



**RETURN BIDS TO:**  
**RETOURNER LES SOUMISSIONS À:**  
Public Works and Government Services Canada  
ATB Place North Tower  
10025 Jasper Avenue  
Edmonton  
Alberta  
T5J 1S6  
Bid Fax: (780) 497-3510

## SOLICITATION AMENDMENT MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

### Comments - Commentaires

Vendor/Firm Name and Address  
Raison sociale et adresse du  
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution  
Public Works and Government Services Canada  
Northern Contaminated Site Program  
ATB Place North Tower  
10025 Jasper Avenue  
Edmonton  
Alberta  
T5J 1S6

<b>Title - Sujet</b> Garden River Remediation	
<b>Solicitation No. - N° de l'invitation</b> EW699-171528/A	<b>Amendment No. - N° modif.</b> 005
<b>Client Reference No. - N° de référence du client</b> PARKS EW699-171528	<b>Date</b> 2017-01-24
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$NCS-003-10933	
<b>File No. - N° de dossier</b> NCS-6-39181 (003)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2017-02-01</b>	<b>Time Zone</b> Fuseau horaire Mountain Standard Time MST
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Bilous, Isabelle	<b>Buyer Id - Id de l'acheteur</b> ncs003
<b>Telephone No. - N° de téléphone</b> (780) 782-8714 ( )	<b>FAX No. - N° de FAX</b> (780) 497-3510
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>	

Instructions: See Herein

Instructions: Voir aux présentes

<b>Delivery Required - Livraison exigée</b>	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

**This amendment 005 is raised to modify Solicitation EW699-171528/A as follows:**

**1. Questions & Answers**

- Q1:** Will a registered land surveyor be required for this project or is an engineering consulting firm acceptable? Layout and quantity calculations are normally completed by engineering consulting firms.
- A1:** The survey requirements described in the specifications are for topographic surveys and related calculations (e.g. volumes, etc.). There is no requirement for the surveyor to be a legal land surveyor.
- Q2:** Given that the leachate collection system is a non-pressure rated application, would a wall thickness of DR11 be acceptable. DR11 is the typical DR used for this application and is much more readily available in the required 500mm diameter.
- A2:** No. The leachate collection piping shall be as noted in the drawings and specifications.
- Q3:** You have a requirement for toothless buckets with brass edges per section 31 12 15 page 4 of 9, item 2.2.2 "Edges of excavator buckets or dozer blades shall be toothless and equipped with heavy gauge brass plate to minimize potential for sparking on stones or other debris encountered in the remedial excavation or Cell A." Does it have to be Brass? The question is: does using any non sparking material be acceptable?
- A3:** Any non-sparking material is acceptable, provided that the Contractor demonstrates that it is non-sparking to the satisfaction of the Departmental Representative.
- Q4:** Do ditches along access road and Cell A require topsoil placement prior to erosion control blanket. Drawings cross-sections do not show topsoil; specification (31 12 10 P. 17-20 Item 3.10) states topsoil will be placed but does not specify a depth. If required under which line item on the pricing table should this be accounted for?
- A4:** The design does not reflect use of topsoil in ditches, please refer to Drawing 4, Section A-A' through Cell A.
- Q5:** Our fencing supplier wants to clarify the following: Under specification 31 12 10 P.12 Section 2.10, the fence fabric is spec'd as 6" horizontal and graduated vertical spacing. The supplier wants to clarify this is incorrect and should read as "Vertical wires are spaced 6" apart and the horizontal wires have graduated spacing. Please confirm.
- A5:** The term 'vertical spacing' refers to the spacing between the strands of fence fabric which are parallel to the ground. Thus at the bottom of the fence (e.g. at ground) the horizontal strands are 3" apart, and changing to 7" apart by the top. The term 'horizontal spacing' refers to the spacing between the strands of fence fabric which are perpendicular to the ground; these are to be consistently 6" apart.
- Q6:** Is there a water source onsite, or nearby in the community of Garden River, available for soil conditioning?
- A6:** For the purposes of this contract, water can be extracted with a Parks Canada permit from the Peace River or Garden Creek or with a provincial permit from the Pakwanutik River. The contractor must ensure all necessary permits and or approvals are obtained from applicable authorized jurisdictional agencies for water removal and use prior to commencement of work.
- Q7:** Regarding Section 01 14 00 1.4.1, GCL is protected daily by HDPE liner. HDPE seams need to be tested prior to installation of geotextile. Therefore we can't cover with geotextile and rock until the test results are back. Test results on the HDPE seams can take up to 7 days to be received. Can this section be revised or altered, perhaps to be installed per manufacturers' specifications?
- A7:** All testing which can be done on-site (e.g. non-destructive seam tests using air pressure/vacuum box, destructive seam tests using on-site tensiometer) must be performed before the geomembrane is covered. Covering can occur prior to the receipt of laboratory seam tests, but this is at the Contractor's risk. Should laboratory testing identify seam test failures, the cause of the failures must be investigated and defective seams rectified, including removal of material overlying the geomembrane.
- Q8:** Are we allowed to import road building materials into waste placed in Cell A to facilitate dumping, placing and compacting in Cell A?
- A8:** The Contractor may import and place a limited volume of temporary road materials into Cell A to facilitate waste placement. This will be subject to the following requirements:  
- The amount of material must be kept to an absolute minimum, to the satisfaction of the Departmental

