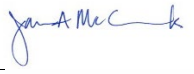
WASTE MANAGEMENT PLAN
Upper Makefield Response
Washington Crossing, PA

Status	Name	Signature	Title	Date
Prepared By:	James McCormack		Sr. Principal	3/4/2025
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Waste Management Plan Change Log

Name	Signature	Change Comments	Date

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List of Acronyms and Abbreviations

BMP	Best Management Practices
COC	Chemical of Concern
CoC	Chain-of-Custody
CFR	Code of Federal Regulations
DOT	Department of Transportation
EPA	U.S. Environmental Protection Agency
ERG	Emergency Response Guide
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
HM	Hazardous Material
HW	Hazardous Waste
IC	Incident Commander
LDR	Land Disposal Restrictions
LEPC	Local Emergency Planning Committee
NRC	National Response Center
NHW	Non-Hazardous Waste
OSHA	Occupational Safety and Health Administration
PDEP	Pennsylvania Department of Environmental Protection
PHMSA	Pipeline Hazardous Materials Safety Administration
POC	Point of Contact
POL	Petroleum, Oil, and Lubricant
PPE	Personal Protective Equipment
ppm	Parts Per Million
QA	Quality Assurance
RCRA	Resource Conservation and Recovery Act
RQ	Reportable Quantity
SDS	Safety Data Sheet
SOP	Standard Operating Procedure
SPCC	Spill Prevention, Control, and Countermeasure
SW	Solid Waste
TCLP	Toxicity Characteristic Leaching Procedure
TOC	Total Organic Carbon
TSDF	Treatment, Storage, and Disposal Facility
TSS	Total Suspended Solids
UHC	Underlying Hazardous Constituent
WSD	Waste Stream Determination

Definitions

Accumulation Start Date – The date that hazardous waste (HW) is first placed in a container.

Best Management Practices – Control measures and decisions based on the most current professional and technical standards for the protection, enhancement, and rehabilitation of natural resources. BMPs include schedules of activities, prohibited practices, maintenance procedures, treatment requirements, operating procedures, control practices, and other management practices to prevent or reduce pollution.

Characteristic Waste – A waste that exhibits any one or more of the following characteristic properties: ignitability, corrosivity, reactivity or toxicity. Each is assigned the hazard code indicated (40 CFR 261.30).

Characterization – The process of identifying waste constituents, their concentrations, and the work process generating the waste. Characterization determines how waste may be handled, treated, and disposed. Characterization is required to identify the EPA waste codes, the underlying hazardous constituents (UHCs), and the DOT proper shipping name.

Closure – The act of securing HW management in accordance with applicable Resource Conservation and Recovery Act (RCRA) requirements.

Combustible Liquid – A combustible liquid is defined at 49 CFR 173.120(b)(1) as any liquid that does not meet the definition of any other hazard class and has a flash point of >60°C (>140°F) and <93°C (<200°F).

Container – As defined in 40 CFR 260.10, any portable device, in which a material is stored, transported, treated, disposed, or otherwise handled.

Contaminant – Any chemical that when present causes the waste to be regulated.

Corrosive HW – A solid waste exhibits the characteristics of corrosivity if a representative sample of the waste has either of the following properties as defined in 49 CFR 261.22: (1) is aqueous and has a pH less than or equal to 2, or greater than or equal to 12.5, as determined by a pH meter using Method 9040C in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” or (2) is a liquid and corrodes steel (Society of Automotive Engineers [SAE] 1020) at a rate greater than 6.35 mm (0.25 inch) per year at a test temperature of 55° Celsius (130° Fahrenheit) as determined by Method 110A (“Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”).

Debris – Any solid material with a diameter of 2.4 inches or larger that is intended for disposal, including manufactured objects, plant or animal matter, or natural geologic material such as brushes, rags, personnel protective equipment (PPE), large and small equipment, etc.

Dilution – The deliberate mixing of HW with another material with the purpose of changing either the characteristic(s) or the concentration of a constituent in the waste. Dilution of a HW constitutes “Treatment” and is prohibited without a permit.

Disposal – The process of treating a HW to render it non-hazardous or to place the HW into a permitted end facility such as a HW landfill or other permitted TSDF. Disposing of any waste into a wastewater treatment system, storm drain, surface water, or upon land is prohibited.

Empty Container – As defined in 40 CFR 261.7, a container or an inner liner removed from a container from which all material/waste (except compressed gas or an identified acute HW) has been removed that can be removed after pouring, puncturing, pumping, or aspirating until no more than 1 inch of residue

remains on the bottom, or no more than 3 percent by weight of the total capacity of the container remains if it is less than or equal to 119 gallons in size.

Emergency Planning and Community Right-to-Know Act – 40 CFR Parts 350 to 372 intend to: (1) identify the quantities of chemicals present on, or released from, facilities; (2) understand the potential problems that hazardous materials (HMs) pose to surrounding communities and environment; and (3) provide information to the public and local emergency planning and response organizations. The four major provisions of EPCRA are emergency planning (sections 301-303), emergency release notification (section 304), hazardous chemical storage reporting (sections 311-312), and toxic chemical release inventory (section 313).

U.S. Environmental Protection Agency Hazardous Waste Codes – The specific alphanumeric sequence assigned by EPA to specify type and characteristic of a HW.

Flammable Liquid – A flammable liquid is defined at 49 CFR 173.120(a) as a liquid with a flash point of ≤60°C (≤140°F), or any liquid in bulk packaging with a flashpoint of ≥37.8°C (≥100°F) that is intentionally heated and transported above its flashpoint (some exceptions).

Generator of Record – The owner/operator recognized by EPA as the generator of a HW and holder of the EPA Generator ID number of a contiguous facility.

Hazardous Material – Any material designated by U.S. Department of Transportation (DOT) as posing a potential threat while being transported. HMs are listed in 49 CFR Part 172.

Hazardous Substance – A material included in the specific list of chemicals designated by EPA in 40 CFR Part 302 that may pose a substantial threat to human health or the environment when discharged into the environment because of its quantity, concentration, or physical, chemical, or infectious characteristics. HS is regulated only when released in a quantity equal to or exceeding the reportable quantity (RQ) listed in 40 CFR Part 302.

Hazardous Waste – Any discarded SW as defined in 40 CFR 261.3 (liquid, semi-solid, solid, or gaseous) that meets the definition of a HW. An SW is a listed HW if it is specifically listed in 40 CFR 261.31 (F-list), 261.32 (K-list), or 261.33 (P- or U-list), and/or is a characteristic HW if it exhibits the characteristics of ignitability, corrosivity, reactivity, or toxicity per the Toxicity Characteristic Leaching Procedure (TCLP).

