|  |
| --- |
| HEALTH AND SAFETY / Emergency Response Plan |

***For:***

HHW Collection Event

*Sponsored By:*

**An Oregon Local Government**

Anywhere, Oregon 97000-0000

*To be held at:*

**<Name of location and street address>**

**<Date(s)>**

***By:***

****

**Clean Harbors Environmental Services**

16540 SE 130th Avenue

Clackamas, OR 97015

(503) 785-0404

TABLE OF CONTENTS

Section Subject Page

1.0 INTRODUCTION 4

1.1 Objectives 4

2.0 HEALTH & SAFETY PERSONNEL 4

3.0 TRAINING 5

4.0 MEDICAL SURVEILLANCE 5

5.0 RESPIRATORY PROTECTION PROGRAM 5

6.0 SAFETY MEETINGS 6

6.1 Safety Briefings 6

6.2 Briefing of Local Agencies 6

7.0 GENERAL SAFETY RULES AND EQUIPMENT 6

8.0 DELINEATION OF SPECIFIC AREAS 7

8.1 Traffic Flow/Unloading 7

8.2 Reuse Area 7

8.3 Bulking Area 7

8.4 Chemical Area 7

8.5 Decontamination Area 8

8.6 Support Services 8

9.0 DUTIES AND RESPONSIBILITIES 8

9.1 Management Supervision and Safety 8

9.2 Traffic Direction 8

9.3 Unloading 9

9.4 Reusable Materials Quality Materials 9

9.5 Segregation 9

9.6 Bulking 10

9.7 Lab Packing 10

10.0 EVENT OPERATIONS 11

10.1 Safety 11

10.2 Communication 11

10.3 Position Change 11

10.4 Site H&S Training 12

10.5 Personnel Monitoring During Site Operations 12

10.6 Unexpected/Dangerous Materials 12

10.7 Minor Leaks or Spills 13

10.8 Decontamination 13

11.0 PERSONAL PROTECTIVE EQUIPMENT 13

11.1 Initial Levels of Protection 13

11.2 Operating Levels of Protection 14

11.3 Personal Protective Equipment Levels 14

12.0 ON-SITE SAFETY EQUIPMENT 15

13.0 HAZARDS 15

13.1 Physical Hazards 15

13.2 Chemical Hazards 17

13.3 Explosion and Fires 18

13.4 Biological Hazards 18

14.0 IMPLEMENTATION OF THE EMERGENCY/CONTINGENCY PLAN 19

14.1 Emergency Response 19

14.2 Emergency Contact/Notification System 20

14.3 Nearest Hospital (with 24hr ER) 21

14.4 Medical Emergency Transportation Procedures 21

14.5 CHES Insurance Information 21

14.6 Evacuation Procedures 22

HASP REVIEW RECORD 23

HASP REVIEW RECORD CONTINUED…………………………………………………………...24

FIGURE 1 - MAP & DIRECTIONS TO ST CHARLES MEDICAL CLINIC 25

FIGURE 2- SITE MAP…………………………………………………………………………………26

**1.0 INTRODUCTION**

This plan has been prepared in conformance with the Clean Harbors Environmental Services (CHES) Health and Safety Program. It addresses all activities associated with site operations at the designated Household Hazardous Waste Collection Event. All workers and third parties who enter the site will be required to comply with this Health and Safety (HASP) Plan.

Participant information efforts will emphasize that waste should be brought in sound, original containers; however, there is a chance that releases may occur. All minor releases (leaking bottles, etc.) will be handled by designated personnel with coordination through the Site Safety Officer. All absorbent material applied to contain and/or remedy the release will be swept and deposited into a drum for disposal at an appropriate facility. If a leak is discovered, the vehicle carrying the leaking material will be escorted away from the main collection area. The Site Safety Officer will direct the vehicle to a designated area for mitigation of the problem. CH Environmental will respond with qualified emergency personnel to perform the necessary clean up.

The decision to implement the Emergency/Contingency Plan will be at the discretion of the on-site Project Manager and shall be based on an "imminent" or "actual" threat to human health or environment. Imminent shall mean "likely to happen" in the Project Manager's judgment.

**1.1 Objectives**

All waste will be handled in a safe, efficient and professional manner. This undertaking shall be performed in the following manner:

* All personnel will conduct operations in a courteous and cheerful manner.
* Each employee will be properly attired for each specific task and maintain a professional demeanor at all times.
* All personnel will be knowledgeable of their duties and responsibilities.
* Each work area will be overseen by a dedicated supervisor
* Workstations will be kept neat and orderly.
* All operations will be executed in a safe manner.

**2.0 HEALTH & SAFETY PERSONNEL**

The Project Manager (PM) will be: The Site Safety Officer (SSO) will be:

Charles LambThomas Ketsdever Steve Rivas

16540 SE. 130th Ave. 16540 SE. 130th Ave.

Clackamas, OR, 97015 Clackamas, OR, 97015

(971)-235-6491(971)-275-0500

**2.1 Health & Safety Personnel Designations**

The following plan briefly describes the health and safety designations and general responsibilities that will be employed for the Household Hazardous Waste Collection Event. These titles are identified in the CHES H&S Program.

Project Manager

The Project Manager (PM) has the responsibility to develop and implement this site-specific HASP in accordance with the CHES H&S Program. The PM will investigate all accidents, illnesses and incidents occurring on this site. He/she will conduct safety briefings and site-specific training for on-site personnel. The PM will be responsible for modifying and/or developing new H&S procedures, after consultation with the Site Safety Officer, when site or environmental conditions change due to natural causes or site operations.

The PM has the authority to stop site operations if he/she determines that an imminent safety hazard or other potentially dangerous situation exists.