Representative

- All material which does not come into contact with the waste must be removed prior to the completion of the Cell A Cover

**Q9:** Section 31 12 10 Part 4.1.4.2 indicates that Grain Size Analysis and Standard proctor analysis must be provided for "All Granular Aggregates (every 350m3 material placed)." Do these requirements apply to only the 100mm Minus Granular and 19mm Minus Granular, at not to the Clear Stone?

**A9:** The requirement for Contractor's quality control for the clear stone shall include a grain size analysis and an LA abrasion test for every 350 m3 placed. Standard proctor analysis is not required for the clear stone.

**Q10:** Is there a specified number or frequency of tests required for topsoil? Or would a single initial round of testing to confirm the specifications in Section 31 12 10 Part 2.4 be sufficient?

**A10:** Topsoil shall be tested per the requirement of Section 31 12 10 Part 1.5 as part of initial submittals. This testing shall also be carried out each time the Contractor changes the topsoil source.

**Q11:** Section 31 12 10 Part 1.6.2 regarding Preparation of Cell A Base, subgrade of Cell A Access Road, and surface water ditches, states that "correction of soft spots including excavation of soft spots and placement, compaction, and grading of replacement material as required", is part of the scope of work. As contractors have no control over the current state of the existing subgrades, or what state the subgrades will be upon mobilization, it is impossible to predict quantity of existing subgrades that may be soft and require remove and replacement material brought in. Would it be possible to have the correction of soft spots requirement be paid as a separate unit price?

**A11:** No, the unit price table will remain unchanged.

**Q12:** If we have access to an existing operational camp, are the details specified for Section 1.6 of the Technical Write-up required in the proposal?

**A12:** Yes.

**Q13:** Could you please clarify who is responsible for sampling the stored wastewater, will the Contractor be responsible for any water sampling or will that all be conducted by the Departmental Representative? Section 01 35 13.43 Part 1.7.4.2 states "Do not discharge additional liquids to filled tank following sampling by Contractor" and Section 01 35 13.43 Part 1.15.8 states "Departmental Representative will perform sampling and analysis of stored wastewater for disposal purposes"?

**A13:** Section 01 35 13.43 Part 1.15.8 is revised to reflect that Contractor is to perform sampling and analysis. In the first sentence of 1.15.8, replace 'Departmental Representative' with 'Contractor'.

**Q14:** For the GCL, please find below the clarifications/exceptions from our supplier. Could you please review the attached GCL Standard Specification GRI GCL3 and approve it?

**31 32 19.01, part 1.4.3.2**

Our supplier asks that this section be amended per the following:

- GCL compatibility testing (ASTM D 6766) is not a manufacturer quality control index test. As such, our supplier does not perform or certify to GCL compatibility since the test relies heavily on site-specific conditions and parameters. Our supplier understands that this test is critical to design confirmation and can supply material to a laboratory of the customer's choice for testing and product selection. Our supplier recommends that design/CQA engineers review and analyze compatibility test results prior to bidding and GCL manufacturing.

