence will be accomplished through the conscientious, cooperative efforts of each design team member. The district reviews the SOW and IGE and provides comments and written concurrence or non-concurrence.

a. Removal Action SOW.

(1) The OE removal action SOW must comply with the approved Action Memorandum for the project. The OE project team will manage the preparation of the SOW and ensure that all applicable technical disciplines are appropriately involved. Project safety is a primary concern during OE removal design and execution. The removal action SOW must be closely coordinated with the project OE Safety Specialists.

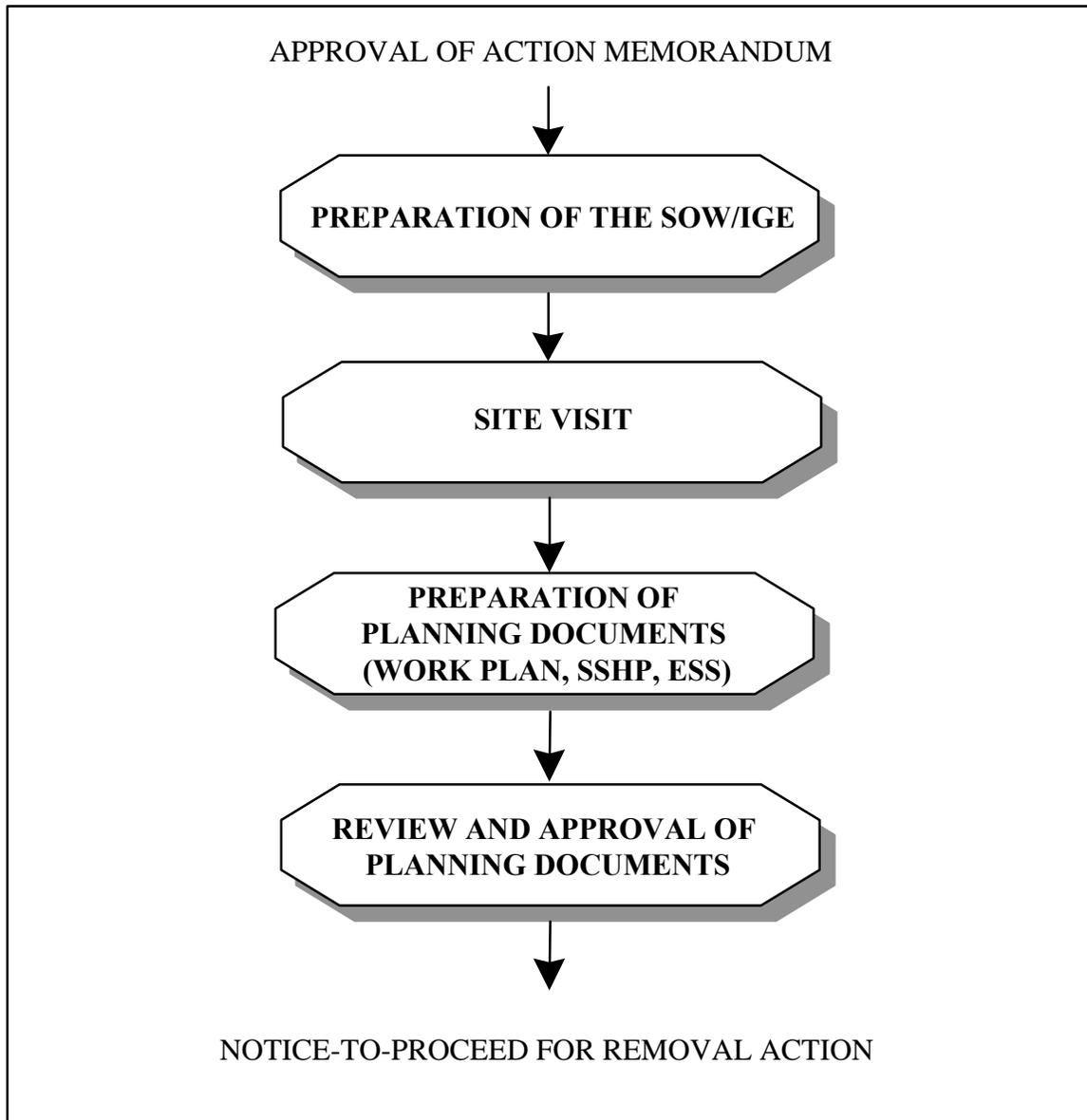


Figure 11-1. Removal Design Process

(2) An example removal action SOW is located on the OE MCX website at <http://www.hnd.usace.army.mil/oew>. The following tasks are typically included in the SOW:

