# FIRST AMENDMENT TO INTERIM AGREEMENT & RIGHT OF ENTRY AGREEMENT

THIS FIRST AMENDMENT TO INTERIM AGREEMENT & RIGHT OF ENTRY AGREEMENT ("Amendment") is dated as of March 24, 2021 ("Effective Date"), by and between the BOARD OF SUPERVISORS OF FAIRFAX COUNTY, VIRIGNIA, a political subdivision of the Commonwealth of Virginia ("County"), and ALPINE-X LLC, a Virginia limited liability company ("Developer"; together with the County, the "Parties").

#### RECITALS

- R-1. The Parties entered into the Interim Agreement, dated November 18, 2020 ("Interim Agreement"), regarding the potential development by the Developer of the Project, portions of which are proposed to be atop, along and near the County-owned I-95 Landfill Complex located on the Property ("Landfill"). (Each capitalized term used but not defined in this Amendment will have the definition given to such term in the Interim Agreement.)
- R-2. The Parties had previously entered into the Right of Entry Agreement, dated May 11, 2020 (as amended by the Interim Agreement, the "ROE"), to permit the Developer and its contractors to enter onto portions of the Property and perform certain initial, non-invasive due diligence work ("Initial Due Diligence"). The Interim Agreement extended the term of the ROE and amended certain of its other provisions.
- R-3. Because the Parties intended for the Developer to initially focus on the Initial Due Diligence, Section 4(j) of the ROE expressly prohibits the Developer and its Agents (as defined in the ROE) from drilling to, or otherwise disturbing, the existing subgrade or landfill base as part of the Initial Due Diligence.
- R-4. The Developer now seeks to perform, and the County wishes to provide access for, certain testing and assessment activities involving invasive methods such as drilling into, probing, and sampling, and otherwise disturbing or penetrating, the existing subgrade of certain portions of the Landfill cap, cover, contents and base, as well as subjacent and adjacent soils and bedrock, subject to and in accordance with the terms, conditions, and processes set forth in this Amendment (such activities, collectively, "Initial Subgrade Testing").

**NOW, THEREFORE**, in consideration of the mutual promises in this Amendment, and other valuable consideration, the receipt and legal sufficiency of which are acknowledged by the Parties, the Parties agree to the following amendments to the Interim Agreement and ROE:

 Subject to the terms and conditions of this Amendment, the Developer and its Agents may perform the Initial Subgrade Testing as described herein at Developer's sole cost, expense, and risk. The Initial Subgrade Testing shall constitute part of the Feasibility Studies.

- 2. Except as expressly provided or contemplated herein, (a) all terms and conditions of this Amendment shall be considered additional to and not a substitute of the terms and conditions of the Interim Agreement and ROE, and (b) all terms and conditions of the Interim Agreement and ROE shall otherwise remain in effect and pertain to the Initial Subgrade Testing.
- 3. Developer shall plan, perform, and complete the Initial Subgrade Testing in accordance with the following conditions and procedures:
- a. The Initial Subgrade Testing shall comply with and otherwise follow and abide by:
- i. the I-95 Fairfax County Sanitary Landfill Solid Waste Permit 103, as amended ("Landfill Permit"), issued by the Virginia Department of Environmental Quality ("DEQ");
- the current Post-Closure Care Plan for the Landfill ("Post-Closure Care Plan"), copies of which have been provided to the Developer and which Developer hereby affirms have been read and understood;
- iii. all applicable laws, regulations, ordinances and rules, including without limitation the Virginia Waste Management Act, Va. Code §§ 10.1-1400 et seq.; the Virginia Solid Waste Management Regulations (9VAC20-81); the Virginia State Water Control Law, Va Code §§ 62.1-44.2 et seq.; the Virginia Pollutant Discharge Elimination System (VPDES) Permit Regulation (9VAV25-31); and local ordinances pertaining to erosion and sediment control and construction stormwater management;
- iv. Landfill health and safety rules and procedures as set forth in the Facility Rules & Regulations for the I-95 Landfill Complex, attached as <a href="Exhibit A">Exhibit A</a> and incorporated herein by this reference;
  - v. the Interim Agreement;
  - vi. the ROE;
- vii. the document titled "Work Plan: Field Investigations at I-95 Landfill, Fairfax County, Virginia Proposed Fairfax Peak Active Lifestyle Complex," prepared by SCS Engineers ("SCS"), dated September 8, 2020, revised October 23, 2020, and may be revised in the future subject to County approval, which is attached to this Amendment as Exhibit B and incorporated herein by this reference ("Work Plan"), including the number and diameter of proposed borings; and
- viii. the recommendations set forth in the memorandum dated November 9, 2020 from HDR Inc., the County's consulting engineering firm ("HDR"), to the County and attached to this Amendment as Exhibit C and incorporated herein by this reference ("HDR Memo").

