



SECTION 013529

HAZARDOUS MATERIALS HEALTH AND SAFETY PLAN

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all SECTIONS within DIVISION 1 – GENERAL REQUIREMENTS, which are hereby made a part of this section of Specifications.
- B. Equality of material, article, assembly or system other than those named or described in this Section shall be determined in accordance with the provisions of the CONTRACT AND GENERAL CONDITIONS.
- C. Conditions set forth in this Section supplement Harvard University's Construction Environmental Health and Safety Standard.

1.02 DESCRIPTION OF WORK

- A. The Contractor shall prepare and implement a site-specific Health and Safety Plan (HASP) to protect the health and safety of all workers (including subcontractors) engaged in activities where there is a potential exposure to contaminated soil or groundwater. A Certified Industrial Hygienist (CIH) shall be retained by the Contractor to make this determination and to prepare the HASP. The HASP shall also be designed to protect the general public and the environment during the course of the Work. The HASP shall include, as a minimum, the following:
 - 1. Procedures to protect worker and public health and safety from exposure to materials that may originate from or be present at the project site, including procedures to contain oil and/or hazardous materials, if present.
 - 2. Procedures for monitoring, controlling, and mitigating fugitive dust, odors, and gases to protect worker and public health and safety.
 - 3. Procedures to decontaminate vehicles and equipment to prevent the spread of contaminated materials from the Work area.
 - 4. Procedures to secure on-site work areas.
- B. Conduct a health and safety coordination meeting prior to commencement of excavation work at the site to inform workers of the site conditions and proposed health and safety contingency actions. Inform new workers of the site conditions and proposed health and safety contingency actions on a continuous basis. An outline for this training must be included as part of the HASP.
- C. The scope and detail of the HASP shall be commensurate with the degree and nature of the risks posed to human (worker and public) populations by the Work as determined by



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the Contractor's Certified Industrial Hygienist (CIH). Standardized health and safety plans may be appropriate for non-intrusive or routine activities conducted at the site.

- D. The Contractor shall appoint a qualified Site Health and Safety Manager who will be charged with overseeing site health and safety, instrument monitoring, personnel, equipment decontamination, control of equipment check-out, dust monitoring, odor monitoring, gas monitoring, and emergency response.

1.03 RELATED SECTIONS

- A. Section 026100 - EXCAVATED SOIL AND MATERIAL MANAGEMENT PLAN
- B. Section 028200 - ASBESTOS ABATEMENT AND RELATED WORK
- C. Section 028300 - LEAD-BASED PAINT REMOVAL AND RELATED WORK
- D. Section 312000 - EARTHWORK
- E. Section 312319 - DEWATERING

1.04 REFERENCE

The publications listed below form a part of this specification to the extent referenced. The publications are referenced in text by basic designation only. The list provided below is not intended to be all inclusive of each regulation prevailing over the work. The latest version of the document listed shall govern the work performed.

- A. NIOSH/OSHA/USCG/EPA: "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities," DHHS/NIOSH Pub. No. 85-115, October 1985.
- B. Occupational Safety and Health Administration, Part 29 CFR 1910.134; 1910.1001-1046; and 1926.65.
- C. United States Environmental Protection Agency, Executive Order: 1440.2,
Health and Safety Requirement for Employees Engaged in Field Activities.
- D. Occupational Safety and Health Administration, 29 CFR 1910, Safety and Health Regulations for General Industry, as amended 10/86.
- E. Occupational Safety and Health Administration, 29 CFR 1926, Safety and Health Regulations for Construction, as amended 1974.
- F. United States Environmental Protection Agency, P9/85 EPA/625/9-85/006 Protection Health and Safety at Hazardous Waste Sites: An Overview.
- G. Massachusetts Division of Occupational Safety, 454 CMR 21, Workplace Regulation.



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- H. Massachusetts Department of Public Health, 105 CMR 670.000, Mass Substance List and Lab exemptions.
- I. Department of Environmental Protection, 310 CMR 33.00, Community Right to Know.
- J. Harvard University Construction Environmental Health and Safety Standard.