Site Safety Officer

The Site Safety Officer (SSO) reviews and approves the HASP and significant changes to the HASP. The SSO has final authority to resolve outstanding H&S issues at the site. The SSO has primary responsibility for ensuring that the policies and procedures of this HASP will be implemented by the PM. The SSO will be responsible for providing the PM with appropriate monitoring safety equipment and other resources necessary to implement this site-specific HASP. The SSO will be contacted immediately after a stop work authorization is issued by the PM.

The SSO has the authority to stop site operations if he/she determines that an imminent safety hazard or other potentially dangerous situation exists. The SSO may also recommend to the PM that the authorization of any site personnel be revoked for health and/or safety reasons.

The SSO assures that all personnel designated to work at the Household Hazardous Waste Collection Event will be qualified according to the Clean Harbors Medical Surveillance and H&S training requirements.

**3.0 TRAINING**

CHES personnel have both formal training and prior on-the job training for those tasks to which they are assigned. All personnel shall have completed at least 40 hours of basic health and safety training as specified in the Occupational Safety and Health Administration Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120). Copies of applicable certificates will be available upon request. In addition, the PM or SSO shall have basic first aid training and CPR certification.

**4.0 MEDICAL SURVEILLANCE**

All CHES personnel engaged in work at the site shall participate in a medical surveillance program. CHES employees must be cleared by an examining physician to wear a respirator and personal protective equipment, should the need arise, while performing work at the site.

**5.0 RESPIRATORY PROTECTION PROGRAM**

CHES personnel wearing air-purifying respirators on-site should be properly trained, fit-tested and certified for use of the respirator. All respirators are to be decontaminated at the end of each workday. Persons with beards or facial hair will not be permitted to wear a respirator if a proper mask-to-face-seal cannot be demonstrated by a fit test.

**6.0 SAFETY MEETINGS**

CHES personnel will attend site-specific safety meetings daily or as otherwise deemed necessary before work begins. These meetings will be led by the PM or his designee. This Safety Plan shall be understood, reviewed, and signed by each site worker.

**6.1 Safety Briefings**

Project personnel will be given briefings by the PM as needed to further assist site personnel in conducting their activities safely. Additional briefings will be provided when changes in work practices are implemented.

Site Description & Evacuation Routes

A detailed site map with evacuation routes will be identified during the safety meeting and will be posted on-site during hours of operation. This map will be prepared in conjunction with a preliminary site visit prior to becoming operational.

Local Community Hospital Contact (See Hospital Route)

Tuality Community Hospital has been identified to be closest to the facility. The addresses, phone numbers, and any particulars for traveling from the site location to the medical facilities are given. Additionally, should special contacts be made to regional emergency staff or to sponsoring agency staff, that information is also given.

Prior to commencement of operations, the PM, SSO, or their designee shall verify that the hospital map for the particular site is correct, and if incorrect, shall make any necessary corrections. In addition, this person shall make a personal contact with a member of the administrative staff of said hospital, inform them of the nature of the site operations, and present them with information on the toxic materials expected to be collected at the site.

**6.2 Briefing of Local Agencies**

Before the commencement of operations, local Police, Fire Department and Hospital will be notified, and will be provided with information on the materials that will be handled, and evacuation routes. Phone numbers for local agencies and responders are listed in this Health and Safety Plan.

**7.0 GENERAL SAFETY RULES AND EQUIPMENT**

Eating, drinking, smoking or chewing of gum or tobacco will not be permitted in the "hot areas".

All personnel shall remove all contaminated protective equipment before leaving the "hot zone". Personnel must thoroughly wash hands and arms before eating, drinking, smoking, or using the restroom.

There will be a designated area removed from “hot zone” for taking breaks. There will also be a designated smoking area at least 100 feet from any “hot zone” activities.

All personnel shall know the whereabouts of emergency eye wash equipment, fire extinguishers, emergency signaling devices (horns), and supervisory personnel who can provide first aid and additional safety equipment. The fire extinguishers on-site will be used on equipment or small fires only.

As soon as possible after the end of the work shift, CHES personnel working in the exclusion area shall take a hygienic shower.

Upon recognition of a potential explosion hazard, work in the affected area shall cease until all tools/equipment in use in this area are assured to be spark proof and/or explosion resistant, and proper bonding/grounding procedures can be assured.

Personnel should be aware of and follow any additional safety rules specified by the sponsoring agency.

**8.0 DELINEATION OF SPECIFIC AREAS**

All personnel will become familiar with the location of each area and the specific operations performed in each. Each area will be overseen and managed by a dedicated supervisor.

**8.1 Traffic Flow/Unloading**

The traffic flow pattern will be designed to optimize the unloading of waste materials as expeditiously as possible and distribute waste materials to the appropriate location for eventual final handling. Workers will utilize caution when moving waste materials between areas and across multiple lanes of traffic. As safety precautions, the following will apply:

All participants will remain in their cars.

Only the designated Traffic Supervisor will manage the flow of cars.

Unloading personnel will transport and place waste materials in their designated areas.

If an accident or spill occurs, personnel will follow all specified safety instructions.

**8.2 Reuse Area**

All collected items will be evaluated for placement in the reuse area. Conditions that will be evaluated include type and amount of material. The containers must be in good condition and having all original marking and labels intact, and be listed on “Oregon DEQ Usable Product List” provided to CH staff at the event

**8.3 Bulking Area**

Flammables, oil, coolant, and batteries will be gathered, segregated, consolidated with like materials, and removed from the site in various fashions. Each material has a specific staging area within the site, and segregation of waste materials must be maintained from the outset. The supervisor will establish where material should be placed within each area so that segregation can be facilitated. Segregation will include at a minimum; oxidizers, corrosives; flammable; poisons; paints; and unknowns.

**8.4 Chemical Area**

The chemical area will be a RESTRICTED ZONE open only to those conducting categorization, segregation, and packing of flammable, corrosive, poisonous and otherwise unknown materials. This zone will also contain the hazardous categorization (HAZCAT) area where unknown materials will be tested to determine their proper classification. No smoking, eating or drinking will be allowed within this "hot zone", and all occupants in the zone must be properly attired at all times. This area will be further subdivided into various DOT classifications in which the materials will be packed and shipped accordingly (flammable, corrosive, poison, etc.).