Hazardous Waste Generator – Any person, by site, whose act or process produces HW or whose act first causes a HW to become subject to regulation.

Head Space – The unused volume inside a filled container that allows for expansion (also known as “ullage” in a container of liquid or a tank).

Ignitable HW – Liquids with flash points below 140 degrees Fahrenheit (60° Celsius), non-liquids that cause fire through specific conditions, and ignitable compressed gases and oxidizers as defined in 49 CFR 261.21.

Leachate – The liquid, including any suspended components in the liquid; that has percolated through or drained from a waste.

Manifest – EPA Form 8700-22 (and EPA Form 8700-22A, if necessary) shipping document, originated and signed by the generator, which accompanies and is used for tracking the transportation of HW.

Manifest Tracking Number – The alphanumeric identification number (unique three-letter suffix preceded by nine numerical digits) that is preprinted in Item 4 of the manifest by a registered source.

Oil –oil of any kind or in any form. This includes petroleum, fuel oil, sludge, oil refuse, oil mixed with wastes other than dredged spoil, fats, oils or greases of animal, fish, or marine mammal origin, vegetable oils, including oil from seeds, nuts, fruits, or kernels, and other oils and greases, including synthetic oils and mineral oils. The definition of oil also includes non-petroleum oils, such as silicone fluids, tung oils, and wood-derivative oils such as resin/rosin oils.

Other Regulated Materials – A material such as a consumer commodity that, although otherwise subject to Subpart D of 49 CFR Part 173, presents a limited hazard during transportation due to its form, quantity, and packaging. It must be a material for which exceptions are provided, as shown in the table in 49 CFR 172.101.

pH – An artificial scale used by chemists to measure the relative acidity and alkalinity of weak acids and bases. The usual range of the scale is from 1-13, where pure water is 7. A pH below 7 indicates an acid, and a pH above 7 indicates a base. It is important to note that each number of the scale is ten times the previous number. For instance, an acid of pH 1 is 100,000 times more acidic than one with a pH of 6.

Point of Generation – Identifies the place a material first becomes subject to HW regulations at the department, unit, or work center with the intention of disposal.

Profile Number – A unique alphanumeric identification number used to designate a specific waste stream.

Profile Sheet – Forms used to document specific disposal information for each waste stream sent to the disposal facility.

Reactive HW – A SW exhibits the characteristics of reactivity if a representative sample of the waste has any of the following properties as defined in 49 CFR 261.23: (1) It is normally unstable and readily undergoes violent change without detonating; (2) It reacts violently with water; (3) It forms potentially explosive mixtures with water; (4) When mixed with water, it generates toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment; (5) It is a cyanide or sulfide-bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment; (6) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement; (7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure; or (8) It is a forbidden explosive as defined in 49 CFR 173.51, a Class A explosive as defined in 49 CFR 173.53, or a Class B explosive as defined in 49 CFR 173.88.

Reclaimed – Any material that is processed to recover a usable product or to regenerate a material (40 CFR 261.1).

Recycled – Any material that is converted into a reusable material.

Reportable Quantity – Identifies the amount of material (pounds or gallons) that triggers a reporting requirement to regulatory agencies when spilled or released to the environment. RQ amounts are specific to each material.

Representative Sample – A sample of a universe or whole (e.g., waste pile, groundwater) that can be expected to exhibit the average properties of the universe or whole.

Reused – A material that is employed as an ingredient in an industrial process to make a product or employed in a function or application as an effective substitute for a commercial product without reclaiming.

Safety Data Sheet – The document issued by the product manufacturer that communicates the hazards found in the product.

Sludge – Any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

Solid Waste – Any garbage, refuse, or sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility. An SW is also other discarded material including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations and/or community activities.

Sorbent – Material used to soak up free liquids by either adsorption, absorption, or both.

Spill/Release – Intentional or accidental loss including any leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing of an HS into the environment.

Transporter – Person engaged in offsite transportation of HW by air, rail, highway, or water.

Treatment – Any method, technique, or process (including neutralization) designed to change the physical, chemical, or biological character or composition of any HW to neutralize such waste, recover energy or material resources from the waste, or render such waste non-hazardous or less hazardous; safer to transport, store, or dispose of; amenable for recovery or storage; or reduced in volume. The facility is not permitted to treat HW under any conditions.

Treatment, Storage, and Disposal Facility – A permitted HW management facility, HW storage facility (HWSF), or Part-B facility that receives HW for treatment, storage, or disposal.

Toxic Characteristic Leachate Procedure – A sample extraction method for chemical analysis which is designed to simulate leaching in a landfill of organic and inorganic analytes present in liquid, solid, and multiphase wastes.

Toxic HW – (a) An SW exhibits the characteristic of toxicity if, using the TCLP, test Method 1311 in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW–846, as incorporated by reference in §260.11 of this chapter, the extract from a representative sample of the waste contains any of the contaminants listed in table 1 at the concentration equal to or greater than the respective value given in that table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering using the methodology outlined in Method 1311, is considered to be the extract for the purpose of this section. (b) An SW that exhibits the characteristic of toxicity has the EPA HW Number specified in Table 1 which corresponds to the toxic contaminant causing it to be hazardous as defined in 40 CFR 261.24.

Ullage – The unused volume inside a filled container that allows for expansion.

Underlying Hazardous Constituent – Any constituent listed in 40 CFR 268.48 that can reasonably be expected to be present at the point of generation of the HW at a concentration above the constituent-specific universal treatment standards.

United Nations/North American Designations – DOT identification numbers assigned to HM are preceded by either a UN or NA designation and are indexed by response instructions found in the Emergency Response Guide (ERG) for use in the event of an accident. Those preceded by UN are associated with descriptions considered appropriate for international shipments as well as domestic shipments. The NA designation is limited to use in the United States and Canada only.

Used Oil – Oil that has been refined from crude oil and used as a lubricating, hydraulic, or heat-transfer fluid and contaminated through that use. Used oil has the potential for reuse or recycling.

Waste Characterization – The process of identifying waste components and their chemical concentrations as well as the work process used to generate the waste. Waste characterization is required to ensure the correct identification of the waste and use of EPA waste numbers/codes necessary for the safe and proper handling, treatment, and disposal of HW.