**31 32 19.01, page 9, Table 31 32 19.01-1**

Our supplier asks that this section be amended per the following:

GCL Properties	Project Specifications	Manufacturer's Specifications
GCL Durability (ASTM D6766), @ 35kPa & 500kPa	Test one	Tested yearly in accordance to GRI GCL3

**A14:** No, the requirement for the GCL compatibility testing remains as specified.

**Q15:** For the HDPE/LLDPE liner material, please find below the clarifications/exceptions from our supplier.

**31 32 19.02, part 1.1.4.2.4 & page 2**

As per the industry standard specification GRI-GM13, 10% reclaimed polymer is allowed during Liner manufacture. Could you please confirm if you would like to use the standard material with 10% reclaim, or utilize a customized material with the lower 2% reclaim (and higher cost)?

**31 32 19.02, part 2.1.3 & page 17, Table 31 32 19.02-20**

Our supplier asks that this section be amended per the following:

LLDPE Resin Properties	Project Specifications	GRI GM17 Specifications
Density (unformulated)	$\geq 0.932 \text{ g/cm}^3$	$\geq 0.915 \text{ g/cm}^3$
Density (formulated)	$\geq 0.940 \text{ g/cm}^3$	$\leq 0.939 \text{ g/cm}^3$

**A15:** The geomembrane requirements shall remain as specified.

**Q16:** To our material take-off, there are discrepancies to the QTYs shown on the Pricing Form (item 8.2, 9.2, 9.3, 10.2, and 10.3). To our take off, the base Liner QTY is 5,376 m2 (70m x 70m x 1m depth slope with 3:1 slope ratio and 1.5m anchor trench), while the Cover Liner QTY is 5,403 m2 (70m x 70m x 2m high slope with 4:1 slope ratio and 1.5m anchor trench). Could you please clarify where the 6,218m2 and 6,158m2 quantities originate from?

**A16:** The noted quantities the additional area required are to accommodate the perimeter berm and anchor trenches.

**Q17:** GCL, HDPE/LLDPE geomembrane and Geotextile material samples are required as per the project specification for independent laboratory testing. Could you please confirm that the testing fee would be paid directly by the owner?

**A17:** The Contractor is responsible for undertaking and paying for independent laboratory conformance testing of the geosynthetic materials as part of the submittals process, as well as for destructive seam testing of the geomembrane seams.

**Q18:** The specifications document table of contents lists a section named Health and Safety for Contaminated Sites (01 35 29.14) but this section does not seem to exist in the body of the document. Please clarify/provide.

**A18:** Section 01 35 29.14 has been included in this amendment.

**Q19:** For the GCL the requested density of the material is listed in the specifications as Carrier – Scrim Nonwoven Mass per Unit Area of 240 g/m2. However, the GRI-GCL3 Specification for GCL nonwoven liner only requires 200 g/m2 mass per unit area. The North American standard is 200 g/m2, while 240 g/m2 is typically an European standard. North American manufacturers cannot typically provide 240 g/m2, in which case the GCL would have to be imported from overseas, which will be at a significant cost increase compared to North American produced 200 g/m2, and there will be a significant time delay to procure and test such a 240 g/m2 liner. Accordingly, can the requirement please be changed to 200 g/m2.

**A19:** No. During the specification preparation phase, it was determined that GCL with the properties specified could be readily sourced.

**Q20:** Is HDPE leachate pipe to be installed only in Leachate Sump Area in Base of Cell A and nowhere else in the cell, as suggested by the drawings?

**A20:** Yes, the HDPE leachate pipe is to be installed only in Leachate Sump Area in Base of Cell A.

**Q21:** Can you clarify how many gas vents are required to be installed?

**A21:** Four (4).

**Q22:** Would it be possible to change the basis of payment for "Temporary Accommodations and Meals" to a cost per day as opposed to a lump sum? Given the unknown nature of excavating an old dump, this method would be more cost effective?

**A22:** This pay item shall remain as a lump sum item.

**Q23:** We have a reference letter dated less than 2 years prior to the issuance of this tender but longer than the bid closing date. Can this letter be used, or does a revised letter need to be provided.