Unacceptable Materials

Upon identification of other dangerous materials including explosives, ammunition, compressed gas cylinders, radioactive material, biological/medical or red bag waste, the PM and/or SSO should be immediately notified for direction and handling instructions. The material should not be removed from the vehicle except under their explicit direction.

**8.5 Decontamination Area**

The decontamination area will be an area set aside especially for the removal of contaminated safety equipment prior to entering the support areas. Contaminated safety equipment will be removed here and either properly disposed of, placed on a numbered rack for immediate reuse, or decontaminated for later reuse. This area shall also contain an eyewash station.

**8.6 Support Services**

Rest areas and rest rooms will be intentionally located away from the collection areas to avoid any possible contamination of food and drink supplies. The washing facilities should always be used before eating and drinking, and contaminated clothing and gloves will be removed prior to leaving hot zone as well. Eating and drinking will be prohibited except in the designated rest areas.

**9.0 DUTIES AND RESPONSIBILITIES**

Overall responsibility for the conduct of the event will be vested in the PM/Site Supervisor. To ensure smooth operation of the event, the work area supervisors and the SSO play key roles. This management team will be responsible for the activities within each given area. Any emergencies, questions, comments, difficulties, or requests for assistance, should be directed to the area supervisor or his/her designee.

**9.1 Management Supervision and Safety**

The project leaders, safety officers, and supervisors will be responsible for the smooth operation of the event. They will assign personnel, monitor performance, reassign personnel to improve operations as warranted, answer questions about the proper location of materials, insure that all tasks are performed safely, and alter operations as necessary during the collection day. They will also be responsible for proper packaging of material (including the contents of each container) subsequent to collection. In addition, they will provide guidance and direction for all participants.

**9.2 Traffic Direction**

Traffic directors (North Plains volunteers) will direct vehicles into appropriate spots for unloading, ensure that traffic flow is as rapid as possible within safety limitations, and adjust the flow through the traffic lanes in response to the direction of the PM. Traffic directors will make sure that special circumstances (e.g. participants waiting for containers to be emptied, leaking containers, spill clean ups, or extremely large loads) can be re-routed without disrupting the main traffic flow.

If a leak is discovered, the vehicle carrying the leaking material will be escorted away from the main collection area to a designated are for mitigation of the problem. CHES hazardous materials equipment and qualified personnel will be on-site to provide assistance as needed to seal or repack leaking containers, or clean up spills.

**9.3 Unloading**

Unloaders will be the direct link to the public and must maintain an air of professionalism in serving the participants. They will ask the participants to turn off their engines, keep the participants in their cars, unload the material, question any unlabeled or odd items, and deliver the contents to the segregation points.

Participants with medical sharps in non-medical sharps disposal containers should be escorted away from the main collection area to a designated area for disposal of their sharps. Although medical sharps may be an acceptable waste item, unloaders and other personnel will not directly handle the sharps at any time.

Unloaders are responsible to assure any materials unloaded from the vehicles are acceptable to be managed under the program. Please refer to Attachment 2 for all acceptable and unacceptable materials. If materials are packaged inside plastic or paper bags, such that the contents are not readily visible, then the bags must be opened to visually inspect the contents for acceptability.

**9.4 Reusable Materials Quality**

Prior to segregating material, CHES will evaluate all collected items for placement in the reuse area. Evaluation will include inspection of the containers for integrity, and assessment of type and amount of the material in the container.

The selected reuse materials will be placed on a cart and transported to the designated reuse are on a regular basis throughout the workday. The reuse area will be staffed at all times during collection hours and will be delineated by caution tape to protect the participants from entering restricted zones. Participants will be permitted to exit their vehicles while in the reuse area and will be encouraged to take materials for use at home upon signing a “waiver of liability” form.

**9.5 Segregation**

Primary segregation involves delivering specific materials to their proper areas (paints, chemicals, oils, etc.) after being unloaded. All chemicals will be deposited on segregation tables where the "hot zone" crew will then segregate and pack the materials into the proper DOT-categorization containers. Supervisors will assist in segregation to ensure that only materials that should be in a specific category actually ones placed in that waste stream. They will also be responsible for supervising quality assurance of reusable materials and supervising the lab packing of "hot zone" material after segregation.

**9.6 Bulking**

Only flammables, motor oil and coolant will be bulked at collection. This operation will continue during collection until all materials are bulked.

**CAUTION**: Bulkers should recheck each can to ensure that oil-base paint is not included in the water-base paint stream as this will be cause for rejection by the recycler. The following protocol shall apply at all times:

* During bulking operations, eye protection, gloves, tyveks, and steel-toed shoes must be worn at all times.
* No smoking or flames of any sort will be allowed in the collection and bulking areas.
* During the morning debriefing, safety equipment and supplies will be issued to each person working in the collection and bulking areas. Additional equipment will be supplied during the day or on an as needed basis. All equipment will be issued from the safety equipment area.
* All spent safety equipment must be disposed in a designated bin in the paint operations area. No used tyveks, aprons, gloves, etc. will be allowed outside the collection/bulking area.
* There will be no painting of graffiti on tyveks, hats or other equipment during the entire operation. Defacing equipment will be grounds for immediate dismissal.
* If an employee is injured or needs medical attention of any sort, he/she should immediately report to a supervisor in the area. The supervisor will escort the individual to the on-site first aid center.
* All safety equipment will be removed prior to breaks and lunch. A wash-up area shall be provided and will be located next to the safety shower.
* Each container shall be emptied as much as possible so that material within the container, when inverted, can no longer be poured or drained.
* Each container (5 gallons and/or less in capacity) as emptied must be managed by puncturing or otherwise changing the container to prevent subsequent use or reuse, prior to disposal at a solid waste facility or reclamation of its scrap value.
* Any empty container with a capacity of 5 gallons or greater must be managed by puncturing or otherwise changing the container to prevent subsequent use or reuse, prior to disposal at a solid waste facility or reclamation of its scrap value.

