



BEAHR  
LEARNING INSTITUTE



NATIONAL OCCUPATIONAL  
STANDARDS FOR  
CONTAMINATED SITES  
REMEDIATION

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## CONTAMINATED SITES REMEDIATION COORDINATOR

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## CONTAMINATED SITES REMEDIATION COORDINATOR

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## CONTAMINATED SITES REMEDIATION COORDINATOR

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### JOB DEFINITION

A **Contaminated Sites Remediation Coordinator (CSRC)** supports the qualified project team to conduct a remedial option analysis and develop, implement, and oversee a remedial action plan and/or risk management plan for local contaminated sites.

The CSRC may also assist with sampling, testing, remediation, site closure and monitoring activities; interpreting and evaluating data, and preparing reports.

The CSRC acts as a liaison between the community and the qualified project team.

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## **CONTAMINATED SITES REMEDIATION COORDINATOR**

### **A. LOCAL AND TRADITIONAL KNOWLEDGE**

#### **A1. Obtain Local and Traditional Knowledge**

##### **A1.1 identify the importance of local and traditional knowledge**

local and traditional knowledge enables a Contaminated Sites Remediation Coordinator to promote:

- a) well-being of the environment
  - b) well-being of the community
  - c) safety while on the land
  - d) wise use of resources
  - e) the value of local knowledge and people
  - f) cultural sensitivity, e.g., understanding of cultural protocols
  - g) the value of local history, e.g., archaeology, oral history
  - h) local environmental capacity and community memory
- .....

##### **A1.2 identify knowledge about local land and water use**

- a) identify knowledge about historical land and water use, including:
    - location of:
      - travel and migration routes
      - traditional land and water-use sites, e.g., sacred sites, meeting sites, campsites, lookouts, middens
    - resource harvesting and gathering activities, e.g., berry picking, fishing, hunting, trapping, gathering materials for arts and crafts
    - cultural and commonplace names
    - traditional users of the area, e.g., Elders, Aboriginal families, groups
    - non-traditional users in the area, e.g., military, industry
  - b) identify knowledge about current land and water use, including:
    - resource harvesting and gathering activities, e.g., trapping
    - land classifications in the area, e.g., parks, sanctuaries, special conservation areas, commissioner's lands
    - location of:
      - transportation and utility corridors, e.g., pipelines, roads, hydro lines, seismic lines
      - travel and migration routes
    - current users of the area, e.g., industry, special-interest groups, communities
  - c) identify knowledge about future land and water use, e.g., community plans, government plans, industry plans
- .....

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**\*Bolded subskill statements indicate performance standards**

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## CONTAMINATED SITES REMEDIATION COORDINATOR

### A. LOCAL AND TRADITIONAL KNOWLEDGE

#### A1. Obtain Local and Traditional Knowledge

##### **A1.3 identify knowledge about local terrain**

- a) identify types of land features, e.g., valleys, mountains, wetlands, pingos
  - b) identify characteristics of land features, for example:
    - composition, e.g., gravel, rock, topsoil, sand
    - behaviour, e.g., erosion, slides, slumping
    - permafrost, e.g., continuous or discontinuous
    - vegetation types, e.g., tundra, forested, bogs
  - c) identify types of water bodies, e.g., rivers, creeks, lakes, groundwater
  - d) identify characteristics of water bodies, e.g., open-water areas, currents, depths, direction of flow, water quality, overflow areas
- .....

##### **A1.4 identify knowledge about local vegetation**

identify:

- a) species present
  - b) vegetation zone
  - c) whether species are native or non-native
  - d) vegetation characteristics, for example:
    - edible or non-edible
    - bio-indicator use
  - e) abundance
  - f) seasonal patterns, e.g., budding, seed production, die-off
  - g) physical attributes, e.g., erosion control, shelter, size, height, colour
  - h) forestry practices, e.g., clear-cut areas
  - i) medicinal or traditional uses
  - j) harvest management practices
  - k) listed species, e.g., endangered, at-risk
  - l) cultural significance
- .....

##### **A1.5 identify knowledge about local fish and wildlife**

identify:

- a) species present
- b) whether species are native or non-native
- c) population status
- d) harvest management practices, e.g., seasons, quotas, methods
- e) seasonal characteristics
- f) bio-indicator status, for example:
  - size, age, sex, and weight

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## CONTAMINATED SITES REMEDIATION COORDINATOR

### A. LOCAL AND TRADITIONAL KNOWLEDGE

#### A1. Obtain Local and Traditional Knowledge

- condition, e.g., health and appearance
  - g) stressors on local population, e.g., climate change, over-fishing
  - h) preferred and critical habitats, for example:
    - marshes and wetlands
    - nesting areas
    - calving grounds
  - i) behaviours, for example:
    - reproduction, e.g., mating, birthing, spawning
    - migration
  - j) life-cycle times
  - k) traditional uses
  - l) cultural significance, including disposition of meat and fish
  - m) listed species or at-risk
- .....

#### **A1.6 identify knowledge about local climate**

identify:

- a) seasonal patterns, e.g., freeze-up and break-up
  - b) temperature ranges
  - c) amount of precipitation
  - d) signs of weather change, e.g., storm clouds, wind direction
  - e) unique characteristics, e.g., snow conditions, flooding patterns
  - f) evidence and impacts of short- and long-term climate change
  - g) wind and water erosion features, e.g., coastal degradation
- .....

#### **A1.7 identify knowledge about the local political environment**

- a) identify structures of governance, including:
  - traditional
  - local/community
  - municipal/regional
  - provincial/territorial
  - federal
- b) identify rights and agreements, for example:
  - Aboriginal rights
  - treaties and/or land claim agreements
  - socio-economic agreements
- c) identify influential/knowledgeable community members, for example:
  - Elders
  - Chief and Council

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## CONTAMINATED SITES REMEDIATION COORDINATOR

### A. LOCAL AND TRADITIONAL KNOWLEDGE

#### A1. Obtain Local and Traditional Knowledge

- trappers/harvesters
  - d) identify scope and jurisdiction of:
    - regulatory and advisory boards
    - councils
    - committees
    - government agencies
    - non-governmental agencies
  - e) identify historical and current relationships and collaborations
- .....

#### **A1.8 identify knowledge about local culture and community**

- a) identify community structures
  - b) identify community events
  - c) identify local cultural protocols and traditions, for example:
    - communication
    - gifting
    - introductions
  - d) identify local unique vocabulary for technical words
- .....