- b. Notwithstanding any provision of the Work Plan:
- i. the Initial Subgrade Testing shall avoid penetration or damage to (A) any leachate collections system components or conveyances, (B) methane gas well, ventilation and safety systems, and (C) the concrete culvert structure over the preexisting stream located under the Landfill as described in the Landfill Permit and located on Landfill plans, and Developer shall coordinate the planning and implementation of the Initial Subgrade Testing with the County to minimize the risks of such situations; and
- ii. if such situation does arise or occur, the Developer and its consulting engineers shall take all appropriate measures to mitigate and correct any such penetration and damage, consistent with Sections 4.b and 5 of the ROE.
- c. Before performing any Initial Subgrade Testing activities at the Property: (i) the Developer must provide written notice to the County of the proposed location of each Initial Subgrade Testing activity and any related boring or sampling point and the expected dates over which such activity will occur; (ii) upon receipt of such notice from Developer, the County will promptly notify DEQ of such Initial Subgrade Testing activity proposed locations and dates, and (iii) the County must approve the Developer's proposed locations and dates for Initial Subgrade Testing and related activity, with officials from the County's Solid Waste Management Program of the Department of Public Works & Environmental Services specifically authorized to make on-site, in-field and appropriate adjustments to the final locations of the proposed Initial Subgrade Testing sites necessary to protect the Landfill Complex subsurface facilities (as enumerated in 3.b.i herein). If the County denies a proposed location or date, the County will provide a reasonable explanation for such denial.
- d. Consistent with and without limiting in any manner Developer's obligations pursuant to Section 4.b of the ROE, upon suspension or completion of any Initial Subgrade Testing activity involving the penetration or disturbance of any portion or component of the Landfill, Developer shall, consistent with the terms of Section 5 of the ROE, install or perform such measures or best management practices as are contemplated by the Landfill Permit, the Post-Closure Care Plan, the Work Plan, and the HDR Memo to ensure that no boring, penetration, excavation, or disturbance of the Landfill is left open and unstabilized so as to allow erosion, settling, or other adverse impacts or effects to occur, including without limitation the repair of any cap, liner or other Landfill element or component, filling and closing of any borings using appropriate fill/closure material, and revegetation of disturbed surface area. Developer will have no further liability for surface conditions except for those identified in writing to the Developer by the County by 60 days after the later of (i) completion of all Initial Subgrade Testing and (2) vegetation stabilization. There will be no such 60 day notice or time limitation, as described in the preceding sentence, on Developer's liability for subsurface conditions.
- e. The Developer will promptly provide the County with (i) the results of the analysis of the Initial Subgrade Testing, (ii) reporting of all repair work done in connection with the Initial Subgrade Testing and (iii) all other written deliverables either required by the HDR Memo or otherwise produced by SCS (or any subcontractors of SCS) in connection with the Initial Subgrade Testing.