**9.7 Lab Packing**

In the "hot zone", supervisors will resolve any final segregation issues and direct packing of materials according to accepted lab packing techniques (quantities defined by the PM, containers not touching each other or the drum wall). After packing, the drum inventory sheets should be returned to the PM. The finished drum will be numbered on the side and top, and the DOT category marked on the drum top with indelible marker.

**ONLY THOSE INDIVIDUALS WHO HAVE RECEIVED SPECIFIC PACKAGING TRAINING IN ACCORDANCE WITH THE VARIOUS WASTE STREAM PROFILES ARE ALLOWED TO DETERMINE WHICH PROFILE/DRUM THE MATERIALS RECEIVED ARE TO BE PACKAGED IN.**

**10.0 EVENT OPERATIONS**

Satisfaction of each participant is key to the success of the event. Individual efforts of personnel will influence the overall outcome. Our goal will be to complete the project as smoothly, efficiently and professionally as possible while maintaining the highest possible safety standards. It will be the entire team's responsibility to keep the waste stream flowing in an orderly fashion through close teamwork. The PM will oversee these operations and ensure that activities are performed timely and in a high quality manner.

**10.1 Safety**

Safety will be the ultimate criterion when performing all tasks. A safety meeting will precede any activities at the site and an on-site safety meeting will be held on the day of the before it begins. All participants must understand the safety aspects of the project, the safety procedures, and the location of all safety equipment. Employees should seek assistance if their safety is compromised at any time.

Second and third shift volunteers will be provided the site specific health and safety plan and will be briefed on all site safety protocols before initiating duties.

**10.2 Communication**

Personnel should know their supervisor and who is responsible within their work areas. Any difficulties should be communicated to the area supervisor or a member of the management team.

In case of emergency, warning horns will be located in the "hot zone". Upon their sounding, the area should be immediately vacated. Emergency resolutions will be handled by the project management team. The project management team may maintain full-time contact with on-site radios so that issues can be handled immediately.

Before exiting an assigned area, personnel should notify their supervisor. The supervisor will release all participants for lunch on a staggered basis. Breaks may be random or during periods of lesser activity. All breaks must receive the approval of the area supervisor.

Personnel should thoroughly wash their hands and arms and remove all personal protective equipment before eating and drinking.

**10.3 Position Change**

No employee should change assignment without being directed by a member of the project management team. Prior to a position change, the area supervisor should review the assignment the employee is leaving and the assignment that he/she will be joining.

**10.4 Site H&S Training**

The PM will conduct a morning Safety meeting, prior to site operations. This meeting will cover all the major items found in this HASP and other areas related to H&S at this site. All personnel on site, paid and volunteer, will be required to participate in training on the first day they report to the site and each person in attendance will sign the master copy of this HASP. In addition to this HASP, a basic training packet will be reviewed and signed on-site as part of the morning safety meeting. Each of the general areas of operation (traffic, vehicle unloading, and bulking) will also be supplied with activity specific training packets for review prior to site operation. Copies of these training packets are available upon request.

Project personnel will be given briefings by the PM as needed to further assist site personnel in safely conducting their activities. Additional briefings will be provided when changes in work practices are implemented.

**10.5 Personnel Monitoring During Site Operations**

CHES's protective equipment requirements combined with the requirement to wash arms, face, and hands before eating or smoking curtails the possibility of exposure. The PM will also observe operations and will caution the crewmembers to be aware of the initial symptoms of chemical exposure. A crewmember will be evacuated immediately if these initial symptoms exist:

* Irritation to the eyes, nose and throat
* Coughing and labored breathing
* Irritating or burning sensation to the skin

**10.6 Unexpected/Dangerous Materials**

CHES is experienced with handling all types of hazardous waste/material brought to collection sites. In the event of the arrival of known explosives, radioactive materials, biological contaminants and/or certain reactive materials (unacceptable for planned disposal), CHES will assess the situation and if necessary, immediately alert the appropriate private or agency personnel. CHES maintains a close working relationship with private handlers and will arrange for the handling and disposal of such items, if appropriate. The following identifies the proposed management of these materials.

|  | Commonly identified by | Handling Procedures | Disposal |
| --- | --- | --- | --- |
| RADIOACTIVE MATERIAL | Visual and Geiger Counter | Most radioactive materials encountered at HHW collections are beta emitters and can be isolated in a small metal drum. | Thomas Gray and Associates |
| UNSTABLE EXPLOSIVES (crystallized Picric Acid, Ethers, Hydrogen Peroxide) | Visual | Depending on type and condition, they can be stabilized by submersion in water and/or isolated from the public and notification of the Bomb Squad. | (local bomb squad) |
| STABLE EXPLOSIVES (Fireworks, ammunition) | Visual | Inform participant of option for safe disposal of items. |  |
| BIOLOGICAL/MEDICAL WASTE | Visual | Sharps and other non-infectious biological waste will be placed into proper containers for disposal. Residents will be asked to call a local biological waste company for disposal of infectious wastes. | Local Waste Management |
| COMPRESSED CYLINDERS | Visual | Isolate, Package and Label | CHES/  Treatment One |
| ASBESTOS | Visual | Material is immediately wetted with a lock down solution and double bagged. Any effected areas will be decontaminated using customary wet wipe procedures. | Local Waste Management. |
| PYROPHORICS | Visual | Pyrophorics will be immediately separated and placed in airtight containers to prevent reaction. These chemicals are then labpacked individually within 5-gallon containers, cushioned with vermiculite to prevent leakage. | CHES |
|  |  |  |  |

**10.7 Minor Leaks or Spills**

Participant information efforts will emphasize that waste should be brought in sound, original containers; however, there is a chance that releases may occur. All minor releases (leaking bottles, etc.) will be handled by designated personnel with coordination through the SSO. All absorbent material applied to contain and/or remedy the release will be swept and deposited into a drum for disposal at an appropriate facility. If a leak is discovered, the vehicle carrying the leaking material will be escorted away from the main collection area to a designated area for mitigation of the problem. CHES hazardous materials response equipment and qualified personnel will be on-site to provide assistance as needed.