Waste Stream Determination – RCRA regulations at 40 CFR 262.11 require that any person who produces or generates a waste must determine if that waste is hazardous. In doing so, 40 CFR 262.11 presents the steps in the HW identification process: 1) Is the waste a "solid waste"? 2) Is the waste specifically excluded from the RCRA regulations? 3) Is the waste a "listed" hazardous waste? 4) Does the waste exhibit a characteristic of hazardous waste?

Waste Profiling – A method to identify and classify waste streams based on analytical testing or user knowledge of the specific process.

Wastewater – Water that contains less than 1% by weight total organic carbon (TOC) and less than 1% by weight total suspended solids (TSS).

1.0 Introduction

This Waste Management Plan (WMP) was prepared by the Environmental Team supporting Pipeline Operations to provide a plan for the management of waste during the Upper Makefield Response, Washington Crossing, PA (UM Response). In January 2025 a release involving refined product including jet fuel from the 14-inch Twin Oaks – Newark Sement operated by Sunoco Pipeline L.P., a subsidiary of Energy Transfer LP (Company), was confirmed. The GPS coordinates for the release site (hereinafter referred to as Site) are: 40.271184, -74.875953. A map of the incident location is provided in **Attachment A**.

This WMP establishes and describes procedures and protocols to be followed by responders for all spill response materials, recovered and generated. The plan provides for the management, transportation, interim storage and final disposal of the anticipated waste streams and categories that may be generated. This WMP is designed to only cover waste generated from this release. This document is available upon request to regulators, site personal and contractors working on the response that accumulate, generate, transport, treat, store, or dispose of HW for compliance.

The collection, storage, transportation, treatment and disposal of waste will be conducted in a manner that is both safe and environmentally sound.

This WMP must be reviewed and updated whenever site conditions or operations change that would affect waste accumulation, generation, transportation, treatment, storage, or disposal.

1.1 Applicability

This WMP provides requirements and guidance for the proper management of all waste generated at the UM Response. All personnel, including contractors working at the UM Response retain liability for and must abide by this WMP. Failure to abide by this WMP may result in revocation of access to the site. Any fines, violations, or penalties may be delegated to the offending entity (e.g., contractor). Pipeline Operations grants access to contractors working at the site; therefore, any contractor improperly managing HW or failing to comply with this instruction may be denied access to the site.

This WMP will be reviewed periodically and updated whenever site conditions or operations change that would affect waste accumulation, generation, transportation, treatment or disposal.

1.2 Health and Safety

Pipeline Operations maintains copies of this plan and makes it available to all personnel and contractors that accumulate, generate, transport, store, or dispose of waste.

Health and safety of the associates, workers, community, and the environment will be of the utmost priority while implementing this plan. All personnel will be required to review and adhere to site-specific safety plans as well as company/contractor-specific Health and Safety Plans (HASP), and 29 CFR 1910.120 HAZWOPER requirements, as applicable. Pre-job tailgate safety briefings will be conducted prior to going into the field where samples of waste and other materials will be collected and prepared.

Specific field activities will only be conducted under weather or other environmental conditions that do not create unsafe working conditions, and the appropriate personal protective equipment (PPE) will be utilized for each task. Any incident will be promptly reported in accordance with the site-specific site safety plan and Pipeline Operations' directives.

2.0 Regulatory Framework

The Resource Conservation and Recovery Act (RCRA) authorized the U.S. Environmental Protection Agency (EPA) to implement regulations for the management of HW from the point of generation through final disposal ("cradle to grave"). EPA granted the State of Pennsylvania Department of Environment Protection (PDEP) authority to implement and enforce regulations for identification (ID), packaging, labeling, storing, and transporting HW and NHW, as well as treatment standards for proper disposal of regulated waste.

2.1 Federal and State Regulations

The following regulations mandate the procedures and requirements set forth in this instruction and are therefore not discretionary.

- 40 Code of Federal Regulations (CFR) Parts 260 through 266, and Part 268 - Regulations for the management of HW
- 25 Pa. Code § 260a. - Hazardous Waste Management System: General
- 25 Pa. Code § 261a - Identification and Listing of Hazardous Waste
- 25 Pa. Code § 262a - Notification Requirements and Standards Applicable to Generators of Hazardous Wastes
- 40 CFR Part 273 - Standards for Universal Waste Management
- 40 CFR Part 279 -.11, Management of used oil and used oil filters
- 49 CFR Parts 171-180 - U.S. Department of Transportation (DOT) regulations for transportation of HW on public roads
- 49 CFR Parts 390 - 397 - U.S. DOT regulations for driver qualifications, the equipment in the vehicle, and routing of some HW shipments
- 40 CFR Parts 116-117 - The regulations of reporting the release or chemical spill
- 40 CFR Part 503 – Establishes the standards for the use or disposal of sewage sludge
- 40 CFR 112 - Oil Pollution Prevention regulations

3.0 Waste Management Best Practices

The following best practices must be followed in the management of wastes generated in a spill response effort:

a. Dispose or manage wastes and recoverable materials in permitted or otherwise authorized locations. Unauthorized disposal or management will not be tolerated.

b. Obtain Safety Data Sheets (SDSs) for all known products involved in waste management.

c. Reduce waste generation whenever practical. This is known as waste minimization or pollution prevention.

d. Reuse or recycled materials whenever practical. This not only lowers a consumption of raw materials, it also eliminates the need for waste disposal. Recycling in reuse of recovered oil and oil and water is the preferred option.

e. Avoid co-mingling wastes of different classifications. For example, never place non-hazardous wastes in the same container as hazardous waste. In addition, keep recyclable material separate from nonrecyclable waste. It may be difficult or impossible to separate wastes after their co-mingled.

f. Maintain good housekeeping practices. Employees and contractors should maintain neat, clean-up work areas to reduce the need for additional cleanup and the associated waste.

g. Properly store wastes, especially hazardous waste, to avoid releases to soil, water, or air, and to avoid consumption by wildlife until they can be appropriately managed.

h. Clearly identify waste containers. Use a label or other means to clearly identify the contents of containers of hazardous, non-hazardous, and inert wastes.

i. Document quantities and disposition of all hazardous and NHW as instructed in this plan. Waste tracking is required for all wastes. This information will be included in the final report delivered at the conclusion of response activities.

j. Recovered liquids should be collected and stored in as large a container as possible (UN approved drum, tote tank, tanker truck, etc.) to maximize dewatering potential, facilitate uninterrupted recovery, and to minimize equipment decontamination requirements.

k. Communicate your ideas to your supervisor for waste minimization and waste management.

l. Maintain security at all sites where waste is held.

m. The site manager is responsible for determining if any regulatory permits (e.g., NPDES) or plans (SWP3 or SPCC Plan) are required for areas where waste is stored.