#### **A1.9 obtain local and traditional knowledge**

- a) spend time on the land to gain first-hand local knowledge
- b) determine community/cultural protocols
- c) participate in and respect community and traditional activities, e.g., ceremonies, celebrations, gatherings, harvesting, camping
- d) speak with Elders, resource users, local people, landowners and other knowledgeable residents:
  - use the language of the Elder, if possible
  - identify local contacts
- e) attend meetings, conferences, and workshops
- f) review maps
- g) review local Traditional Knowledge database, if available
- h) obtain information from special-interest groups, individuals, relevant First Nations government departments and agencies, e.g., Department of Fisheries and Oceans (DFO), Department of Indian and Northern Affairs (DIAND), World Wildlife Fund (WWF)
- i) take training courses
- j) participate in focus groups
- k) conduct research, e.g., use libraries and archives, search the Internet

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## CONTAMINATED SITES REMEDIATION COORDINATOR

### B. TECHNICAL KNOWLEDGE

#### B1. Describe Environmental Surveys and Testing

##### **B1.1 describe environmental surveys**

- a) identify types of surveys, for example:
- biophysical survey - used to characterize and/or classify biophysical attributes, e.g., climate, vegetation, forestry, wildlife, fish
  - geological survey - used to characterize and/or classify geological attributes, e.g., geophysical, geochemical
  - air quality survey - used to characterize atmospheric conditions, e.g., pollution, dust levels
  - radiation survey - used to characterize levels of radiation, e.g., radon levels
  - hazardous materials survey - used to characterize designated hazardous or controlled substances, e.g., lead, mercury, asbestos
- b) describe purposes of surveys, for example:
- providing baseline data, e.g., growing conditions
  - describing species and community relationships
  - monitoring mitigation efforts
  - documenting air quality
  - conducting impact and site assessments
  - documenting rare species and habitats
  - determining biomass and distribution
  - characterizing geological materials
  - characterizing natural and anthropogenic subsurface features
  - checking for indications of climatic, health, and environmental changes
- c) describe components of surveys, for example:
- data collection, e.g., equipment used, sampling methods, measurement
  - data processing
  - data interpretation
  - reporting
- .....

##### **B1.2 describe environmental testing**

- a) identify types of testing, for example:
- surface water and groundwater testing - study of the attributes of water
  - soil testing – study of the characteristics of soil
  - air testing – study of the attributes of indoor/outdoor air quality
  - radiation testing – assessment of radiation levels in the environment

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## **CONTAMINATED SITES REMEDIATION COORDINATOR**

### **B. TECHNICAL KNOWLEDGE**

#### **B1. Describe Environmental Surveys and Testing**

- permafrost testing – assessment of the characterization of permafrost, e.g., depth of active layer, extent of permafrost
  - noise level testing – study of noise levels
  - sediment testing – study of the characteristics of sediment
  - hazardous material testing – identifying and characterizing hazardous material
  - biota testing – study of the characteristics of living organisms
- b) describe purposes of testing, for example:
- assessing environmental impacts
  - gathering baseline data
  - conducting impact and site assessments
  - determining physical properties
  - assessing environmental changes
  - determining health risks
  - describing current conditions
- c) methods may include:
- using field instrumentation
  - collecting samples
  - making observations
  - taking measurements
- d) describe components of testing, for example:
- data collection, e.g., equipment used, sampling methods, measurement
  - data processing
  - data interpretation
  - reporting
- .....

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## **CONTAMINATED SITES REMEDIATION COORDINATOR**

### **B. TECHNICAL KNOWLEDGE**

#### **B2. Describe Environmental Assessment Approaches and Processes**

##### **B2.1 describe types of environmental assessment**

- a) describe environmental site assessment:
    - a phased approach to identify and assess site status regarding potential or known contamination
    - derived from a number of sources of information, e.g., aerial photographs, maps, historical atlases, traditional knowledge, interviews
  - b) describe environmental impact assessment:
    - conducted for a proposed project
    - identifies:
      - nature of the project (undertaking)
      - potential environmental impacts
      - mitigation associated with the project
  - c) describe environmental audit:
    - verifies compliance to established standards, e.g., Regulations, standards, governmental, or internal policy
    - identifies requirements for improvements in environmental policies and procedures
- .....

##### **B2.2 possess knowledge of contaminants and their interaction with the environment and risks to human health**

describe:

- a) sources-pathways-receptors model
  - b) types of contaminants, e.g., inorganic, organic, pesticides
  - c) contaminant characteristics, e.g., potential health risks, environmental impacts, contaminant migration
- .....

##### **B2.3 describe the steps in the environmental site assessment process**

- a) be aware that there are variations in approach to conducting a site assessment, e.g., Canadian Standards Association (CSA), Canadian Council Ministers of the Environment (CCME), Risk Based Corrective Action (RBCA)
- b) step one includes the research and review of background information to identify evidence of potential or actual contamination, e.g., CSA Phase 1 presents an acceptable standard of care; step one generally consists of:
  - records review
  - site visit
  - interviews

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**CONTAMINATED SITES REMEDIATION COORDINATOR**

**B. TECHNICAL KNOWLEDGE**

**B2. Describe Environmental Assessment Approaches and Processes**

- evaluation of information
  - report(s) preparation
  - c) step two is defined as intrusive testing and/or sampling based on requirements identified in step one in order to confirm or refute the presence of contamination; it generally consists of:
    - review of step one report and conducting additional records review
    - sampling plan development
    - site investigation plan development
    - site investigation
    - interpretation and evaluation of data
    - report(s) preparation, including recommendations for future site investigations
  - d) step three is defined as further testing and sampling to determine the extent of contamination; it generally consists of:
    - review of steps one and two reports and conducting additional records review
    - sampling plan development
    - detailed site investigation
    - interpretation and evaluation of data
    - risk evaluation
    - report(s) preparation, including recommendations for remediation or risk management
  - e) describe steps that may occur after the site assessment process:
    - developing remedial action plan
    - implementing remedial action plan
    - monitoring performance of remedial action plan
    - developing closure and reclamation plan
    - preparing and submitting closure documents
- .....