**10.8 Decontamination**

All discarded waste materials or other objects will be handled in an appropriate manner to prevent the possibility of spreading contamination or creating a sanitation hazard. All potentially contaminated materials (i.e. Tyvek suits, gloves, etc.) will be appropriately bagged or drummed and segregated for future disposal. All contaminated waste materials will be disposed as required by EPA. All non-contaminated materials will be collected and bagged for appropriate disposal as normal domestic waste.

**11.0 PERSONAL PROTECTIVE EQUIPMENT**

The level of protection to be worn by field personnel will be defined and controlled by the on-site PM. Basic levels of protection for general operations are provided below and are defined in this section. These levels may change depending on results of site reconnaissance or other additional information. Changes to the protection levels beyond those listed in this HASP must be approved by the PM and SSO.

**11.1 Initial Levels of Protection**

Selection of appropriate levels of protection will be made from information gained during on-site monitoring of planned site operations as well as decontamination procedures, site layout, and general safety planning. It should be noted that the Emergency/Contingency Plan herein included provides for altering the level of protection when sufficient information or data are available to enable a decision from the SSO.

**11.2 Operating Levels of Protection**

The PM will perform monitoring to determine the appropriate level of protection for those operations listed below that indicate more than one level of protection.

Task Preliminary Levels of Protection

Unloading & Segregation Operations D

Lab Packing Operations C/D

Latex Paint Bulk Operations D

Flammable Liquid Bulk Operations C

Decontamination D

**11.3 Personal Protective Equipment Levels**

Level "C" Protection:

* Half-face or full-face, dual cartridge, air-purifying respirator
* Chemical protective suit (e.g., Tyvek)
* PVC Apron
* Gloves, inner (nitrile)
* Gloves, outer (nitrile)
* Boots (chemical protective), steel toe
* Eye Protection
* Face Shield (when bulking organics with half-face respirators)

Level "D" Protection:

* Air purifying respirator (available)
* Tyvek/Coveralls
* PVC Apron
* Gloves, inner (nitrile)
* Gloves, outer (nitrile)
* Boots (chemical protective), steel toe
* Eye Protection

**12.0 ON-SITE SAFETY EQUIPMENT**

Emergency information will be prominently displayed in strategic on-site locations. Decontamination equipment and supplies will be located downrange as appropriate at strategic locations.

Basic emergency and first aid equipment will be available at the site throughout the course of the event. Equipment includes: communications (air horns), eye wash/safety shower, bathroom facilities, fire extinguishers, first aid kit, and other safety-related equipment.

CHES will provide an adequate number of Class A-B-C fire extinguishers and at least one Class D fire extinguisher. Fire Extinguishers will be inspected visually and physically prior to any work activities that begin to insure proper operation in the event of a fire. During set-up visually inspect all gauges to determine proper charging. Physically determine all pins, handles and hoses are present and that the cylinder is not damaged. In addition the fire extinguishers require a current state fire marshal inspection tag certifying each unit.

Class A-B-C fire extinguishers are multiuse and can be used on wood, paper, trash and liquids such as fuel or oil, and on electrical equipment; whereas Class D extinguishers should be used on water reactive materials, such as aluminum phosphide, calcium carbide and/or water reactive metals.

CHES will provide and use, as necessary, safety equipment through Level C protection (chemical-resistant clothing, boots and gloves). In addition, an ample supply of Tyvek and splash suits, protective boots, gloves and glasses will be available. A minimum of Level D protection will be worn in restricted areas.

Specific on-site monitoring equipment may include an Organic Vapor Meter, a lower explosion limit detector, a Geiger counter and a pH meter.

Standard equipment will also include fingerprint identification (HAZCAT) kits; half and full-face air-purifying, breathing apparatus; supplied air respirators; eye wash stations; first aid kits; mobile phones; absorbents and spill pillows; neutralizing agents; and fire extinguishers, etc.

All materials and tools necessary to respond to hazardous materials incidents will be on hand. Personnel specifically trained in hazardous materials incidence response will be participating or available.

**13.0 HAZARDS**

Site activities may include the use of heavy equipment, handling of hazardous substances and working under various environmental conditions. CHES crewmembers shall be aware of the hazards surrounding site operations and will approach each task with caution. Each crewmember will be outfitted with the appropriate protective clothing.

**13.1 Physical Hazards**

* Tripping over hoses, pipes, tools, or equipment
* Slipping on wet or oily surfaces
* Falling objects, such as tools or equipment
* Falls
* Physical injuries caused by heavy equipment
* Noise levels in excess of 85 decibels
* Moving Hazards such as cars or forklifts
* Exposure to extreme heat or cold

Inclement Weather

Average weather conditions can vary during site operations. In the event of adverse weather conditions, site operations may be temporarily delayed or postponed if the SSO or PM determines that the safety of site workers or participants is jeopardized. Staff will notify waiting vehicles of the delay until conditions are safe for unloading. Water reactive chemicals will be covered and protected from exposure.

The following factors should be considered prior to re-initiating site operation.