4.0 Waste Characterization

All waste generated on site will need to be characterized following the procedures detailed below.

4.1 Potential Waste Streams

The potential waste streams will include, but are not limited to, the materials in **Table 4-1**.

Currently the estimated volumes of each waste stream and released materials are unknown due to the nature of the incident. All exempt and NHW classifications of materials associated directly with the response (other than for general trash) will be validated though the application of generator knowledge and sampling and analysis as necessary, per the procedure outlined below and in accordance with EPA SW-846.

Table 4-1: Potential Waste Streams

Waste Stream	Sources	Material Generated
Oil/Oily water (mix)	Mechanically recovered using aqua-bailers (or equivalent)	Free product
Soil	Excavation / recovery activities; Site assessment and characterization activities including drilling and development of recovery and monitoring wells	Unimpacted and Impacted soil; vegetation; soil cuttings from approved Site Characterization and Assessment activities
Solids/Debris/Sorbent Materials	Recovery activities	Saturated sorbent socks
Personal Protective Equipment (PPE)	Worker garments used in the cleanup	Tyvek, Gloves, Boots, etc.
Municipal / General Trash	Daily work activities	Food and beverage debris and containers
Investigative Derived Waste (IDW)	Site assessment and characterization activities including drilling and development of recovery and monitoring wells; purge water from sampling of wells	Groundwater
Decontamination Waste	Decontamination of equipment used in site assessment and characterization activities; sampling	Non-phosphate detergent; water
Biological Waste	Portable toilets	Sewage

Note: This list of potential waste streams is to be updated when new waste streams are identified throughout the recovery activities.

4.2 Waste Stream Determination

40 CFR 262.11 requires that any person who produces or generates a waste must determine if that waste is hazardous.

4.3 Completing the Determination

The following four questions must be answered to make a WSD:

1. Is the waste a SW as defined in 40 CFR 261.2?

   The first step in determining if a material is a HW is to determine whether it is classified as a SW. The rules specify that a material cannot be a HW unless it is first determined to be a SW.

2. Is the waste specifically excluded from RCRA regulations?

The next step is to determine if the waste qualifies for an exemption or exclusion from RCRA regulations.

3. Is the waste a “listed” HW?

   RCRA regulations include four lists of wastes, designated with the letters F, K, P, and U.

4. Does the waste exhibit a characteristic of HW?

A characteristic HW is an SW that exhibits one or more of the following HW characteristics:

- Ignitability (D001)
- Corrosivity (D002)
- Reactivity (D003)
- Toxicity (D004-D043)

The site conducts WSDs at the point of generation for each waste generated at the site. User knowledge, HW analysis, or a combination of the two methods are used to complete the WSD process.

WSD documentation for HW and NHW are maintained by the local Environmental Specialist, along with supporting documentation that is readily available.

5.0 Sampling

This plan addresses sampling of only those materials generated during the incident response activities for purposes of waste classification and disposal. Sampling for any site investigation or final remediation/corrective action purposes after the incident response activities are completed will be addressed in greater detail during the remediation phase. Emergency response activities generate waste materials from multiple locations (i.e., product clean-up, decontamination area, incident area, released materials collection, etc.) and the waste materials collected are brought to designated storage areas within Company-maintained staging areas at the Bucks Pump Station and Ft. Mifflin. Safety considerations for the emergency responders and samplers will be the top priority when conducting any sampling for waste classification purposes.

Waste characterization sampling will be conducted from onsite soil stockpiles prior to loading into roll-off boxes for transportation offsite for final disposition. Other waste characterization sampling will occur, as necessary, from various storage containers (i.e., drums, frac tanks, vac trucks, etc...) located in the designated storage areas.

Representative samples will be collected within a reasonable timeframe from arrival at the designated storage area. Sampling of contaminated and phase-separated aqueous liquids (oil and water) will occur directly from the storage containers containing the released liquid materials.

5.1 Sample and Data Collection

Labels will be affixed to each sample container prior to or during sampling. At a minimum, the labels will include the ‘Sample ID’, the date and time the sample was collected, initials of the sample collector, and the specific analysis the container is for (including any preservatives used).

Chain-of-Custody (CoC) forms will track all samples sent to the offsite laboratory for analyses and testing. The CoC will identify the waste stream sampled using the ‘Sample ID’, the date and time the sample was collected, number and type of containers filled, any sample preservatives used, the name of the person who collected the sample, and the specific analyses required.

5.2 Sampling Methods

Personnel will collect representative samples from the selected waste streams identified in **Table 5-1** for laboratory analysis. The methods and equipment used for sampling will be based on the physical form and consistency of the waste being sampled. Personnel will select the most appropriate representative sampling methods, techniques, devices, and containers based on guidance published in EPA document SW-846 Chapter 9 “Field Sampling Methods”. Sample volumes, container types, and preservation requirements for the required analyses are based on the waste streams and test methods.

Clean coliwasas, tubes, drum thieves, corers, hand trawls/scoops or other compatible collection device will be used to collect representative samples of waste containers. Samples will be taken both vertically and horizontally throughout the waste. If there are multiple containers of the same waste stream, samples will be collected from the individual containers and composited to ensure a true representative sample. Any excess waste material collected will be returned to its original waste container.

For liquids, the sample collector will insert a coliwasa or equivalent into the container from the top, pushing slowly until the bottom of the container is reached. The contents of the sampling device will be transferred to the appropriate sample container.

For solids, a representative sample may be difficult to obtain. In these cases, the sample collector will attempt to obtain a sample that is as representative as possible by collecting multiple samples that reflect the waste type and quantities within the container.

All samples requiring chemical preservation will be placed into sample bottles pre-filled by the laboratory with the correct amount and type of preservative required for that specific test method. All samples requiring preservation by cooling to ≤ 6° will be placed into a cooler containing ice immediately following sampling collection. All samples collected will be delivered to the lab by the next business day.

5.3 Sample Analysis

This section outlines the analytical parameters and test methods that will be used for waste samples collected during field activities. Samples will be sent to a State accredited laboratory.

5.4 Analytical Parameters

The following analytical parameters may be utilized for the waste samples collected during field activities.