**A23:** The letter must be dated less than two (2) years prior to the publication date of the solicitation. Letters dated 2014-12-19 or later will be accepted.

Solicitation No. – N° de l'invitation  
EW699-171528/A

Amd. No. – N° de la modif  
005

Buyer ID – ID de l'acheteur  
ncs003

Client Ref No. – N° de réf/ du client  
PARKS EW699-171528

File No. – N° du dossier  
NCS-6-39181

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## **2. Changes to the Specification**

Section 01 35 13.43 Part 1.15.8 is revised to reflect that Contractor is to perform sampling and analysis. In the first sentence of 1.15.8, replace 'Departmental Representative' with 'Contractor'.

Insert Section 01 35 29.14 (attached).

**ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.**

**Part 1            General**

**1.1            RELATED REQUIREMENTS**

- .1      Section 31 12 10 – Landfill Construction Requirements.
- .2      Section 31 12 15 – Removal of Waste from Old Dump.
- .3      Section 31 32 19 01 – Geosynthetic Clay Liner.
- .4      Section 31 32 19 02 – HDPE and LLDPE Geomembrane.
- .5      Section 31 32 19 03 – Geotextile.

**1.2            REFERENCES**

- .1      Province of Alberta
  - .1      Occupational Health and Safety Act [2013].
  - .2      Occupational Health and Safety regulations (2013)
  - .3      Occupational Health and Safety Codes (2009)
- .2      Canada Labour Code, Canada Occupational Health and Safety Regulations [2013].
- .3      Health Canada/Workplace Hazardous Material Information System (WHMIS)

**1.3            ACTION AND INFORMATIONAL SUBMITTALS**

- .1      Make submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2      Submit site-specific Health and Safety Plan, within 21 days after Award of Contract and prior to mobilization to site. Address following items:
  - .1      Safety and health risk or hazard analysis for each site task and operation found in work plan.
  - .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.
  - .5 Medical surveillance requirements for personnel assigned to work at site.
  - .6 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.
  - .7 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.
  - .8 Decontamination procedures for both personnel and equipment.
  - .9 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.
  - .10 Written respiratory protection program for project activities.
  - .11 Procedures dealing with heat and/or cold stress.
  - .12 Confined space entry procedures.
  - .13 Spill containment program if drummed waste material is generated, excavated, stored, or managed on site.
- .3 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within five (5) days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within two (2) days after receipt of comments from Departmental Representative.
- .4 Respirator Fit Testing: submit proof of respirator fit testing for site personnel, within 21 days after Award of Contract and prior to mobilization to site.
- .5 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.
- .6 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.
- .2 Comply with Acts and regulations of the Province of Alberta.
- .3 In event of conflict between any provisions of specified standards and regulations, the most stringent provisions apply.

**1.5 SITE CONDITIONS**

- .1 Work at site will involve contact with:
  - .1 Unknown landfill contents, including but not limited to: household waste; soil and groundwater potentially contaminated with petroleum hydrocarbons, inorganic elements, polycyclic aromatic hydrocarbons, volatile organic compounds; large debris including appliances, etc..

**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 be submitted to Departmental Representative in writing. Departmental Representative 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 Chemical Hazards Regulation, Alta. Reg.
- .2 Comply with Occupational Health and Safety Regulations, Part XXII Controlled Products - Workplace Hazardous Materials Information System.
- .3 Comply with Workplace Hazardous Materials Information System (WHMIS) Regulations, O.I.C.



- .4 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations, Part X - Hazardous Substances.
- .5 Provide Departmental Representative 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. Departmental Representative 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 Departmental Representative verbally and in writing.

## **1.11 HEALTH AND SAFETY OFFICER**

- .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 landfill construction and landfill excavation.
  - .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.
  - .6 Be available as required for emergency situations.

## **1.12 PERSONNEL HEALTH, SAFETY, AND HYGIENE**

- .1 Medical Surveillance:
  - .1 Conduct medical surveillance of personnel as required by specified regulations.
- .2 Training: ensure personnel entering site are trained in accordance with specified personnel training requirements. Training session must be completed by Health and Safety Officer.