**C1.1 describe maps**

- a) be aware that maps are created from:
  - aerial photography
  - control survey plans
  - satellite imagery
- b) identify the types of maps that may be used, for example:
  - topographic
  - resource
  - geological
  - bathymetric
  - land-use zoning
  - aerial photographs
  - site plans
  - legal plans
  - field sketches
  - road maps
  - watershed
  - marine charts
- c) identify the types of information found on maps:
  - name of area
  - data
  - datum
  - co-ordinates
  - map number
  - scale
  - legend
  - declination, e.g., north arrow
  - contour intervals
  - natural formations, e.g., rivers, lakes, mountains
  - other information, depending on the purpose of the map, for example:
    - legal boundaries, e.g., land claim settlement areas, municipalities, regions, parks
    - exploration and development sites, e.g., cut lines, mines
    - infrastructure, e.g., roadways, airports, rail lines

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**C1.2 use maps**

- a) be aware of where to find maps, for example:
  - Department of Natural Resources (DNR)

## CONTAMINATED SITES REMEDIATION COORDINATOR

### C. TECHNICAL SKILLS

#### C1. Use Mapping Skills

- libraries
  - planning offices
  - archives
  - museums
  - Internet
  - Councils
  - provincial mapping services
- b) talk to the project team to identify the correct map(s) for the purpose
- c) locate on the map:
- relevant structures/infrastructures in the field, e.g., buildings, watercourses, wetlands, geological features, wells, septic fields, fuel storage tanks, pipelines, buried cables
  - own position
  - property pins or survey pegs
  - special or sensitive areas
- d) verify map information with the field
- e) transpose information from field onto maps:
- make corrections to maps, e.g., building in different location in the field than indicated on map
- f) reference map when recording information
- g) clarify information with the project team, if required
- .....

#### **C1.3 use a compass**

- a) ensure accurate bearings:
- follow manufacturer's instructions for care, maintenance, and operation of compass
  - be aware that compass may not be effective in all areas, e.g., areas with sources of local magnetic fields such as high-voltage wires, local ore deposits, areas above the Arctic Circle
  - prevent compass deviation by taking bearings away from steel, such as watch cases, tools, vehicles
- b) be able to measure distance in various ways, e.g., pacing, laser, measuring wheel
- c) take and record accurate bearings
- .....

#### **C1.4 use Global Positioning System (GPS)**

- a) use to:
- mark way points

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**\*Bolded subskill statements indicate performance standards**

## CONTAMINATED SITES REMEDIATION COORDINATOR

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### C. TECHNICAL SKILLS

#### C1. Use Mapping Skills

- delineate areas
  - record elevations
  - assist with navigation from one position to another
  - provide precise locations, especially in absence of landmarks
- b) know at which co-ordinate system and datum GPS has been set, for example:
- latitude and longitude
  - Universal Transverse Mercator (UTM)
- c) know accuracy of GPS unit
- d) follow the manufacturer's instructions for care, maintenance, and operation of the GPS unit
- .....

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## CONTAMINATED SITES REMEDIATION COORDINATOR

### C. Technical Skills

#### C2. Document Site Observations and Activities

##### **C2.1 assist with sampling and testing**

- a) take specialized training to use sampling and testing equipment correctly, if applicable, e.g., permafrost testing, radiation testing
  - b) gather and check required equipment, tools, and supplies for sampling and testing, for example:
    - well materials, e.g., plastic piping, caps, fittings
    - coolers and ice packs
    - field and sampling equipment, e.g., hand auger, sample containers, cooler
    - relevant documents, e.g., maps, surveys, reports
  - c) familiarize yourself with how the equipment should be operated:
    - calibrate equipment
  - d) ensure that equipment is in good working condition, e.g., repair or replace missing or damaged items
  - e) assist with shipping and tracking of tools and equipment as required
  - f) follow instructions for collecting samples and testing:
    - record sampling/testing information clearly and correctly on field notes, sample labels, and site plan, e.g., location, date, time, type of sample
    - complete chain-of-custody documents as specified
  - g) store and transport samples as required:
    - confirm that intended recipient received samples
  - h) liaise with project team on the progress and integrity of the sampling and testing program
- .....

##### **C2.2 assist with taking measurements or readings**

- a) understand the importance of following protocols precisely
  - b) identify equipment that must have readings taken on a regular basis, e.g., monitoring well, weather station
  - c) take measurement or reading as instructed
  - d) record the data
  - e) maintain the instrumentation, if necessary
  - f) report results to project team:
    - note unusual results
    - follow up as directed
- .....

##### **C2.3 record daily activities**

- a) be aware that all documentation, e.g., field notes, journals, logbooks, reports, photographs, sample results, and log sheets, can be used in a court of law

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**\*Bolded subskill statements indicate performance standards**

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## CONTAMINATED SITES REMEDIATION COORDINATOR

### C. Technical Skills

#### C2. Document Site Observations and Activities

- b) use forms and notebooks supplied by employer, regulatory agencies, or clients:
    - use notebooks as directed
    - number the pages or sequence of activities
    - do not rip pages out
    - write or print legibly
    - cross out mistakes with a single line:
      - initial corrections
      - do not erase mistakes or use white-out
    - use a pencil or pen as directed
    - save hard copies of field notes
  - c) use electronic recording devices, e.g., PDA, tablet computer, if provided
  - d) use appropriate language, e.g., avoid using slang terms, use correct technical terms
  - e) provide all required information, including:
    - own name
    - time
    - weather
    - date
    - place/project name
    - location co-ordinates
    - who you are with
    - observations, e.g., time a contractor was working on site
    - activities
    - recommendations
  - f) record information as soon as possible
  - g) be concise and clear
  - h) transfer sketches to appropriate documents and/or copy notes as required
  - i) take photographs/videos
  - j) make field sketches
  - k) reference photographs and/or sketches that correspond to observations and notes
  - l) maintain personal record of activities, e.g., when you contacted the office for further field instructions
  - m) make a copy of your daily notes and provide to the project team:
    - do not throw anything away
- .....

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## CONTAMINATED SITES REMEDIATION COORDINATOR

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### D. Risk Management Plans and Treatments

#### D1. Describe a Risk Management Plan

##### **D1.1 describe a risk management plan**

- a) a plan developed to address the risks associated with a contaminated site in consultation with all stakeholders
  - b) consists of longer term, ongoing monitoring of indicator parameters, e.g., observing, sampling, measuring land, water, air, and biota
  - c) demonstrates that any residual contamination poses acceptable risk to human health and the environment
  - d) take further action when monitoring indicates the need, e.g., unanticipated leaching
  - e) may identify opportunities for restoration
- .....

**CONTAMINATED SITES REMEDIATION COORDINATOR**

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**D. Risk Management Plans and Techniques**

**D2. Define Isolation Techniques**

**D2.1 define isolation techniques**

contaminated material is isolated and contained through the use of barriers, e.g., subsurface and surface barriers

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## CONTAMINATED SITES REMEDIATION COORDINATOR

### E. Remedial Action Plans and Activities

#### E1. Describe Remediation

##### **E1.1 describe remediation**

- a) reduce contamination to levels required by standards or remediation criteria through removal or treatment and/or reduce exposure to contamination through isolation
  - b) goals and objectives are to protect human health and the environment by meeting remediation criteria or standards in relation to land use objectives
- .....