1.05 DEFINITIONS

- A. Contractor: Refers to the General Contractor and/or Subcontractor responsible for the Work under contract with Project Manager.
- B. Engineer: Authorized representative of the Harvard Project Manager. Engineer shall be the Architect or Designer of Record for the project.
- C. USEPA: U.S. Environmental Protection Agency
- D. Harvard EH&S: Harvard's Environmental, Health and Safety Department
- E. Harvard Project Manager: A representative of the Property Owner, President and Fellows of Harvard College
- F. HASP: Health and Safety Plan
- G. Mass DEP: Massachusetts Department of Environmental Protection
- H. MCP: Massachusetts Contingency Plan
- I. OSHA: Occupational Safety and Health Administration
- J. PID: Photo ionization Detector
- K. CIH: Certified Industrial Hygienist
- L. SHSM: Site Health and Safety Manager

1.06 PROJECT CONDITIONS

- A. *INSERT BACKGROUND INFO FOR EXAMPLE:* [Soils containing concentrations of contaminants exceeding MCP RCS-1 criteria were identified during the Pre-characterization Program for the *XYX Project*. Harvard EH&S has reported the site to Mass DEP and will file the necessary regulatory plans with Mass DEP.] Soil and groundwater management shall be conducted in accordance with the requirements of this Section and the Contractor's HASP.
- B. The nature of the materials present at the site may require use of special protective clothing and the possible use of respiratory protective equipment, which is intended to minimize worker exposure to known or suspected site hazards.



- C. The Contractor shall be responsible for determining the appropriate level of personnel protection that is required based on the criteria outlined in the Contractor's HASP. If upgrading to Level C protection or higher is required, the Contractor shall suspend Work in the area identified as the "work zone" by the Contractor's SHSM and/or CIH until the Contractor is equipped to continue the Work, and has received approval from the Harvard Project Manager to continue the Work.
- D. The Contractor shall notify the Harvard Project Manager in writing prior to implementing any upgrades in personal protection from Level D protection. Harvard EH&S will review the Contractor's notification and determine the need to notify applicable agencies. The Contractor shall notify all agencies having jurisdiction over the Work, only after consulting with the Harvard Project Manager.

1.07 QUALITY CONTROL

- A. The Contractor shall be solely responsible for exercising reasonable precaution to protect the health and safety of all on-site personnel, the general public, and the environment during the course of the Work. The Contractor shall comply with all applicable provisions of federal, state, and local health and safety and occupational health and safety statutes and codes.
- B. The Contractor is required to notify all workers of the history of the site and contaminants that may be present, and to be alert for evidence of contaminated soils and groundwater. The Contractor shall notify the Harvard Project Manager of the presence of potentially hazardous conditions, if encountered.
- C. The Contractor shall retain a CIH to prepare the Contractor's HASP and for quality control as specified herein. The CIH shall have a minimum of ten years experience in this work, certification as a safety professional qualified by training and experience to act in this capacity, certification as having completed the 40-hr. OSHA HAZWOPER health and safety training course, 8-hr. OSHA HAZWOPER manager/supervisor training, with current 8-hr. HAZWOPER refresher training. The CIH shall either assume the role of Site Health and Safety Officer (SHSM) as described below, or oversee the activities of the SHSM.
- D. The Contractor shall retain a SHSM to implement the Contractor's HASP and to perform field testing for evaluation of environmental contaminants and compounds of concern in air, soil, and groundwater in accordance with the Contractor's HASP and as directed by the CIH. The SHSM may be the same as the CIH. If the SHSM is not the same person as the CIH, then the SHSM shall have a minimum of five years experience in this work, certification as having completed the 40-hr. OSHA HAZWOPER health and safety training course, 8-hr. OSHA HAZWOPER manager/supervisor training, with current 8-hr. HAZWOPER refresher training.
- E. Ambient Air Monitoring:
 - 1. The Contractor, through its CIH, shall monitor air quality within and around the site and work areas for the compounds of concern (fugitive dust, odors, and gases) during those activities where exposure to contaminated soil and/or groundwater is possible, using instruments as described in the Contractor's



HASP. The instruments shall be used in accordance with the procedures outlined in the Contractor's HASP.