Table 5-1: Analytical Sampling Parameters and Test Methods

Parameter	Description	Test Method
Flashpoint (Ignitability)	This parameter indicates the fire-producing potential of the liquid waste and determines whether the waste is considered a D001 RCRA Ignitable waste.	An offsite laboratory will analyze this parameter using EPA Test Method 1020.
pH (Corrosivity)	This parameter determines whether the liquid waste is considered a D002 RCRA corrosive waste.	An offsite laboratory will analyze this parameter using EPA Test Method 9045.
TCLP Volatile Organic Compounds (VOCs)	This parameter determines if the waste is potentially a characteristic hazardous waste (D018-D022, D028-D029, D035, D039-D040, & D043)and if any VOC exceeds the limits in 40 CFR 261.24.	An offsite laboratory will analyze this parameter using EPA Test Methods 1311/8260.
Reactivity	This parameter determines whether the liquid waste is considered a D003 RCRA reactive waste.	An offsite laboratory will analyze this parameter using EPA Test Method SW-846, Ch. 7.
RCRA Metals	This parameter determines if the waste is potentially a characteristic hazardous waste (D004-D011) and if any Metals exceed the limits in 40 CFR 261.24.	An offsite laboratory will analyze this parameter using EPA Test Method 1311/6010

5.5 Quality Assurance and Quality Control

Upon receipt of the analytical results, personnel will review the results of the laboratory's Quality Assurance/Quality Control documentation for anomalies.

5.6 Field Sampling Equipment Decontamination Procedures

Decontamination procedures refer to the steps undertaken to minimize the potential for offsite contamination and cross-contamination between individual sampling locations. Disposable equipment, where possible, will be used to deter potential cross contamination. Prior to collecting any sample for this investigation, the following decontamination procedures will be undertaken non-disposable sampling equipment which come into contact with sampling media will be decontaminated using a bristled brush and a solution comprised of a laboratory grade, non-phosphate detergent (e.g., Alconox or Liquinox) and deionized water. Depending on ancillary activities being conducted for the response to this release, the decontamination of sampling equipment will be conducted over poly sheeting at the sample location or

in a nearby designated area. The sampling equipment to be decontaminated will first be placed in a bucket containing the detergent solution and thoroughly washed using a bristled brush. The items will then be transferred to the second 5-gallon bucket containing deionized water for rinsing. Following the initial rinsing, the item will be held over the same bucket while distilled water is again carefully decanted over each item. Nitrile gloves will be worn by sampling personnel and changed between activities at each discrete sample collection location. Previously worn nitrile gloves will be discarded in appropriate waste receptacles with other PPE. All waste generated by decontamination activities will be handled, stored, classified, and disposed of in accordance with this WMP.

6.0 Waste Management Table

Disposal, reclamation, and recycling facilities will vary based on the final classification and characterization of the recovered materials/wastes. The facilities mentioned in **Table 6-1** include those facilities that could potentially accept reclaimed, reused, or recyclable released materials.

Table 6-1: Waste Disposal

Waste Description	Waste Category	Method of Removal	Temporary Disposal	Ultimate Disposal
Oil/oily water (mix)	TBD by Waste Determination	55-gal drum in poly overpack	Waste Staging Area at Bucks Pump Station	Sunoco Inc (R&M) Eagle Point Refinery [EPA ID No. NJD990753162] / Oil Recycling Facility
Soil	Non-hazardous by Waste Determination	Excavation/ Poly-lined Roll-off box	Waste Staging Area in Ft. Mifflin	Republic Conestoga Landfill EPA PADEP [SWP No. 101509 / ID No. PA0000015867] / Non-Hazardous Landfill
Solids/Debris/Sorbent Materials	Non-hazardous by Waste Determination	Excavation/Hand/Poly Lined Roll-off box	Waste Staging Area at Bucks Pump Station	Republic Conestoga Landfill EPA PADEP [SWP No. 101509 / ID No. PA0000015867] / Non-Hazardous Landfill
Personal Protective Equipment (PPE)	TBD by Waste Determination	Hand/Poly Lined Roll-off box, drums	Waste Staging Area at Bucks Pump Station	TBD / Non-Hazardous Landfill
Municipal / General Trash	Non-hazardous Waste	Hand/Poly Lined Roll-off box	Waste Staging Area at Bucks Pump Station	TBD / Non-Hazardous Landfill
Investigative Derived Waste (IDW)	TBD by Waste Determination	55-gal drum in poly overpack	Waste Staging Area at Bucks Pump Station	TBD / Non-Hazardous Landfill
Decontamination Waste	TBD by Waste Determination	55-gal drum in poly overpack	Waste Staging Area at Bucks Pump Station	TBD / Non-Hazardous Landfill
Biological Sludge	Non-hazardous Waste	Vac truck	NA	TBD / Non-Hazardous Landfill

6.1 Waste Disposal Sampling

A waste sample collection may be required for the ultimate disposal facility acceptance of the waste. If any waste stream can be changed to a different waste classification, supported by the waste determination process, additional sampling may be required to maintain this classification.

6.2 Waste Storage Areas

A temporary waste storage area has been established for solid and liquid materials that have been identified.

- Solid waste will be containerized at the staging areas in poly-lined roll off boxes or stockpiled on a poly-lined and bermed staging area. Solid waste will be separated according to contents.
- Liquid wastes will be containerized in steel drums and/or pumped into vac trucks which may further be temporarily stored in frac tanks (as applicable).
- Waste containers will be clearly identified. Each container is to be visibly labeled on opposite sides indicating the contents (e.g., impacted soil, ditch frac water, PPE, etc.) and the date the container began collecting waste.
- A staging area log for tracking on site accumulation is provided in **Appendix A.3**.

6.1.1 Container Management

All containers must be labeled with a label indicating what the waste is (i.e., refined product/ water, contaminated soil, etc.) as well as the date that the waste was placed in the container until waste stream determination is completed. Labels must meet D.O.T. (49 CFR part 172) requirements for labeling substance containers for wastes.

Hazardous and NHW labels will be placed on containers following the waste determination process. Waste must be segregated by type of waste. **Appendix A.4** contains waste label examples.

6.1.2 Inspections

In accordance with 40 CFR 265.170-174 waste storage areas that are presumed or determined to be hazardous wastes will be inspected daily using the Waste Inspection Form (**Appendix A.5**). The daily inspection will ensure that all frac tanks and containers are in good condition, roll-off boxes are not leaking and are properly lined and free of liquids. Any totes, drums, pails, or other containers will also be inspected, and discrepancies will be reported to the Company Environmental Specialist

The inspection record forms must be retained for a minimum of 3 years.

7.0 Transportation

The following sections detail the procedures for the transportation of waste off site.