- (a) Site visit.
- (b) Work Plan preparation.
- (c) Location surveying and mapping.
- (d) Site preparation.
- (e) Geophysical investigation.
- (f) OE removal.
- (g) Institutional analysis.
- (h) Quality control.
- (i) Public affairs assistance.
- (j) Final Report.

(3) The OE MCX may be consulted to provide the appropriate statements or paragraphs concerning background and authority for the task order's award.

(4) The SOW will be reviewed by the PM, OE Design Center personnel and other appropriate personnel, as required.

b. Preparation of the IGE. The IGE for an OE removal action will be prepared in accordance with the guidance provided in Chapter 3.

c. Removal Action Contract Award. Following the approval of the SOW and IGE, the removal action contract is solicited and awarded.

11-3. Site Visit.

a. The site visit is conducted to provide the UXO contractor with the opportunity to gather pertinent information for use in preparing the cost estimate and project planning documents.

b. Site Visit Task Order/Purchase Order. The site visit may be awarded as a task in the removal action task order or as a stand-alone task order/purchase order. Sample SOWs for awarding the site visit as either a task in the overall removal action task order or as a stand alone task/purchase order are located on the OE MCX website at <http://www.hnd.usace.army.mil/oew>.

c. The information collected from the site visit allows the UXO contractor to gain a better understanding of the nature and extent of OE contamination, verify the locations of the proposed areas of interest, and better define the locations for the removal action. Examples of site-specific information important to removal design include:

- (1) UXO type, composition and quantity.
- (2) Anticipated depth of UXO.
- (3) Site topography and vegetation.
- (4) Available environmental resource data.
- (5) Past, current, and future land use.
- (6) Geologic conditions.
- (7) Clear distances to inhabited buildings.
- (8) Man-made features potentially affected by removal actions.

d. **Site Visit Requirements.** The site visit requirements for an EE/CA are applicable to the removal action phase. Site visit requirements are discussed in Chapter 9, paragraph 9-3c(2).

11-4. Preparation, Review and Approval of Contractor Planning Documents. The removal action contractor's initial planning tasks include preparation of the Work Plan, SSHP, and ESS. Once these documents have been approved, the Notice-to-Proceed for the field components of the removal action will be issued.

a. Work Plan.

(1) Contents.

(a) A site-specific Work Plan is required for all OE removal projects. Following the site visit, the UXO contractor will prepare a Work Plan and related sub-plans that describe the proposed methodology for accomplishing the removal action. The Work Plan and sub-plans will be prepared in accordance with contract requirements. The following documents describing the removal action methodology may be included in the Work Plan:

- Technical Management Plan.
- Explosives Management Plan.
- Explosives Siting Plan.

- Geophysical Plan.
- Site Safety and Health Plan.
- Location Surveys and Mapping Plan.
- Work, Data, and Cost Management Plan.
- Property Management Plan.
- Sampling and Analysis Plan.
- Quality Control Plan.
- Environmental Protection Plan.
- Investigative Derived Waste Plan.

(b) The Work Plan will be prepared in accordance with contract requirements. Additional information on Work Plan requirements is provided in the OE MCX DID OE-005-01, "Work Plan", which is located on the OE MCX website at <http://www.hnd.usace.army.mil/oew>.

(2) Review and Approval.

(a) The OE Design Center is responsible for executing the Work Plan. The district will review the Work Plan and provide comments or written concurrence or non-concurrence. The OE MCX will monitor the Work Plan.