##### **E1.2 describe types of remediation**

- a) regulatory-driven remediation activities that are carried out to meet generic remediation criteria or standards, e.g., based on provincial/territorial/federal regulations
  - b) risk-managed remediation activities that are carried out to meet site-specific criteria that are reviewed and approved by a regulatory body, e.g., based on land use
- .....

##### **E1.3 describe remediation options**

- a) removal and off-site disposal/treatment:
    - the contaminated material is removed and transported to an off-site disposal or treatment facility, e.g., land farm
  - b) removal and on-site ex-situ treatment:
    - the contaminated material is removed and treated on site; no off-site transportation is required
  - c) removal and on-site isolation:
    - the contaminated material is removed and isolated on site
  - d) in-situ treatment/isolation:
    - the contaminated material is isolated or treated in place by application of chemical or biological agents, or by using physiochemical processes; no removal or transport is involved
- .....

##### **E1.4 describe remedial action plans**

- a) a site-specific plan to reduce contamination to levels required by standards or remediation criteria
- b) remedial action plans may include the following elements:
  - summary of background information

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## CONTAMINATED SITES REMEDIATION COORDINATOR

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### E. Remedial Action Plans and Activities

#### E1. Describe Remediation

- remediation goals and objectives
  - regulatory requirements, e.g., permits, licences
  - site-specific health and safety report
  - description of the proposed activities
  - schedule
  - resources needed
  - cost estimates
  - monitoring schedule
  - reclamation/ecological restoration plan
- .....

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## CONTAMINATED SITES REMEDIATION COORDINATOR

### E. Remedial Action Plans and Activities E2. Assist with Site Remediation Planning

#### **E2.1 assist with project remedial option analysis**

- a) review/summarize:
- site assessment report(s):
    - risks posed by the contaminant(s) and their significance
    - recommendations
  - additional research or documentation
- b) conduct further site visits and reconnaissance if required, for example:
- confirm site conditions, e.g., verify site boundaries, changes in land use or occupancy
  - confirm underground utilities/services
  - verify extent and location of contamination
- c) evaluate implications and residual risks of remedial options, e.g., anticipate impact of each option on stakeholders, costs, timelines
- d) identify best option for remediation
- .....

#### **E2.2 obtain community input**

- a) arrange community meeting(s):
- coordinate meeting logistics, e.g., venue, agenda, refreshments
  - invite key community members, Elders, professionals, local interest groups
  - provide background information, e.g., reports
  - present remedial options
  - invite feedback
  - respect opinions of others
  - discuss issues and ramifications
  - build consensus
- b) conduct interviews:
- follow appropriate protocols, e.g., gifting
  - contact individuals to be interviewed:
    - set up date and time
  - ask questions
  - record information
- c) summarize community input for project team
- .....

#### **E2.3 assist with development of remedial action plan**

- a) analyze details of selected remedial option

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\***Bolded subskill statements indicate performance standards**

## CONTAMINATED SITES REMEDIATION COORDINATOR

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### **E. Remedial Action Plans and Activities** **E2. Assist with Site Remediation Planning**

- b) determine requirements, e.g., permits, schedule, resources
- c) estimate costs:
  - develop budget
  - investigate funding options
- d) assist with preparation of plan elements:
  - health and safety, e.g., PPE, fencing, signage
  - contingency, e.g., unexpected site conditions/problems; anticipate other scenarios
  - site closure
- e) assemble information into a draft plan

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#### **E2.4 assist with seeking approval for remedial action plan**

- a) assist with assembling remedial action plan and supporting documentation
- b) assist to identify or clarify areas of concern
- c) assist with revisions to the plan as needed, e.g., provide additional information

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## CONTAMINATED SITES REMEDIATION COORDINATOR

### E. Remedial Action Plans and Activities

#### E3. Coordinate the Implementation of Remediation Activities

##### **E3.1 follow remedial action plan**

- a) liaise with contractors to implement action plan:
    - use local resources if available
  - b) conduct further site visits if required, e.g., to confirm site conditions
  - c) ensure samples are provided for analysis as required in the remedial action plan
  - d) ensure the health and safety plan is implemented, e.g., liaise with health and safety officer if available, or monitor adherence to requirements
  - e) monitor budget:
    - track expenses
    - approve invoices and time cards
    - ensure accounts are paid
  - f) monitor work progress and schedule
  - g) follow reporting requirements, e.g., liaise with project team/manager
  - h) adjust to changes identified during remediation activities:
    - facilitate change orders
- .....

##### **E3.2 coordinate contaminant removal activities**

- a) monitor delineation of impacted area
  - b) prepare on-site storage location if required, e.g., stockpile, ponds
  - c) monitor removal and storage of contaminated material
  - d) ensure samples are collected, recorded, and submitted according to the plan
  - e) respond to changes in site conditions and parameters, e.g., higher contaminant concentrations than expected
  - f) ensure decontamination processes are followed, e.g., excavation equipment, personnel, and PPE
- .....

##### **E3.3 coordinate off-site disposal/treatment**

- a) confirm the contaminated material will be acceptable to the selected off-site disposal or treatment facility, e.g., landfill, soil processing facility
- b) coordinate logistics for transport and delivery:
  - ensure that loading and transportation of material complies with regulations, e.g., decontamination of tires, secure loads, tarping of trucks, noise bylaws, truck routes
- c) confirm acceptance of contaminated material at off-site disposal or treatment facility

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**\*Bolded subskill statements indicate performance standards**

## CONTAMINATED SITES REMEDIATION COORDINATOR

### E. Remedial Action Plans and Activities

#### E3. Coordinate the Implementation of Remediation Activities

- d) maintain documentation and records of transport and delivery of material, e.g., complete log, manifests, weigh scale tickets

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##### **E3.4 coordinate on-site ex-situ treatment**

- a) prepare specified on-site treatment location:
- ensure that safeguards are in place, e.g., health and safety, contaminant flow mitigation
- b) ensure specified treatment processes are used, for example:
- soil treatment facility/land farming, bioremediation
  - water treatment
  - soil washing
  - incorporating chemicals/nutrients
  - incineration
- c) discuss results with project team
- d) coordinate further treatment as directed
- e) replace, reuse, or remove treated material as specified

