

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 01 35 13.43 – Special Project Procedures for Contaminated Sites.

1.2 REFERENCES

- .1 Province of Manitoba
 - .1 Workplace Safety and Health Act, R.S.M. [2004].

1.3 SUBMITTALS

- .1 Submit site-specific Health and Safety Plan, within 7 days after date of Notice to Proceed and prior to mobilization to site. Address following items: Safety and health risk or hazard analysis for each site task and operation.
- .2 Develop checklist for items to be inspected on a daily basis. Document actions taken.
- .3 Personnel training requirements including:
 - .1 Names of personnel and alternates responsible for site safety and health, hazards present on site, and use of personal protective equipment.
 - .2 Work practices by which personnel can minimize risks from hazards, safe use of engineering controls and equipment on site, medical surveillance requirements, including recognition of symptoms and signs which might indicate overexposure to hazards, and elements of site-specific Health and Safety Plan.
- .4 Personal protective equipment (PPE) program addressing:
 - .1 Donning and doffing procedures.
 - .2 PPE selection based upon site hazards.
 - .3 PPE use and limitations of equipment.
 - .4 Work mission duration, PPE maintenance and storage.
 - .5 PPE decontamination and disposal.
 - .6 PPE inspection procedures prior to, during, and after use.
 - .7 Evaluation of effectiveness of PPE program, and limitations during temperature extremes, and other appropriate medical considerations.
 - .8 Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of monitoring and sampling equipment.
 - .9 Site control measures employed at site including site map, site work zones, use of 'buddy system', site communications including site security, alerting means for emergencies, standard operating procedures or safe work practices, and identification of nearest medical assistance.
 - .10 Decontamination procedures for both personnel and equipment.

- .11 Emergency response requirements addressing: pre-emergency planning, personnel roles, lines of authority and communication, emergency recognition and prevention, safe distances and places of refuge, site security and control, evacuation routes and procedures, decontamination procedures not covered under decontamination section, emergency medical treatment and first aid, emergency alerting and response procedures, critique of response and follow-up, PPE and emergency equipment, site topography, layout, prevailing weather conditions, and procedures for reporting incidents to local, provincial, or federal agencies.
 - .12 Written respiratory protection program for project activities.
 - .13 Procedures dealing with heat and/or cold stress.
 - .14 Confined space entry procedures.
 - .15 Spill containment program if drummed waste material is generated, excavated, stored, or managed on site.
- .5 The Contract Administrator will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 5 days after receipt of plan. Revise plan as appropriate and resubmit plan to the Contract Administrator within 5 days after receipt of comments from the Contract Administrator.
- .6 Respirator Fit Testing: submit proof of respirator fit testing for site personnel, within 7 days after date of Notice to Proceed and prior to mobilization to site.
- .7 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.
- .8 Off-site Contingency and Emergency Response Plan:
- .1 Prior to commencing Work involving handling of hazardous materials, develop off-site Contingency and Emergency Response Plan.
 - .2 Plan must provide immediate response to serious site occurrence such as explosion, fire, or migration of significant quantities of toxic or hazardous material from site.

1.4 REGULATORY REQUIREMENTS

- .1 Comply with specified standards and regulations to ensure safe operations at site containing hazardous or toxic materials.

1.5 SITE CONDITIONS

- .1 Work at site will involve contact with:
 - .1 Petroleum Hydrocarbons (PHCs).

1.6 GENERAL REQUIREMENTS

- .1 Develop written site-specific Health and Safety Plan prior to commencing site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.

- .2 Ensure Health and Safety guidelines provide for safe and minimal risk working environment for site personnel and minimize impact of activities involving contact with hazardous materials or hazardous wastes on general public and surrounding environment.
- .3 Relief from or substitution for portion or provision of minimum Health and Safety Guidelines specified or reviewed site-specific Health and Safety Plan must submitted to the Contract Administrator in writing. The Contract Administrator will respond in writing, either accepting or requesting improvements.

1.7 RESPONSIBILITY

- .1 Be responsible for safety of persons and property on site and for protection of persons off site and environment to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.8 HAZARD COMMUNICATION REQUIREMENTS

- .1 Comply with Workplace Hazardous Materials Information System Regulation, Man. Reg.
- .2 Provide the Contract Administrator with Material Safety Data Sheets (MSDS) and documentation on any "hazardous" chemical that Contractor or Contractor Representatives plan to bring onto site.

1.9 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.
- .2 Assign responsibility and obligation to Health and Safety Officer where required to stop or start Work when, at Health and Safety Officer's discretion, it is necessary or advisable for reasons of health or safety. The Contract Administrator may also stop Work for health and safety considerations.

1.10 UNFORESEEN HAZARDS

- .1 Should unforeseen or peculiar safety-related factor, hazard, or condition become evident during performance of Work, stop work and immediately advise the Contract Administrator verbally and in writing.

1.11 HEALTH AND SAFETY OFFICER AND REGISTERED OCCUPATIONAL HYGIENIST / CERTIFIED INDUSTRIAL HYGIENIST

- .1 Employ and assign to Work competent and authorized representative as Health and Safety Adviser. Health and Safety Adviser must:
 - .1 Have minimum 2 years' site-related working experience specific to activities associated with PHC contaminated soil and groundwater.