(b) When review of the draft document is completed, the government will provide comments to the contractor for incorporation into the final document. A minimum turnaround is expected, and the final document will be back-checked for adequate revisions. Once the draft comments are incorporated, the document may be sent to regulators or other stakeholders for review and comment. The OE Design Center will approve the Work Plan.

(3) Changes to the Work Plan.

(a) Changes are often required to the Work Plan during execution of removal projects. The OE Design Center and CO will approve any changes to the Work Plan in coordination with the PM. The approved changes should be made to the Work Plan within 21 days.

(b) A Work Plan change that affects any operational and/or safety procedures may also require a revision to and a re-submittal of the ESS. The OE MCX must approve any changes to the ESS.

(4) The Work Plan will be included in the Administrative Record for the project. The PM, project personnel, and on-site safety specialists should also maintain a current copy of the Work Plan.

b. SSHP. The SSHP should be prepared in accordance with the guidance provided in Chapter 20.

c. Explosives Safety Submission.

(1) The purpose of the ESS is to ensure that all applicable DOD and Army regulations regarding safe and secure handling of ordnance are followed. The OE project team will ensure that the ESS and the Work Plan are consistent with each other and the approved Action Memorandum.

(2) Intrusive operations may not begin on OE projects until the USATCES and DDESB approve the ESS and the contractor has been directed to incorporate the approved ESS changes into the Work Plan. A copy of the approved ESS will be maintained at the project site. All operations will be executed in accordance with the approved ESS.

(3) Content Requirements.

(a) The ESS will contain the plans for OE removal and methods proposed to protect the public and site workers during the project.

(b) The format for the ESS is described in the DDESB Memorandum for the USATCES Guidance for Clearance Plans, dated January 1998. This memorandum may be found on the DDESB website at <http://www.acq.osd.mil/ens/esb/esbhompb.html>. Additional information on the ESS is provided in the OE MCX DID OE-060, "Conventional Explosives Safety Submission", which is located on the OE MCX website at <http://www.hnd.usace.army.mil/oew>.

(4) ESS Routing and Approval for FUDS Projects. The following process will be used in the preparation and review of the ESS for FUDS projects:

(a) The OE Design Center is responsible for executing the ESS.

(b) The OE Design Center forwards four copies of the ESS to the district and OE MCX for review.

(c) The OE MCX reviews the ESS and forwards three copies to HQUSACE Safety and Occupational Health Office (CESO).

(d) CESO reviews and endorses the ESS, then forwards two copies to USATCES for approval.

(e) USATCES forwards one copy to DDESB for coordination/concurrence.

(f) A period of 60-90 days should be provided for the review and approval of the ESS by USATCES and DDESB.

(5) ESS Routing and Approval for IRP and BRAC Projects. The following process will be used in the preparation and review of the ESS for IRP and BRAC projects:

(a) The installation is responsible for preparing the ESS.

(b) The installation forwards three copies of the ESS to its Major Command (MACOM) safety office for endorsement.

(c) The installation provides two copies to the district and one copy to the OE MCX for review.

(d) The district and OE MCX provide comments to the MACOM safety office.

(e) The MACOM safety office reviews the ESS, incorporates comments, and forwards two copies to USATCES with MACOM recommendations.

(f) USATCES reviews the ESS and forwards one copy to DDESB for final approval.

(g) DDESB reviews and gives final approval.

(6) ESS Modification. When an element of the approved ESS changes, the ESS must be amended. The contractor will prepare the proposed change and forward it to the PM who will forward it to the OE MCX for review. The OE MCX will forward the proposed changes to the appropriate agency for approval. For a change that specifies less restrictive requirements (e.g., reduction in exclusion zone), the contractor will comply with the approved ESS until the change is approved. When changes would be more restrictive (e.g., increase in exclusion zone), the contractor will apply the more restrictive measures until the ESS change is approved.

11-5. Notice-to-Proceed. Once the ESS and all other prerequisite planning documents have been approved, a Notice-to-Proceed with the removal action will be issued.