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##### **E3.5 coordinate on-site ex-situ isolation**

- a) confirm preparation of specified isolation site
- b) oversee placement and capping of contaminated material

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##### **E3.6 coordinate in-situ isolation**

- a) ensure specified barriers to mitigate contaminant migration are installed/constructed, e.g., capping, installing walls
- b) coordinate the installation and operation of a specified monitoring system, for example:
- monitoring wells for groundwater sampling
  - perimeter air-quality monitoring system

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##### **E3.7 coordinate in-situ treatment**

- a) ensure installation of specified in-situ treatment infrastructure, for example:
- trenching
  - treatment injection wells

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\***Bolded subskill statements indicate performance standards**

**CONTAMINATED SITES REMEDIATION COORDINATOR**

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**E. Remedial Action Plans and Activities**

**E3. Coordinate the Implementation of Remediation Activities**

- funnel gate system
- b) coordinate the installation and operation of a specified monitoring system, e.g., groundwater wells, thermistors
- c) ensure specified treatment processes are used
- d) discuss results with project team
- e) coordinate further treatment as directed

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## CONTAMINATED SITES REMEDIATION COORDINATOR

### F. Site Closure Processes F1. Assist with Site Closure

#### F1.1 coordinate site closure

- a) confirm with project team that:
    - confirmatory samples meet regulatory standards
    - appropriate authorities have been notified, e.g., municipality, ministry of environment
  - b) oversee decommissioning measures, for example:
    - removal of construction materials and debris
    - safety and security of site
    - local bylaws
  - c) provide input into closure report
  - d) communicate site closure to community
  - e) participate in site reclamation or restoration as specified
- .....

#### F1.2 define site reclamation

- a) site is returned to some type of usable condition, e.g., site contouring
  - b) may also be referred to as site rehabilitation
- .....

#### F1.3 define site restoration

- a) site is returned to original condition or use, e.g., restock fish species, re-vegetate
- .....

**CONTAMINATED SITES REMEDIATION COORDINATOR**

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**G. Health and Safety**

**G1. Comply with Health, Safety, and Environmental Requirements**

**G1.1 comply with health, safety, and environmental requirements**

- a) follow health, safety, and environmental policies and procedures
- b) comply with additional requirements or exceptions for local conditions, e.g., Occupational Health and Safety (OH&S), Labour Code, Workplace Hazardous Materials Information System (WHMIS), Canadian Environmental Protection Act (CEPA), Species at Risk Act

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## CONTAMINATED SITES REMEDIATION COORDINATOR

### G. Health and Safety

#### G2. Follow Personal Health and Safety Guidelines

##### **G2.1 follow guidelines for personal survival and first aid kits**

- a) ensure that survival and first aid kits:
    - are available at all times
    - contain items that are:
      - appropriate to the region, season, and activities
      - for emergency communication, e.g., satellite phone
      - required by policy or Regulation
      - related to your own personal needs
      - not expired
  - b) know how to use items, e.g., take first aid training
  - c) ensure that survival and first aid kit supplies are restocked/recharged after use
- .....

##### **G2.2 follow guidelines for personal safety**

- a) notify team members of your daily schedule, location, and daily activities:
  - follow communication plan, e.g., check in regularly
- b) notify project team of any personal health concerns, e.g., allergies, medical conditions
- c) wear specified Personal Protective Equipment (PPE), e.g., safety glasses, steel-toed boots, hard hat, hearing protection, breathing apparatus
- d) wear appropriate clothing for weather/environment/activity
- e) ensure that clothing and PPE fit properly
- f) be aware of own fears and do not exceed own limitations, e.g., fear of heights, level of physical strength
- g) be aware of your right to stop work if conditions become or appear to be unsafe
- h) take precautions if unsure of site conditions, e.g., have breathing apparatus available if required
- i) be aware of hazards, for example:
  - moving equipment, e.g., heavy equipment, drill rigs
  - overhead wires and lines
  - buried utilities
  - open mine shafts, adits, test pits, and trenches
  - thin ice
  - slippery surfaces
  - fast-flowing water
  - extreme weather
  - wildlife

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**\*Bolded subskill statements indicate performance standards**

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## CONTAMINATED SITES REMEDIATION COORDINATOR

### G. Health and Safety

#### G2. Follow Personal Health and Safety Guidelines

- j) be cautious with unlabelled containers that may contain dangerous materials
  - k) have communication equipment available at all times, e.g., cell phone, satellite phone
  - l) use “buddy system” when possible
  - m) base work activities on current conditions, e.g., do not overexert yourself in extreme temperatures
- .....

#### **G2.3 follow guidelines for travel to remote areas**

- a) create a daily schedule that specifies:
    - date and time of departure
    - expected date and time of return
    - destination
    - route and alternate route
    - emergency contact numbers
    - mode of travel
    - contingency plan
    - communication plan, e.g., who you will notify at departure and arrival
  - b) travel with someone else whenever possible
  - c) carry safety, survival, first aid, navigation, and communication equipment as required
  - d) ensure equipment is in good working condition
  - e) acquire weather and marine forecasts, fire risk, and road condition reports
  - f) share your daily schedule with project supervisor or other appropriate personnel
  - g) follow daily schedule:
    - report back to supervisor if a need to change the plan arises
    - call in at scheduled times
  - h) use land skills
  - i) identify and avoid hazards
  - j) do not exceed limitations of your method of transportation
- .....

#### **G2.4 follow guidelines for lifting**

- a) be aware of ground surface conditions, e.g., snow, ice, stairs, unstable or unlevel ground
- b) consider size and weight of article to be lifted:

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**\*Bolded subskill statements indicate performance standards**

## **CONTAMINATED SITES REMEDIATION COORDINATOR**

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### **G. Health and Safety**

#### **G2. Follow Personal Health and Safety Guidelines**

- ask for assistance with very large or heavy objects
  - c) use mechanical or moving devices when necessary, e.g., fork lift, dolly/hand cart
- .....