7.1 Transportation On Site

All waste transportation to the staging area is overseen by the Company Environmental Specialist and shall be performed by the authorized and trained personnel.

Bulk Liquids will be collected using vacuum trucks where feasible or pumped directly and transferred to onsite frac tanks or transported for disposal. The vacuum trucks will be visually and continuously monitored by the operator as recovered material is pumped into the tank.

7.2 Manifesting for Transportation Off Site

All shipments of HW or NHW that are generated at the site and offered for transportation over public highways must be accompanied by a uniform HW or NHW manifest.

7.2.1 U.S. Department of Transportation

Prior to transporting HW or offering HW for transportation offsite, each shipment must be labeled in accordance with applicable DOT regulations (49 CFR Part 172, Subpart E) as follows:

- “HAZARDOUS WASTE—Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or EPA”
- DOT proper shipping name
- UN or NA number (49 CFR 172.101)
- Generator’s name and address
- Generator’s EPA ID number
- EPA HW Code(s)
- ASD
- Manifest tracking number

Additionally, each HW shipment must be labeled in accordance with 49 CFR Part 172, Subpart D, as follows:

- Weight
- Sequence (e.g., 1 of 3)
- DOT shipping label

Each package of HW for shipment must be labeled in accordance with 49 CFR Table 172.101 to the DOT hazard classification for that HW, as follows:

- HW that meets the definition of more than one DOT hazard classification must be labeled in accordance with all DOT hazard classifications.
- When two or more HWs with different DOT hazard classifications are packaged within the same packaging or outer enclosure, the outside of the package or outer enclosure must be labeled with all DOT hazard classifications.

7.2.2 Land Disposal Restrictions

When applicable, LDR Notification Forms in accordance with 40 CFR Part 268, must accompany the uniform HW manifest as part of the shipping papers.

LDR Notification Forms are signed by personnel designated each time an applicable waste is shipped offsite.

7.2.3 HW and NHW Manifesting

Offsite shipments of HW and NHW will incorporate the procedures described below.

7.2.3.1 HW Manifesting

Each offsite HW shipment will be accompanied by a Uniform Manifest (EPA Form 8700-22) and must incorporate the following procedures:

- Only properly trained personnel may sign the HW manifest and associated paperwork.
- The manifest must be complete and accurate.
- All copies of the manifest must be legible.
- "Generator's Initial Copy" of the manifest must be retained pending receipt of the "Designated Facility to Generator" copy of the manifest. This copy must indicate the HW Report Management Method Codes in Items 19 and 36. It must be hand-signed in Item 20 by the owner or operator of the designated TSDF that received the HW.

7.2.3.2 NHW Manifesting

Each offsite shipment of soil and debris will be accompanied by a NHW Manifest and must incorporate the following procedure:

- The manifest must be complete and accurate.
- All copies of the manifest must be legible.
- "Generator's/Shipper's Initial Copy" of the manifest must be retained and provided to the Environmental Manager for recordkeeping and filing.

7.3 Recordkeeping

The "Generator's Initial Copy" of the HW manifest must be retained while awaiting receipt of the "Designated Facility to Generator" copy of the manifest. This copy must indicate the HW Report Management Method Codes in Items 19 and 36. It must be hand-signed in Item 20 by the owner or operator of the designated TSDF that received the waste as follows:

- If the hand-signed manifest is not received within 30 days of shipment, the Company Environmental Specialist shall contact the designated facility, and/or the transporter to determine the status of the waste.
- If the signed manifest is not received within 45 days, the Company Environmental Specialist shall file an Exception Report with the EPA Region 3 Regional Administrator including:
    - A cover letter explaining efforts to locate the shipment of waste and results of those efforts.
    - A legible copy of the manifest.

All records, including manifests, must be kept for a minimum of 3 years.