2. The Contractor shall not undertake any Work until the Harvard Project Manager has received the Contractor's HASP.

1.08 SUBMITTALS

- A. Submit to the Engineer, a HASP prepared by the Contractor's CIH meeting the requirements of 29 CFR 1926.65. The Contractor is responsible for Contractor's workers and subcontractors' workers' health and safety. Therefore, the Engineer will not approve the Contractor's HASP but only review for content. The HASP shall apply to all Work to be conducted at the site, taking into consideration all workers on-site, the general public, and the environment. The plan shall include the following information:
 1. A list of the Contractor's work tasks that may involve contact, excavation, and/or handling of contaminated soil and/or groundwater.
 2. Compounds of concern that may be encountered during the course of the Work and signs/symptoms of exposure.
 3. Potential for worker exposure to the compounds of concern for each work task.
 4. Requirements for OSHA training and medical surveillance for each work task and a record or schedule for training of Contractor and subcontractor workers in the use of personal protective equipment and for medical monitoring.
 5. Work task specific levels of protection and a description of health and safety equipment including protective clothing, respiratory equipment and monitoring instruments.
 6. Procedures for containing oil and/or hazardous materials such as decontamination of heavy construction equipment and tools.
 7. Procedures for monitoring, controlling, and mitigating fugitive dust, odors, and gases for each work task to protect worker and public health and safety, including descriptions of monitoring instruments and action levels triggering responses by the Contractor (e.g., donning personal protective equipment).
 8. Emergency Response Plan.
- B. The HASP must be completed for discussion at the coordination meeting scheduled by the Contractor and held at least three days prior to commencement of work relating to possible exposure to contamination at the site. The Contractor shall provide written notice of this meeting to all interested parties at least five days before the meeting.
- C. The resumes of the Contractor's CIH and SHSM including the name, date, location, and description of five similar successfully completed projects. The resumes shall also demonstrate that the CIH and SHSM have a minimum of ten years' experience in writing and/or implementing HASPs.



PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 HAZARDOUS MATERIALS HEALTH AND SAFETY PLANNING AND IMPLEMENTATION

- A. Prepare a HASP that ensures the health and safety of all workers engaged in work at the site and the general public at all times whenever exposure to contaminated soil, contaminated groundwater, dust, odors, or gases is possible. Implement the plan throughout the execution of the work.
- B. The Contractor shall monitor the excavation using the equipment described in the Contractor's HASP.
- C. Contractor's workers who will be engaged in work at the site that might result in exposure to contaminated soil or groundwater shall attend the coordination meeting and any follow-up supplemental briefings.
- D. Provide 40-hour HAZWOPER health and safety training and medical surveillance for all personnel who may come in contact with or be exposed to contaminated materials during the course of the work. These personnel and their training shall be provided at no additional cost to the Owner. The Contractor shall provide, at the Harvard Project Manager's request, certificates for each worker to demonstrate compliance with this requirement.
- E. Provide personnel, including personnel for subcontractors, who are 40-hr. OSHA HAZWOPER trained with an 8-hr. OSHA HAZWOPER refresher course completed within the previous twelve months. These personnel and their training shall be provided at no additional cost to the Owner. The Contractor shall provide, at the Harvard Project Manager's request, certificates for each worker to demonstrate compliance with this requirement.
- F. [As necessary, provide personnel, including personnel for subcontractors, that are confined space entry trained to complete the Work specified herein and in other Sections. These personnel shall be current in all applicable and necessary refresher courses as well. These personnel and their training shall be provided at no additional cost to Harvard. The Contractor shall provide, at the Harvard Project Manager's request, certificates for each worker to demonstrate compliance with this requirement.]
- G. Personnel who have not received training, and who are not equipped with the required protective clothing and equipment, shall not be permitted access to the site by the Contractor during the course of the work that may result in exposure to contaminated soil and/or groundwater.



3.02 ACCIDENT REPORTING REQUIREMENTS

- A. The Contractor must comply with all accident and or incident reporting requirements, including the following:
 - 1. Should any unforeseen safety-related factor, hazard, or condition become evident during the course of the Work, the Contractor must immediately take prudent action to establish, maintain, and secure the site and working conditions. This shall be followed by immediate notice to the Harvard Project Manager.
 - 2. If serious injury to a person or damage to property, environment, or natural resources results from an incident, the Contractor shall comply with the requirements of the Harvard University Construction EH&S Standard, making the notifications outlined in the Standard, preparing required reports and coordinating a post-incident review meeting.

3.03 DECONTAMINATION

- A. Decontaminate all equipment and tools that have come in contact with soil and groundwater in accordance with the approved Contractor's HASP to prevent the spread of contaminated materials inside and outside the site limits.
- B. [Provide on-site facilities for Contractor personnel to decontaminate their protective clothing or other equipment.]
- C. [Properly store and dispose of contaminated personal protection equipment.]

END OF SECTION