## CONTAMINATED SITES REMEDIATION COORDINATOR

### G. Health and Safety

#### G3. Follow Worksite Safety Guidelines

##### **G3.1 follow safety procedures for project sites**

- a) familiarize yourself with:
  - safety manual, e.g., policies and procedures
  - equipment and safe operating procedures
  - site-specific procedures
  - emergency response plans
  - occupational health and safety plans
  - location and operating procedures for safety equipment
- b) attend regular health and safety meetings as required, e.g., tailgate meetings
- c) ensure that others follow health and safety guidelines/regulations
- d) be aware of hazards, for example:
  - moving equipment, e.g., heavy equipment, drill rigs
  - overhead wires and lines
  - buried utilities
  - open mine shafts, adits, test pits, and trenches
  - thin ice
  - slippery surfaces
  - fast-flowing water
  - extreme weather
  - wildlife
- e) take safety training as required, for example:
  - Standard or Marine Advanced First Aid and CPR
  - wildlife safety, e.g., bear awareness
  - vehicle safety, e.g., boat safety, helicopter safety
  - chemical safety, e.g., Workplace Hazardous Materials Information System (WHMIS), H<sub>2</sub>S (Hydrogen Sulphide) Alive, hazardous spill training, Hazardous Materials (HAZMAT) training
  - confined spaces
  - equipment operation, e.g., firearm safety, chainsaw safety
  - Transportation of Dangerous Goods (TDG)
  - workplace safety, e.g., fire safety, trenching safety
  - Hazardous Waste Operations and Emergency Response (HAZWOPER)

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##### **G3.2 follow emergency response procedures and protocols**

- a) be aware of your responsibilities in the event of a health and safety or environmental emergency

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\***Bolded subskill statements indicate performance standards**

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## CONTAMINATED SITES REMEDIATION COORDINATOR

### G. Health and Safety

#### G3. Follow Worksite Safety Guidelines

- b) identify potential risks associated with the site activities, e.g., risk of injury, fire, equipment breakdown, hazardous material release, natural disaster
  - c) follow general emergency response protocols, for example:
    - be familiar with hazard communication systems, i.e., local emergency response contact information
    - follow directions of appropriate authorities
    - follow evacuation protocols
    - respond to minor emergencies, e.g., a small fire, minor hazardous material releases, minor injuries
  - d) record details for incident report, including:
    - time and location
    - nature of the occurrence
    - procedures followed
- .....

#### **G3.3 follow guidelines for drill rig safety**

- a) familiarize yourself with site-specific health and safety plans, e.g., where to stand, smoke, or use cell phone
  - b) wear required PPE, e.g., high visibility vest, hard hat, CSA-approved footwear
  - c) be aware of the presence of flammable or toxic vapours
  - d) position yourself in safe location when on site, for example:
    - stand out of the way of the driller
    - be aware of overhead lines/underground utilities if moving equipment or vehicles
  - e) use caution around operating equipment
- .....

#### **G3.4 follow guidelines for excavation site safety**

- a) be familiar with site-specific health and safety plans, e.g., locations of entrances and exits, hand signals
- b) wear required PPE, e.g., high visibility vest, hard hat
- c) be aware of the presence of flammable or toxic vapours
- d) maintain an awareness of ground stability:
  - be aware of the potential for earth collapse
- e) do not step into an open excavation deeper than chest height
- f) position yourself in safe location when on site, for example:
  - stand away from the open excavation and moving equipment
  - do not stand on equipment tracks

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\***Bolded subskill statements indicate performance standards**

## **CONTAMINATED SITES REMEDIATION COORDINATOR**

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### **G. Health and Safety**

#### **G3. Follow Worksite Safety Guidelines**

- do not stand in the operator's blind spot, e.g., behind the equipment
  - g) follow chain of command for communication, for example:
    - do not direct the excavator operator
  - h) be aware of traffic patterns of vehicles on site
- .....

**G4. Follow Safety Guidelines for Confined Spaces**

**G4.1 describe a confined-space entry permit**

- a) identifies type of work to be done in confined space
  - b) communicates to workers the hazards that are identified and controls or precautions that are in place
  - c) completed before any worker enters or performs work in respect to the confined space
  - d) entry permit may include:
    - location of confined space
    - type of work to be performed
    - types of hazards and controls to address them
    - time period covered by entry permit
    - record of each worker's entry and exit
    - results of atmospheric testing
- .....

**G4.2 test the air quality in confined spaces**

- a) use the testing equipment:
    - for hand-held testers:
      - select the appropriate tube for the hazard being tested, e.g., hydrogen sulphide, carbon monoxide:
        - check the expiration date on the tube
      - take a sample
      - interpret the sample results
    - for electronic air monitors:
      - select the monitor with the appropriate sensors for what is being tested
      - calibrate the monitor
      - activate the monitor
      - interpret the continuous digital readout
  - b) record the test results in the logbook
  - c) ensure that a minimum of 19% oxygen is present in the confined space:
    - check prior to entering
    - exit if oxygen level goes below 19%
    - report non-compliance to your supervisor
- .....

**G4.3 ensure compliance with procedures for working in confined spaces**

- a) take the required training in confined safety awareness

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**\*Bolded subskill statements indicate performance standards**

## CONTAMINATED SITES REMEDIATION COORDINATOR

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### G. Health and Safety

#### G4. Follow Safety Guidelines for Confined Spaces

- b) verify completion of confined-space entry permit
- c) ensure that pre-entry activities on the entry permit are completed, including:
  - air quality tests
  - risk assessment, e.g., PPE and personnel requirements
  - lock-out and tag procedures
- d) check information required by the entry permit, e.g., air quality, air flow
- e) ensure the confined space worker has read and signed the entry permit
- f) post entry permit at the confined space location:
  - ensure that information is available to every worker entering or working in respect to the confined space
- g) verify the air quality measurements are collected at regular intervals for the duration of the work
- h) verify that the confined space worker has completed tasks and returned the entry permit
- i) complete lock-out and tag procedures

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**G5. Follow Guidelines for Use and Handling of Hazardous Materials**

**G5.1 describe Workplace Hazardous Materials Information System (WHMIS)**

- a) a Canada-wide communication system for sharing information about hazardous materials used on a job site:
  - explains hazards and how to control and prevent chemical accidents
- b) consists of three components:
  - a labelling system, which gives basic information about hazardous materials
  - Material Safety Data Sheets (MSDS), which contain additional detailed information about use, storage, and hazards
  - an employee education and certification program
- c) includes symbols which identify hazardous materials, e.g., Class A

Note: WHMIS is a mandatory training certification program. The description of WHMIS in this document serves as a reference only.

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**G5.2 follow response plan for hazardous/regulated material spills, leaks, and releases**

- a) identify the product:
    - if the material cannot be identified, assume that it is dangerous
  - b) consider risk to health, safety, and the environment
  - c) protect yourself and others:
    - evacuate the area if required
    - control access to the area
  - d) protect the environment, e.g., reduce spill flow
  - e) address the situation, if it is safe to do so:
    - take appropriate action, e.g., shut off the supply valve, place an absorbent boom
  - f) document and report the spill to the site supervisor, project team, and/or the appropriate authority
- .....