Appendix A.1

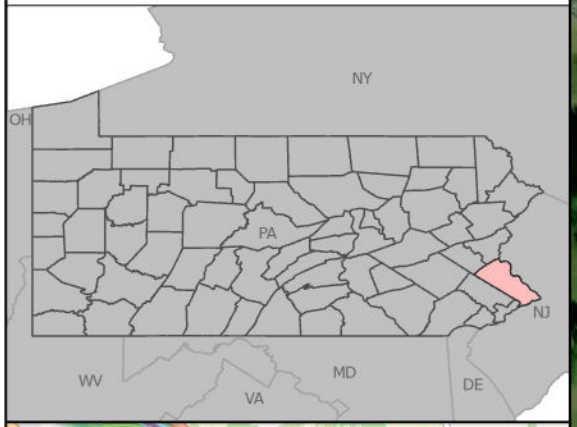
CTEH®

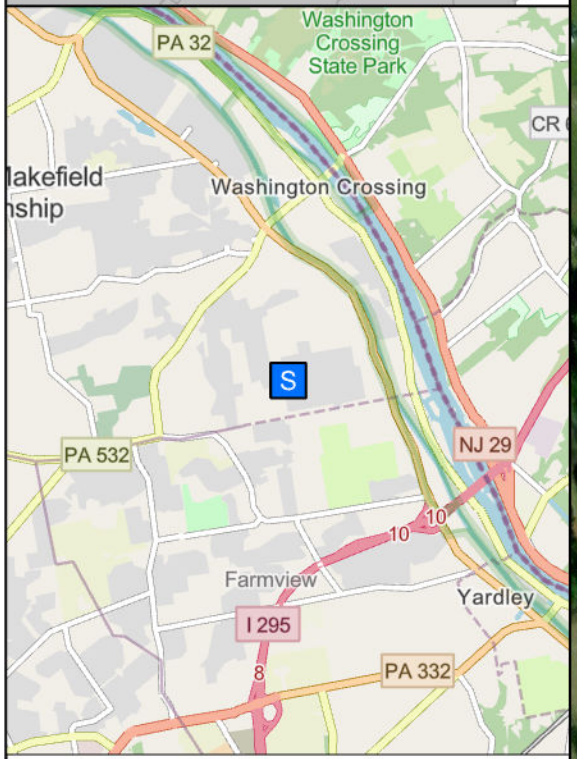
Upper Makefield Response

Incident Location

Washington Crossing, PA | Bucks County

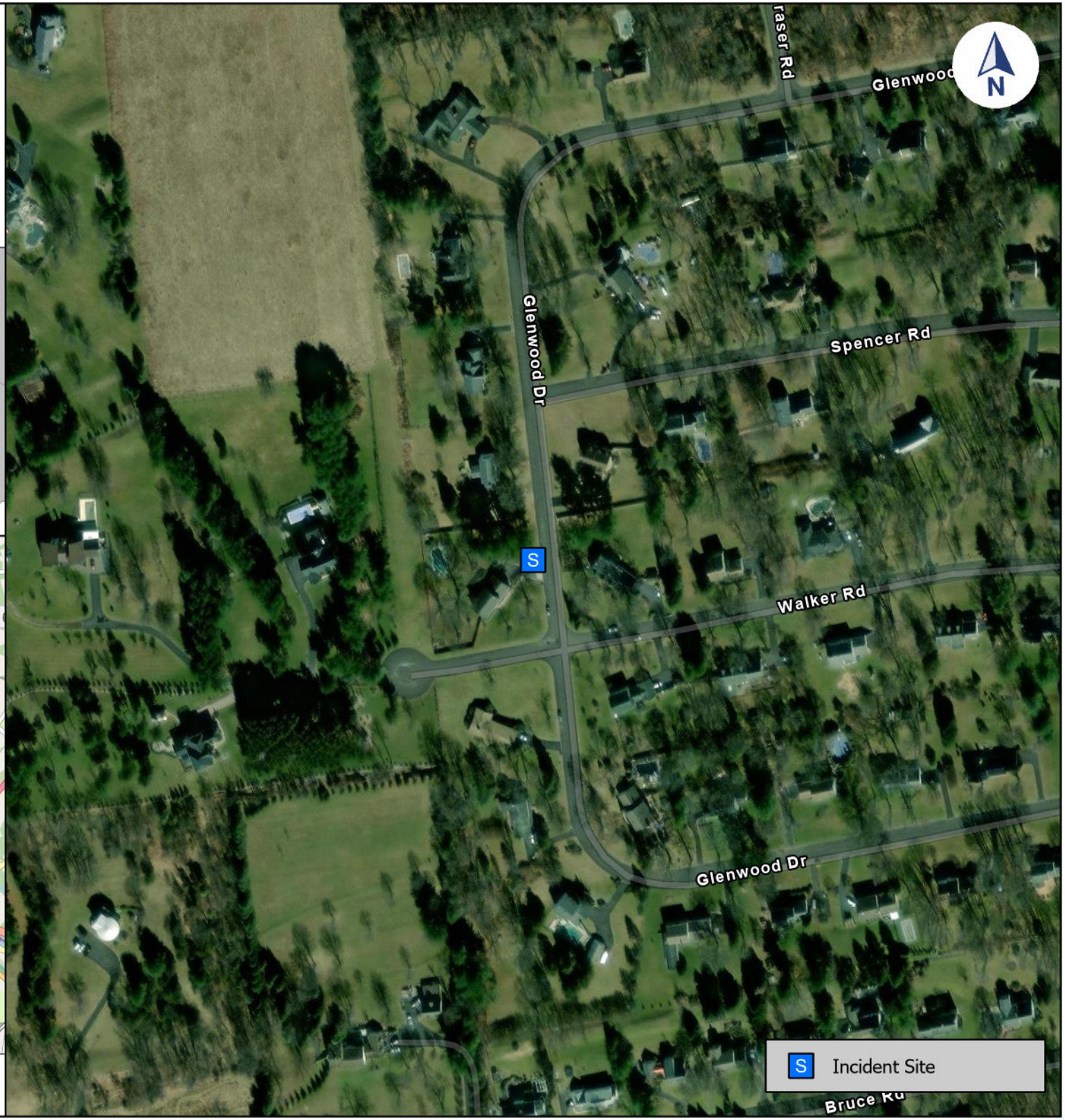
PROJ-051861





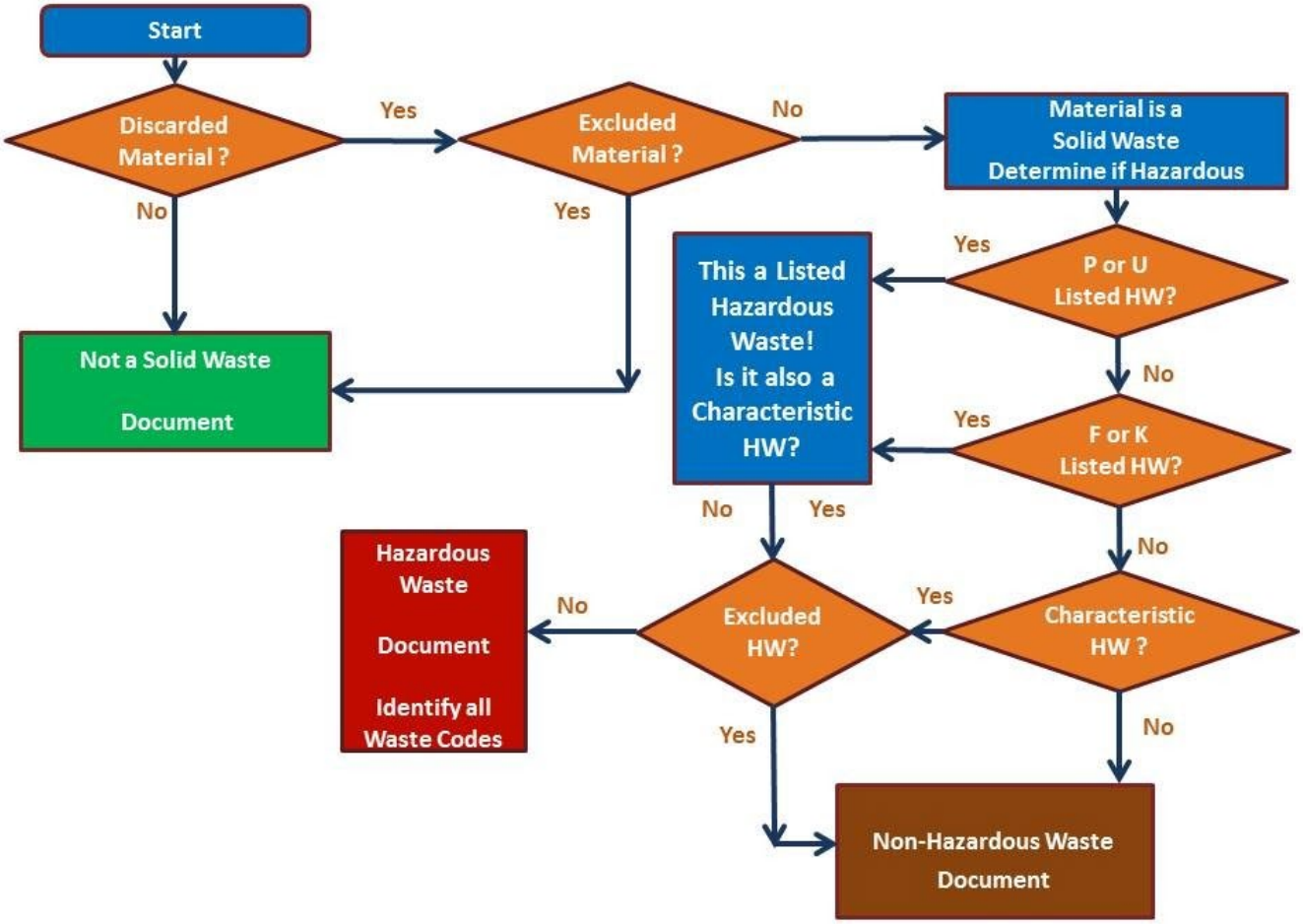
Updated At: 2/15/2025 4:18 PM

Projection: NAD 1983 2011 StatePlane Pennsylvania South FIPS 3702 Ft US



Appendix A.2

Hazardous Waste Determination Flow Chart



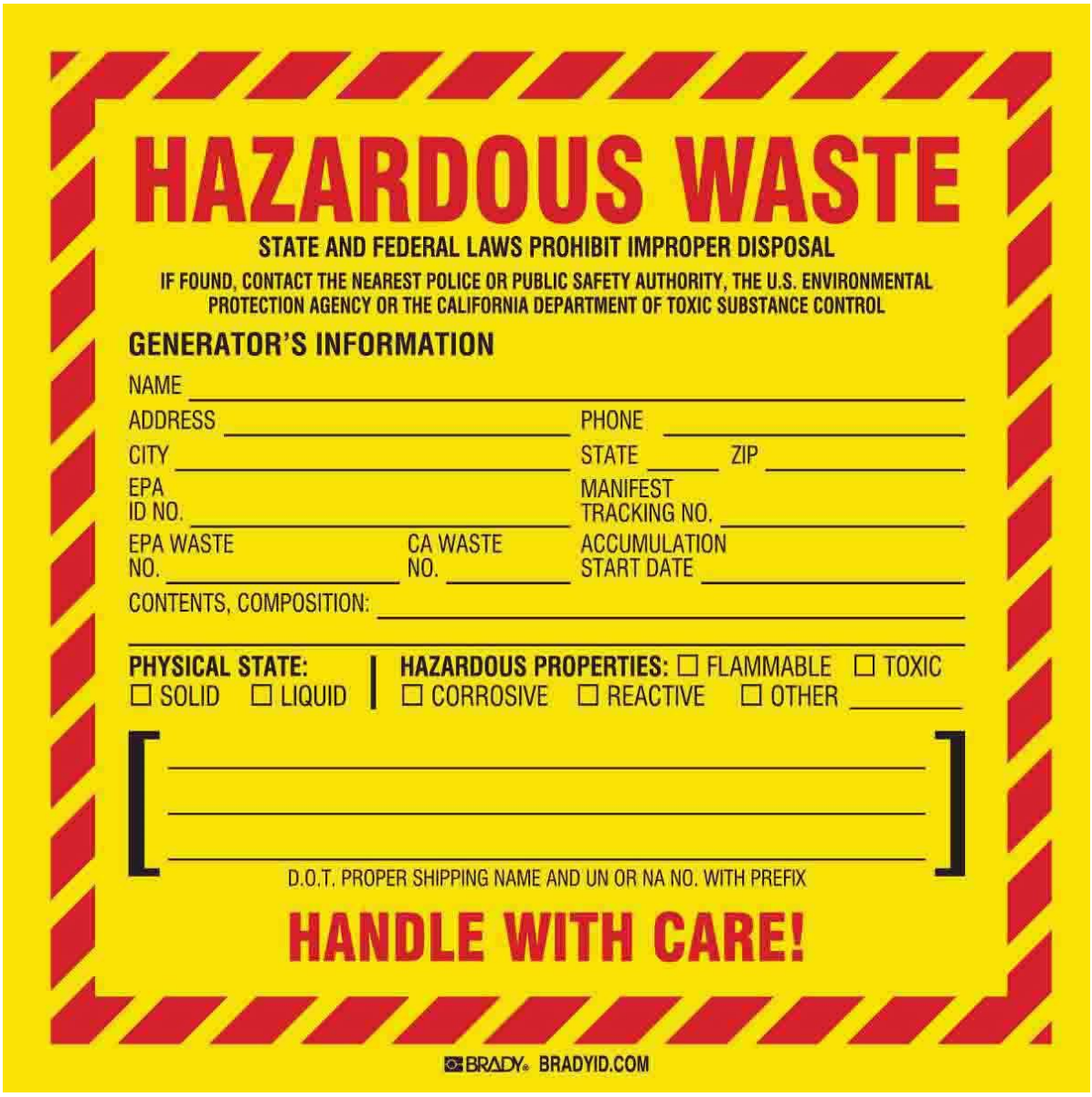
Appendix A.3

Waste Storage Log

Accumulation Start Date	Waste Description	Container Type	Container Number	Storage Location

Appendix A.4


NON-
HAZARDOUS
Waste
OPTIONAL INFORMATION
SHIPPER
ADDRESS
CITY, STATE, ZIP
CONTENTS
NON-HAZARDOUS WASTE
BRADY BRADYID.COM


HAZARDOUS WASTE
STATE AND FEDERAL LAWS PROHIBIT IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY, THE U.S. ENVIRONMENTAL PROTECTION AGENCY OR THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCE CONTROL
GENERATOR'S INFORMATION
NAME
ADDRESS
PHONE
CITY
STATE
ZIP
EPA ID NO.
MANIFEST TRACKING NO.
EPA WASTE NO.
CA WASTE NO.
ACCUMULATION START DATE
CONTENTS, COMPOSITION:
PHYSICAL STATE:
☐ SOLID ☐ LIQUID
HAZARDOUS PROPERTIES: ☐ FLAMMABLE ☐ TOXIC
☐ CORROSIVE ☐ REACTIVE ☐ OTHER
D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX
HANDLE WITH CARE!
BRADY BRADYID.COM

THIS CONTAINER
ON HOLD
PENDING ANALYSIS

CONTENTS _____

_____

_____

ORIGIN OF MATERIALS _____

ADDRESS _____

CONTACT _____

DO NOT TAMPER WITH CONTAINER
AUTHORIZED PERSONNEL ONLY

Appendix A.5