* Visibility limitations due to weather
* Potential for accidents due to wet ground cover and wet surfaces
* Potential for accidents due to wet brakes on participant vehicles and site equipment (forklift).
* Potential for high winds or electrical storms
* Potential for malfunctions in monitoring equipment
* Potential for water reactive chemical exposure to rain (example: sulfuric acid, nitric acid).
* Cessation of lightning strikes

Heat Stress

CHES personnel are hazardous waste professionals and through formal training and extensive field experience have become acclimated to wearing protective clothing and know how to recognize the symptoms of heat stress. Nonetheless, the PM will discuss heat stress, its symptoms and factors that affect a person's ability to handle heat stress, including the importance of rest for optimum physical condition.

Thermometers will be posted in areas of plain view. CHES supervisory personnel will monitor temperature rise and adjust employee work shifts as necessary to allow for periodic break times. Drinking water and/or sodas, tea, juice, etc. will be provided for all personnel outside of the working zone in the employee break area.

Average weather conditions will vary during site operations. Potential for heat stress will exist from wearing protective equipment. Heat Stress may be recognized by the following progressive symptoms:

* Heat rash, dizziness, profuse sweating, headache
* Heat cramps, fatigue, weakness, confusion, disorientation, rapid pulse
* Heat Exhaustion (incapacitation due to above symptoms)
* Heat Stroke (loss of consciousness with danger of brain damage or death)

Exposure to Extreme Cold Weather Conditions

CHES personnel are hazardous waste professionals and through formal training and extensive field experience have become acclimated to wearing protective clothing and know how to recognize the symptoms of hypothermia and frostbite. Nonetheless, the PM will discuss exposure to extreme cold conditions, its symptoms and factors that affect a person’s ability to handle the cold, including the importance of rest and warm dry clothing for optimum physical condition. Project managers should consider age, those with circulation problems, lack of nourishment and exhaustion as all these factors relate directly to an individual’s ability to perform in the cold.

Thermometers will be posted in areas of plain view. CHES supervisory personnel will monitor temperature dips and adjust employees work shifts as necessary to allow periodic break times. Drinking water or other liquids to maintain hydration will be provided for all personnel outside the working zone in the employee break area.

Average weather conditions will vary during site operations. Potential for cold injury will exist from extended exposure to cold weather conditions and not wearing dry warm protective equipment. The onset of symptoms will usually be slow, and there is likely to be a gradual loss of mental and physical ability. Potential for cold injury may be recognized by the following progressive symptoms:

* Apathy or lethargy, fatigue, weakness.
* Confusion, disorientation, slowing of breathing.
* Drowsiness, loss of coordination, pale or cold skin.
* Slurred speech, uncontrollable shivering.
* Shock (incapacitation due to above symptoms).
* Eventual loss of consciousness with danger of death.

Wind

The handling of chemicals during a lab packing operation will occur down-wind of major personnel traffic and working areas. An estimate of the predominant wind direction will be made for planning purposes to minimize the potential of exposure to others working within the work zone or facility area. CHES will post wind direction indicators (i.e. streamers) to constantly monitor wind conditions.

Additionally, high winds may produce hazardous conditions including overturned tables, ripped plastic and damaged tents. Should a hazardous condition develop, the PM will evacuate staff from the "hot" areas and limit access to a very few who will contain and mitigate any problems.

Measures must be taken to limit the hazard of high winds, i.e. appropriately anchoring tents.

**13.2 Chemical Hazards**

The major chemical hazards expected to be encountered during work at the site are:

SOLVENTS (volatile aliphatic and aromatic hydrocarbons, halogenated hydrocarbons)

Minor acute (short term) exposure to solvents may result in fatigue, and also in dizziness or confusion, which may manifest itself as accident proneness. Chronic (long term) exposure may cause dermatitis, decreased neurological function, aggravation of existing respiratory conditions, and cancer. Moderate to severe acute exposure may result in more pronounced dizziness and breathing difficulties associated with pulmonary edema or the aggravation of existing respiratory conditions such as asthma or emphysema.

PESTICIDES AND OTHER POISONS

Though normal contact with pesticides and other poisons at these events will be very minimal, exposure associated with an unanticipated spill might produce a wide variety of respiratory or neurological symptoms. Personnel will be advised to be very aware of any unusual symptoms in themselves and their fellow workers following any non-routine exposure, no matter how slight, to any poison or suspected poison.

ACIDS AND BASES

Skin contact with an acid or a base may cause chemical burns. Inhalation of vapors from a strong acid or base may cause pulmonary edema (fluid in the lungs), which may occur immediately, or many hours later. Protection from inhalation exposure may be accomplished by the wearing of a respirator with acid gas cartridges. Personnel who suspect that they may have breathed acidic or caustic vapors should notify their supervisor, and should be alert for the next 24 hours to any delayed-onset respiratory symptoms, and should be prepared to seek medical attention in the event that symptoms are noticed. This would dictate the avoidance of alcoholic beverages following the event.

Inhalation and dermal contact are the primary exposure pathways for these chemicals. It is not anticipated that concentrations of any chemical will reach the permissible exposure limit (PEL). Protective clothing will be mandatory for field personnel working at the site. Respirators will be within easy reach should irritating odors be detected or irritation of the respiratory tract occur. At such a time, personnel will evacuate the area or don respirators without waiting for instruction.

**13.3 Explosion and Fires**

Potential for explosions and fires may result from site activities such as moving drums or introducing an ignition source (such as a spark from equipment) into an explosive or flammable environment. To protect against explosion and fire hazards, personnel shall observe the following protocol:

* Monitor for explosive atmosphere and flammable vapors
* Keep all potential ignition sources away from an explosive or flammable environment
* Use non-sparking, explosion-proof equipment when required
* Follow safe practices when performing tasks that might agitate or release chemicals

If an imminent explosion hazard develops, all CHES personnel will immediately withdraw from the site. The hazard potential will be evaluated by CHES's PM or sponsoring agency personnel and a plan of action will be assessed.