- .2 Have basic working knowledge of specified occupational safety and health regulations.
- .3 Be responsible for completing Health and Safety Training Session and ensuring that personnel not successfully completing the required training are not permitted to enter site to perform Work in Exclusion Zone or Contaminant Reduction Zone.
- .4 Be responsible for implementing, enforcing daily and monitoring site-specific Health and Safety Plan.
- .5 Be on site during execution of Work.

1.12 PERSONNEL HEALTH, SAFETY, AND HYGIENE

- .1 Training: ensure personnel entering site are trained in accordance with specified personnel training requirements. Training session must be completed by Health and Safety Officer.
- .2 Levels of Protection: establish levels of protection for each Work area based on planned activity and location of activity. Minimum PPE required for each level of protection as follows:
 - .3 Level B:
 - .1 Respiratory: SCBA.
 - .2 Head, Eye, Ear Protection: hard hat, goggles/safety glasses with sideshields, ear muffs or plugs.
 - .3 Hand Protection: gloves.
 - .4 Foot Protection: safety shoes.
 - .5 Clothing: chemically resistant coverall.
 - .4 Level C/Modified Level C:
 - .1 Respiratory: full-face respirator, Cartridge - MSA GME-H (GME-P100)/halfmask, Cartridge - MSA GME-H (GME-P100).
 - .2 Head, Eye, Ear Protection: hard hat, goggles/safety glasses with sideshields, ear muffs or plugs.
 - .3 Hand Protection: gloves.
 - .4 Foot Protection: safety shoes.
 - .5 Clothing: chemically resistant coverall.
 - .5 Level D:
 - .1 Head, Eye, Ear Protection: hard hat, goggles/safety glasses with sideshields, ear muffs or plugs.
 - .2 Clothing: standard work uniform.
- .6 Anticipated levels of personal protection based on work activity are as follows:

Work Activity	Anticipated Level of Personal Protection
Excavation of contaminated soil	Level D
Treatment/Disposal of contaminated groundwater	Level D

- .7 Personal Protective Equipment:
 - .1 Furnish site personnel with appropriate PPE as specified above. Ensure that safety equipment and protective clothing is kept clean and maintained.
- .8 Develop protective equipment usage procedures and ensure that procedures are strictly followed by site personnel; include following procedures as minimum:
 - .1 Ensure prescription eyeglasses worn are safety glasses and do not permit contact lenses on site within work zones.
 - .2 Ensure footwear is steel-toed safety shoes or boots and is covered by rubber overshoes when entering or working in potentially contaminated work areas.
 - .3 Dispose of or decontaminate PPE worn on site at end of each workday.
 - .4 Decontaminate reusable PPE before reissuing.
 - .5 Ensure site personnel have passed respirator fit test prior to entering potentially contaminated work areas.
 - .6 Ensure facial hair does not interfere with proper respirator fit.
- .9 Respiratory Protection:
 - .1 Provide site personnel with extensive training in usage and limitations of, and qualitative fit testing for, air purifying and supplied-air respirators in accordance with specified regulations.
 - .2 Develop, implement, and maintain respirator program.
 - .3 Monitor, evaluate, and provide respiratory protection for site personnel.
 - .4 Immediately notify Contract Administrator when level of respiratory protection required increases.
 - .5 Ensure appropriate respiratory protection during work activities. As minimum requirement, ensure that persons entering potentially contaminated work areas are supplied with and use appropriate respiratory protection.
 - .6 Assess ability for site personnel to wear respiratory protection.
 - .7 Ensure site personnel are able to pass respirator fit test prior to entering potentially contaminated work areas.
- .10 Heat Stress/Cold Stress: implement cold stress monitoring program as applicable and include in site-specific Health and Safety Plan.
- .11 Personnel Hygiene and Personnel Decontamination Procedures. Provide minimum as follows:
 - .1 Suitable containers for storage and disposal of used disposable PPE.
 - .2 Potable water and suitable sanitation facility.
- .12 Emergency and First-Aid Equipment:
 - .1 Locate and maintain emergency and first-aid equipment in appropriate location on site including first-aid kit to accommodate number of site personnel; portable emergency eye wash; two 9 kg ABC type dry chemical fire extinguishers.

- .2 As minimum, provide 1 certified first-aid technician on site at all times when work activities are in progress.
- .13 Site Communications:
 - .1 Post emergency numbers near site telephones.
 - .2 Ensure personnel use of "buddy" system and develop hand signal system appropriate for site activities.
 - .3 Provide employee alarm system to notify employees of site emergency situations or to stop Work activities if necessary.
 - .4 Furnish selected personnel with 2-way radios.
 - .5 Safety Meetings: conduct mandatory daily safety meetings for personnel, and additionally as required by special or work-related conditions; include refresher training for existing equipment and protocols, review ongoing safety issues and protocols, and examine new site conditions as encountered. Hold additional safety meetings on as-needed basis.

1.13 CONTINGENCY AND EMERGENCY RESPONSE

- .1 Meet specified requirements.
- .2 Arrange and attend co-ordination meeting held with appropriate authorities including City, Fire, Hospital, Provincial and City Police, Ministry of Transportation, Ministry of Health, and Community Emergency Co-ordinator; meeting will identify off-site Emergency Response Co-ordinator through whom information and co-ordination will occur in event of incident.

1.14 SITE CONTROL

- .1 Meet specified requirements.
 - .1 Temporary fencing.
 - .2 Contaminant migration control.
 - .3 Tank handling.

END OF SECTION