.3 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:

.4 Level B:

- .1 Respiratory: SCBA.
- .2 Head, Eye, Ear Protection: hard hat, safety glasses with sideshields, ear muffs or plugs.
- .3 Hand Protection: gloves, and chemically resistant gloves.
- .4 Foot Protection: safety shoes/boots.
- .5 Clothing: chemically resistant coverall.

.5 Level C/Modified Level C:

- .1 Respiratory: halfmask respirator.
- .2 Head, Eye, Ear Protection: hard hat, safety glasses with sideshields, ear muffs or plugs.
- .3 Hand Protection: gloves, and chemically resistant gloves.
- .4 Foot Protection: safety shoes/boots.
- .5 Clothing: chemically resistant coverall.

.6 Level D:

- .1 Head, Eye, Ear Protection: hard hat, safety glasses with sideshields, ear muffs or plugs
- .2 Clothing: standard work uniform.

.7 Anticipated levels of personal protection based on work activity are as follows:

Work Activity	Anticipated Level of Personal Protection
Landfill construction and capping	Level D
Waste excavation, placement, compaction	Level C

.8 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.
- .2 High visibility vest.
- .3 Provide additional PPE (high visibility vest, gloves, hardhat and safety glasses) for Departmental Representative and site visitors.

.9 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.
- .10 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 Ensure levels of protection as listed have been chosen consistent with site-specific potential airborne hazards associated with major contaminants identified on site.
  - .5 In absence of additional air monitoring information or substance identification, develop action levels for increasing levels of respiratory protection for measured sustained Total Organic Vapour concentrations above background:
    - .1 Table:

Level of Respirator Protection Required
Half-facepiece air-purifying respirator, Level C
Full-facepiece air-purifying respirator, Level C
Shut down activities, evaluate the need for Level B or higher respiratory protection
  - .6 Immediately notify Departmental Representative when level of respiratory protection required increases.
  - .7 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.
  - .8 Assess ability for site personnel to wear respiratory protection.
  - .9 Ensure site personnel are able to pass respirator fit test prior to entering potentially contaminated work areas.
- .11 Heat Stress/Cold Stress: implement heat stress and/or cold stress monitoring program as applicable and include in site-specific Health and Safety Plan.
- .12 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.
- .13 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.

.14 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 AIR MONITORING**

.1 Air Monitoring Program:

- .1 Develop air monitoring program meeting specified requirements.
- .2 During progress of work activities, monitor air quality in and around work zones. Conduct monitoring on regular periodic basis, and additionally as required by special or work-related conditions. Report departures from general background to Departmental Representative who will, in conjunction with Health and Safety Officer, determine when operations should be shut down and restarted.
- .3 Provide minimum required instruments for air monitoring as follows:
  - .1 Photoionization detector (PID).
  - .2 Personal particulate monitor.
  - .3 Combustible gas detector (CGS).
- .4 Operate air monitoring equipment with personnel trained in equipment provided and under control of Health and Safety Officer.
- .5 Conduct air monitoring on routine basis around active work locations. Perform hourly monitoring minimum and additionally as dictated by site activities.
- .6 Furnish wind speed and direction indicator capable of providing permanent record, at unobstructed location on site located above elevation of work area with unobstructed view to affected workers.

- .2 Air Monitoring Reporting: report air monitoring results daily to Departmental Representative on separate form.

**1.14 CONTINGENCY AND EMERGENCY RESPONSE**

- .1 Meet specified requirements.
- .2 Arrange and attend co-ordination meeting held with appropriate authorities as applicable including: Fire, Hospital, RCMP, 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.

### **1.15 SITE CONTROL**

- .1 Meet specified requirements.
  - .1 Open excavations to have restricted access by installation of temporary fencing and gates to prevent unauthorized entry.
  - .2 Signage to be provided to all work areas.
- .2 Prior to commencing work involving handling of drums and other containers, submit procedures for safe handling of drums and other containers. Implement and enforce drum handling program during activities involving drummed waste characterization including but not limited to handling, opening, sampling, staging, and consolidating.

### **Part 2 Products**

#### **2.1 NOT USED**

- .1 Not Used.

### **Part 3 Execution**

#### **3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**