**13.4 Biological Hazards**

Potential for exposure to blood borne pathogens and other biological hazards may result from site activities such as handling medical sharps or infectious biological waste. Exposure to blood borne pathogens in blood or other body fluids may result in disease, including contraction of human immunodeficiency virus (HIV), which causes AIDS, or Hepatitis B virus (HBV), which affects the liver and is fatal in some cases.

To eliminate the potential for exposure, CHES’s Policy is not to accept any infectious biological waste; CHES personnel are instructed not to directly handle medical sharps at anytime. Sharps and other non-infectious biological waste will be placed by participation containers for disposal.

The following additional precautions will be taken to avoid to biological hazards:

* Don’t eat, drink, smoke, apply lip balm or handle contact lenses in areas with exposure potential.
* Cover open cuts, rashes, and other broken skin.
* Avoid touching any contaminated surfaces or clothing.
* Minimize splashing or splattering of potentially infectious material.
* Inspect all containers of protruding needles prior to handling container.
* Do not reach by hand into a container holding medical sharps, use tongs or other equipment.
* Keep sharps containers upright and separate.
* Inspect reusable PPE prior to putting it on. Decontaminate PPE after use.
* Do not borrow PPE without decontaminating it (i.e. respirators, safety glasses).

**14.0 IMPLEMENTATION OF THE EMERGENCY RESPONSE PLAN**

The Emergency Response plan may be implemented under any of the following circumstances:

Fire and/or Explosion:

* Fire could cause release of toxic fumes.
* Fire could spread and possibly ignite materials at other on-site locations or could cause heat-induced explosions.
* Fire could possibly spread to off-site areas.
* Imminent danger exists that an explosion could occur, creating a safety hazard.
* Imminent danger exists that an explosion could ignite other hazardous wastes on-site.
* Imminent danger exists that an explosion could result in release of a toxic material.
* Explosion has occurred.

Spills or Material Release:

* Spill could result in release of flammable liquids or vapors, thus causing a fire or explosion hazard.
* Spill could result in release of corrosive and/or reactive materials.
* Spill could cause release of toxic vapors or fumes.
* Spill cannot be contained on-site resulting in off-site pavement and/or soil and/or groundwater contamination.

**14.1 Emergency Response**

The following procedures shall be implemented for rapid, safe response and control of a chemical, hazardous waste, or oil spill.

The observer of a spill shall:

* Immediately remove other personnel from the area of the spill and ensure that others cannot enter the area until the spill is remediated.
* Identify the nature of the spill to the best of their ability.
* Immediately report the spill to the PM/Site Supervisor.

The supervisor will immediately ensure that the spill is immediately cleaned up or that all personnel are properly removed from the area. The PM shall ensure that the following measures are implemented to halt or contain the release:

* Immediately notify the Site Health and Safety Officer.
* If Necessary:
* Identify the proper protective equipment for employees to wear to address the release and make sure they the emergency response personnel are properly outfitted.
* Identify and remove any safety hazards that may be presented to the emergency response team, beyond the nature of the spill itself (e.g., sources of ignition, etc.).
* If safe to do so, control the leaking source.
* Apply compatible absorbent material on spill.
* Ensure any access to storm drains is properly isolated so as to prevent entry of hazardous substances into a storm drain.
* Clean up and removed the spilled materials and place in an appropriate container for shipment.
* Make sure that the work personnel, tools, and work area are properly decontaminated.
* Notify employees it is safe to return to the working area.

The PM will determine the magnitude of the incident based on the following information:

* Nature and characteristics of the spill or release.
* Location and extent of incident.
* Quantity spilled or released.
* Direction in which the spill or release is migrating.
* Extent of physical injury to personnel.
* Fire and/or explosion potential of the event.

**14.2 Emergency Contact/Notification System**

The following list provides names and telephone numbers for emergency contact personnel. In the event of a medical emergency, personnel will take direction from the HSO and notify the appropriate emergency organization. In the event of a fire or spill, the site supervisor will notify the appropriate local, state, and federal agencies.

NATIONAL

Office of Emergency Services (800) 852-7550

CHEMTREC – ER (pages BOE) (800) 424-9300

National Response Center (800) 424-8802

Poison Control Center – State (ALL STATES) (800) 222-1222

DOT RSPA HAZMAT Hotline (800) 467-4922

Bureau of Explosives (BOE) 8-5pm (719) 585-1881

Bureau of Explosives (BOE) 8-5pm (719) 584-0710

ATF (Bureau of Alcohol, Tobacco and Firearms) (402) 493-3651

Pesticide Hotline (800) 858-7378

RCRA Hotline (800) 424-9346

USDA-Hazardous Material Management (202) 205-0906

Blake Velde pager (800) 372-9969

National Response – EPA (800) 223-0425

Josephine County

North Plains Police Dept. (503)-647-2604

Bomb Squad (503)-649-8577

North Plains Fire Department (503)-649-8577

**Emergency 911**

14.3 Nearest Hospital (with 24hr. ER)

## SEE ATTACHED ADDENDUM

***Site-Specific Hospital and Clinic map are provided as an Addendum at the end of the Health and Safety Plan.***

**14.4 Medical Emergency Transportation Procedures**

In the event there is an injury that requires medical attention it must first be determined if the victim can be transported in the on-site emergency vehicle or if an ambulance should be called. If the injury is of a nature that the emergency vehicle will be sufficient and professional emergency transportation is not required to take someone to the hospital the emergency vehicle should be used to facilitate the fastest means of transportation. If the injury is severe, and requires specialized emergency care an ambulance should be called immediately.

EMERGENCY HEALTH + SAFETY CONTACT

**Mark Rasmussen (West)………………………………………….Office# 408-451-5117……………Cell #408-592-3929**

**14.5 CHES Insurance Information**

CHES utilizes the best and most comprehensive insurance policies available. CHES meets or exceeds the insurance coverage of most of our competitors in the Industry. See attached insurance certificates.