**G5.3 follow guidelines for handling, storing, transporting, and disposing of hazardous/regulated materials**

- a) follow appropriate guidelines and procedures, for example:
  - company- or site-specific guidelines
  - operational requirements

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\***Bolded subskill statements indicate performance standards**

## **CONTAMINATED SITES REMEDIATION COORDINATOR**

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### **G. Health and Safety**

#### **G5. Follow Guidelines for Use and Handling of Hazardous Materials**

- legislation
  - spill response plans
  - b) document the handling, storing, transporting, and disposing of hazardous materials, e.g., type of hazardous material, methods of storage and disposal
  - c) maintain records, e.g., sub-contractors, disposal permits, waybills
- .....

**G6.1 identify frequent causes of fire**

- a) improper handling and storage of flammable materials, equipment, and supplies
  - b) gas leaks
  - c) human error
  - d) natural causes
  - e) arson
- .....

**G6.2 identify components of a fire**

- a) fuel
  - b) heat or ignition source
  - c) oxygen
- .....

**G6.3 use fire extinguishers**

- a) identify classes of fire:
    - Class A – ordinary combustibles, e.g., wood, cloth, paper
    - Class B – flammable liquids or vapours, e.g., gasoline, propane
    - Class C – energized electrical equipment
    - Class D – combustible metals, e.g., magnesium
  - b) use the appropriate extinguisher for the type of fire
  - c) use the PASS system:
    - **P** – pull the pin to activate the extinguisher
    - **A** – aim at the base of the fire
    - **S** – squeeze the trigger to release the fire retardant
    - **S** – sweep from side to side
  - d) inform your supervisor whenever an extinguisher has been used
- .....

**G6.4 follow fire safety guidelines**

- a) be familiar with:
  - climate and weather conditions
  - fire hazard status
  - locations of:
    - fire extinguishers

## CONTAMINATED SITES REMEDIATION COORDINATOR

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### G. Health and Safety

#### G6. Follow Fire Safety Guidelines

- gas shut-off valves
  - electrical shut-off switches
  - evacuation routes
  - operating techniques for fire extinguishers
  - b) use, store, and dispose of flammable materials safely
  - c) use caution with sources of ignition when working with or near flammable or explosive materials
  - d) contact the appropriate authority, e.g., fire department, forestry service, site supervisor, if a fire is detected:
    - authority will initiate emergency response
- .....

**H1.1 maintain professionalism**

- a) be:
- flexible, e.g., adapt to changing situations
  - informed
  - communicative, e.g., speak up when you know a plan will be difficult to implement
  - dependable, e.g., arrive at work on time, follow through on commitments
  - honest
  - responsible
  - respectful, e.g., show appreciation for other team member's efforts, demonstrate cultural and gender sensitivity
  - tactful, e.g., speak positively about the organization you are working for
- b) have a positive attitude, e.g., co-operate with team members, participate actively in team meetings
- c) act as a role model, for example:
- speak positively about the occupation
  - model high standards of work
- d) be aware of your own limitations, for example:
- identify your own skill levels
  - if unsure of how to carry out a task, ask for help
- e) demonstrate leadership qualities, for example:
- motivate team members
  - lead by example
  - delegate tasks
- .....

**H1.2 maintain personal wellness**

- a) maintain physical and mental wellness, for example:
- get enough rest
  - eat a healthy, balanced diet
  - get physical exercise
  - maintain personal hygiene
- b) manage your own stress, for example:
- identify your own abilities and limitations
  - do not escalate situations
- .....

**H1.3 be ethical**

- a) respect confidentiality:

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## CONTAMINATED SITES REMEDIATION COORDINATOR

### H. PERSONAL SKILLS

#### H1. Possess Personal Skills

- do not discuss confidential information
  - do not discuss organizational issues within the community
  - assume all information is confidential unless instructed otherwise
- b) respect:
- others' values and beliefs
  - others' opinions and points of view
  - ownership issues, e.g., land claims, private properties
- c) ensure messages between all parties (e.g., community, organization, contractors, regulators) are presented accurately and respectfully
- d) declare "conflict of interest" situations, e.g., inform supervisor/project team of personal or ethical conflicts
- .....

#### H1.4 solve problems

- a) identify the problem, e.g., need to access an individual's private property, equipment breakdown
- b) discuss problem with project team, if possible, for advice or input
- c) determine if problem is within your own limits of authority and/or ability
- d) identify possible solutions while considering:
- consequences of different options, e.g., costs, emotional reactions of individuals
  - policies and procedures
  - resources available
- e) determine best solution
- f) implement the solution
- g) follow up, for example:
- document the problem and file for future reference
  - communicate the situation and solution appropriately
  - make suggestions to help avoid similar problems in the future
- .....

#### H1.5 be a team player

- a) know your role on the team
- b) fulfill your role
- c) work toward common goals:
- carry out tasks in a manner that allows common goals to be achieved
- d) work effectively with others
- e) communicate in a timely and effective manner
- f) share knowledge and skills with team members

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**\*Bolded subskill statements indicate performance standards**

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## CONTAMINATED SITES REMEDIATION COORDINATOR

### H. PERSONAL SKILLS

#### H1. Possess Personal Skills

- g) be supportive of team members
  - h) seek and accept feedback from others
- .....

#### **H1.6 be observant**

- a) use all of your senses, e.g., sight, hearing, smell, and your intuition to observe/assess your surroundings on an ongoing basis
  - b) interpret your observations/assessments
- .....

#### **H1.7 use organizational skills**

- a) review the project status:
    - share information about the project with other team members
  - b) record instructions
  - c) follow up on tasks in a timely manner
  - d) plan your work, e.g., identify tasks to be completed, create checklists or to-do list
  - e) maintain an orderly workplace, e.g., store equipment correctly and in the proper location
  - f) maintain project documentation, e.g., shift notes, weekly reports, budget
- .....

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## CONTAMINATED SITES REMEDIATION COORDINATOR

### I. COMMUNICATION SKILLS

#### 11. Demonstrate Communication Skills

##### 11.1 follow communication plan

- a) understand reporting structure, including:
    - who has final authority for decision-making
    - what information is to be communicated to whom
    - who to go to in case of a problem
    - who to go to when requesting information
    - when information should be communicated
    - what form a message should take, i.e., written or oral
  - b) communicate information to the appropriate person:
    - use clear, concise language
    - use appropriate vocabulary to suit the person and the situation
  - c) refer any media questions to the appropriate spokesperson
- .....