**14.6 Evacuation Procedures**

In the event of an emergency situation such as fire, explosion, significant release of toxic gases, etc., an air horn will be sounded for approximately three seconds indicating the initiation of evacuation procedures. All personnel in both the restricted and non-restricted areas will evacuate and assemble near the Support Zone or other safe area as previously identified by the PM. The location shall be upwind of the site as determined by wind direction indicator. The PM or his designee has authority to initiate proper action for efficient and safe site evacuation and assessment of the emergency situation. Under no circumstances will incoming personnel or visitors be allowed to proceed into the area once the emergency signal has been given. The PM will ascertain that access for emergency equipment can be provided, all personnel will be evacuated to a safe area, and all combustion apparatus will be shut down once the alarm has been sounded. The PM or his designee will call the Fire Dept. (911) and coordinate with all off-site personnel and emergency services.

In the event that unknown explosives, radioactives, biological contaminants and/or reactive materials (which are unacceptable for planned disposal) are received, CH Environmental will alert qualified private or agency personnel.

**HASP REVIEW RECORD**

**Project & Site Name:**

**Date**

This Health and Safety Plan (HASP) has been reviewed by the following persons. Signature below indicates that the individual has received job specific training as outlined in the site training packets and agrees to abide by the rules outlined therein. Signature also indicates that individual has current HAZWOPER certification (per Federal 29 CFR 1910.120 requirements), and is therefore eligible to take part in hazardous waste operations at this site\*:

(Please sign and date)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Project Manager: |  |  | Date: |  |
| Site H & S Officer: |  |  | Date: |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Signature: |  | Company: |  | Date: |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

\*Certification not required for personnel assigned exclusively to direct traffic at event

**HASP REVIEW RECORD**

Continued

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Signature: |  | Company: |  | Date: |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

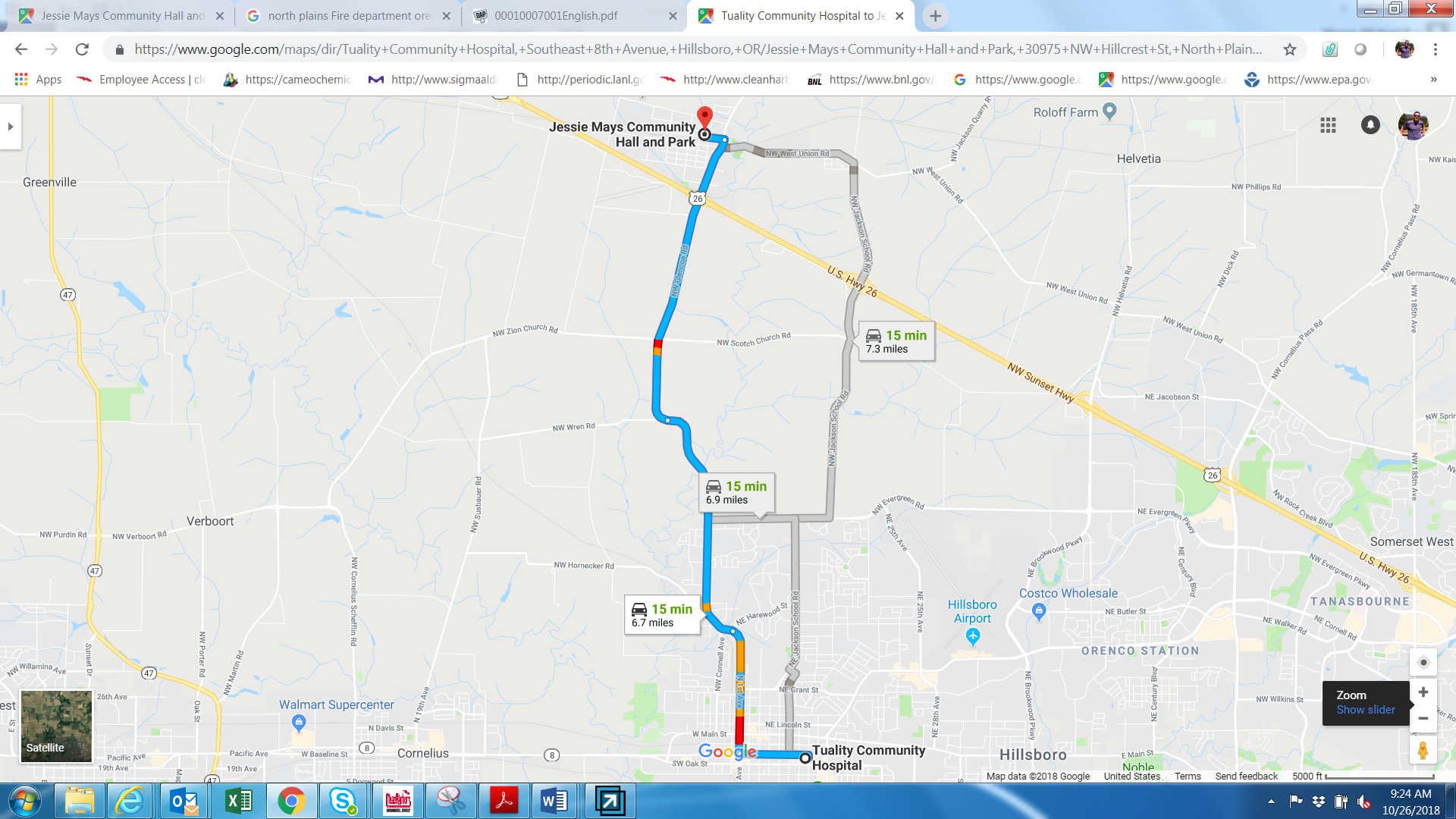
\*Certification not required for personnel assigned exclusively to direct traffic at event

Example Addendum: Site-Specific Details

24 Hour Hospital

## <Name, street address, and phone number>

Example map to Hospital



Example Event Site Map