##### 11.2 liaise between community members, organizations, and experts

- a) identify communication needs and expectations of the group or individual to be communicated to, including:
  - language
  - vocabulary
  - education level
  - amount of information desired
- b) transmit messages clearly between parties in a timely manner:
  - be respectful
  - use clear, concise language
  - use appropriate vocabulary
- c) build rapport and trust with community members
- d) communicate information about known or potential environmental concerns clearly:
  - be honest about risk without exaggerating or causing unnecessary fear
- e) seek counsel from respected leaders of community, e.g., Elders
- f) encourage community member participation in discussions and dialogue, e.g., ask for input, advice, and personal experience
- g) participate in public forums as required:
  - be prepared, e.g., know the subject
  - present information clearly
  - speak to the audience
- h) participate in presentations, for example:
  - interpret technical terms for the audience
  - answer questions:
    - refer questions to project team if you cannot answer

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\***Bolded subskill statements indicate performance standards**

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## CONTAMINATED SITES REMEDIATION COORDINATOR

### I. COMMUNICATION SKILLS

#### 11. Demonstrate Communication Skills

- i) answer questions and provide advice to parties as appropriate, e.g., cultural protocols in the community
- .....

##### **11.3 use listening skills**

- a) listen with the goal of understanding the speaker's message
- b) respect the speaker's feelings and opinions
- c) be patient
- d) display interest
- e) paraphrase or ask questions to:
- confirm understanding
  - clarify information
- f) observe the speaker's behaviours, body language, and tone of voice to see if they reinforce or contradict the verbal message
- .....

##### **11.4 use speaking skills**

- a) know your audience, i.e., the person or people to whom you are speaking:
- respect individuals and their points of view
  - know and respect their customs
  - take into account their ages and experiences
  - use traditional languages or translators when appropriate
- b) speak slowly, clearly, and concisely
- c) make eye contact
- d) ensure understanding:
- use your listening skills
  - ask questions
  - paraphrase questions/responses
- e) be aware of your body language, tone of voice, and speed of delivery
- .....

## CONTAMINATED SITES REMEDIATION COORDINATOR

### J. PROJECT ADMINISTRATION

#### J1. Assist with Project Administration

##### J1.1 possess knowledge of legislation

- a) distinguish between an Act, Regulation, code of practice, guideline, and policy
  - b) be aware of why the piece of legislation exists and what it includes, for example:
    - Canada Labour Code:
      - exists to protect workers
      - includes occupational health and safety legislation at the federal level
    - Canadian Environmental Protection Act (CEPA):
      - exists to protect the natural environment and human beings
      - contains many Regulations, including PCB storage, handling of ozone-depleting substances, handling of environmental emergencies
    - Canadian Environmental Assessment Act (CEAA):
      - exists to define the process and requirements for federal environmental assessment
    - Fisheries Act:
      - exists to protect fish and fish habitats, including waterways, ditches that lead to waterways, storm sewers
    - Navigable Waters Protection Act (NWPA):
      - exists to protect navigable waters from unauthorized construction work
    - Species at Risk Act (SARA):
      - exists to protect species at risk
      - contains requirements for assessing potentially threatened/endangered species and their habitat(s)
    - Transportation of Dangerous Goods Act (TDGA):
      - exists to protect public from potential exposure to dangerous goods
      - includes requirements for what can be transported, documentation requirements for transport, and packaging of goods for travel
  - c) know where to find copies of the legislation and guidelines for reference
  - d) be aware that other levels of government have their own environmental, natural resources, heritage, and/or occupational health and safety legislation
- .....

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\***Bolded subskill statements indicate performance standards**

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## CONTAMINATED SITES REMEDIATION COORDINATOR

### J. PROJECT ADMINISTRATION

#### J1. Assist with Project Administration

##### **J1.2 possess knowledge of regulatory agencies, licences, and permits**

- a) identify licences and permits required for site activities
  - b) identify regulatory agencies, e.g., public health units, fire department, heritage/cultural resources, federal and provincial environment/natural resources departments, conservation authority
  - c) identify how to access the relevant agencies for information, advice, direction, and permission
- .....

##### **J1.3 contribute to project planning**

- a) understand the factors involved in project planning, for example:
    - resources
    - scheduling
    - budgeting
    - health and safety plan
    - local factors and considerations that affect field work, e.g., seasonal activities, weather conditions, road conditions, transportation, community events
  - b) encourage the use of local Aboriginal expertise, resources, and businesses whenever possible
  - c) identify opportunities to build capacity in the community, e.g., develop specific skills, promote training/apprenticeship
  - d) provide local knowledge to supervisor/project team, e.g., local wage scales, local contractors, safety issues and essential services in the area
  - e) identify and assist with pre-qualification of local contractors and service providers
  - f) identify potential impacts of the project on local communities
  - g) participate in meetings about project planning and/or progress
  - h) communicate any concerns to supervisor/project team
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**\*Bolded subskill statements indicate performance standards**

**J2.1 use office equipment**

- a) use computer, for example:
  - perform basic functions, including:
    - use email, e.g., access, send, receive
    - use Internet, e.g., access, search
    - troubleshoot problems
    - set up and change passwords
    - print files
- b) be familiar with information storage and security system, for example:
  - backup system, e.g., secondary backups, use different formats for backup
  - storage formats, e.g., analog, electronic, cassette, transcripts
  - storage locations, e.g., backup locations, copies
- c) use software, for example:
  - word processing
  - spreadsheet
  - photo management
  - presentation
  - database
  - information management, e.g., GIS
  - computer-assisted design (CAD)
  - project management
- d) be familiar with the operation of telecommunications equipment, e.g., video conferencing, telephone, cell phone, PDA, tape recorder
- e) use workplace equipment, for example:
  - printer
  - plotter
  - scanner
  - fax machine
- f) be familiar with operation of audio/visual (AV) equipment, for example:
  - DVD player
  - projector

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**J2.2 manage information**

- a) use information management systems to store or retrieve electronic or hard copy documents as needed
- b) organize, update, and collate information as required, e.g., establish and maintain a filing system

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### J. PROJECT ADMINISTRATION

#### J2. Use Administrative Skills

c) store and secure information, for example:

- protect hard copy documents, e.g., store boxes off of the floor
- use correct storage conditions, e.g., appropriate light, humidity, temperature levels
- secure electronic or hard copy documents, e.g., keep in fireproof box, lock filing cabinets, archive off site, use password protection, backup electronic files regularly

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