- 4. Developer hereby acknowledges and agrees that DEQ or any other agency with jurisdiction over the Initial Subgrade Testing activities and the Landfill may seek access to observe and inspect Initial Subgrade Testing, that the County may provide such access, and that Developer shall provide such access; provided, however, that any such observation and inspection shall be consistent with applicable laws, the Landfill Permit, and applicable health and safety plans for the Initial Subgrade Testing and any published Landfill safety procedures that have been provided in writing to the Developer, and shall occur only with accompaniment by County personnel or otherwise upon consent by the County. Unless otherwise required by law or the Landfill Permit, Developer shall notify the County in advance of any such proposed observation or inspection so that County personnel have a reasonable opportunity to accompany agency personnel in this regard.
- 5. Without limiting in any respect the obligations of Developer pursuant to Section 9 of the ROE: (a) Developer shall be solely and fully responsible for any adverse impacts or effects to the Landfill or the remainder of the Property resulting from its Initial Subgrade Testing activities; and (b) Developer shall indemnify, defend, and hold harmless the County in connection with same pursuant to Section 9 of the ROE.
- 6. In addition to the insurance requirements set forth in Section 10.a of the ROE, Developer shall obtain and maintain, or shall have its Agents performing the Initial Subgrade Testing obtain and maintain, throughout the term of the ROE pollution legal liability insurance, pollution remediation insurance, and or contractor environmental coverages for legal liability for and cleanup of releases, discharges, emissions of Hazardous Material, solid waste, leachate or methane gas resulting from the Initial Subgrade Testing that occurs beyond the designed limits of the Landfill, into any surface or groundwater, or otherwise beyond the boundaries of the Property in a manner that would be considered an unpermitted or unlawful release, discharge, or emission or that causes injury to any person or property. Such coverages shall be at levels and with limits reasonably acceptable to the County. All other provisions of Section 10 of the ROE shall be met as well. Developer will provide the proposed insurance policies and/or coverages to the County for approval; the County must approve the proposed policies and/or coverages before Developer may commence the Initial Subgrade Testing.
- 7. If the Developer wishes to perform additional drilling activity or other geotechnical work beyond the Initial Subgrade Testing as contemplated herein (any such work, "Subsequent Subgrade Testing"), then the Developer must first prepare a proposed work plan for such additional drilling and submit the plan to the County for approval. The County may condition its approval of a plan for Subsequent Subgrade Testing as it deems necessary to address the risks posed by the plan. Any such Subsequent Subgrade Testing will be treated as part of the Feasibility Studies, and Developer will perform any such work in accordance with and subject to the terms and conditions of the Interim Agreement, the ROE, and any further conditions specified by the County in its approval of the Subsequent Subgrade Testing, which may include, among other things, DEQ approval.
- 8. Developer shall immediately notify the County of and refer to the County any inquiries about the Subsurface Testing by members of the press or any other persons.

9. This Amendment may be executed and delivered in any number of counterparts, in the original or by electronic transmission, each of which so executed and delivered will be deemed to be an original and all of which will constitute one and the same instrument.

[Signatures appear on the following page.]

IN WITNESS WHEREOF, the Parties have caused this Amendment to be executed by their duly authorized representatives as of the Effective Date.

## **COUNTY:**

Title:

BOARD OF SUPERVISORS OF FAIRFAX COUNTY, VIRGINIA, a political subdivision of the Commonwealth of Virginia,

| By:<br>Name:<br>Title: | Bryan J. Hill<br>County Executive |
|------------------------|-----------------------------------|
| DEVE                   | LOPER:                            |
| ALPIN                  | E-X LLC,                          |
|                        | nia limited liability company     |
| Ву:                    |                                   |
| Name:                  |                                   |

IN WITNESS WHEREOF, the Parties have caused this Amendment to be executed by their duly authorized representatives as of the Effective Date.

## **COUNTY:**

BOARD OF SUPERVISORS OF FAIRFAX COUNTY, VIRGINIA, a political subdivision of the Commonwealth of Virginia,

| By:    |  |  |
|--------|--|--|
| Name:  |  |  |
| Title: |  |  |

#### **DEVELOPER:**

ALPINE-X LLC,

a Virginia limited liability company

By: Name: Niels ten Berge

Title: CEO

## EXHIBIT A – LANDFILL RULES & REGULATIONS

Please see attached document.



# County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

## Facility Rules & Regulations for the I-95 Landfill Complex

## I-95 LANDFILL COMPLEX & ENERGY/RESOURCE RECOVERY FACILITY **RULES AND REGULATIONS**

9850 Furnace Road, Lorton, Virginia 22079 (Effective February 2020) 703-690-1703

In order to provide efficient and economical disposal service, the following rules will be strictly enforced at Fairfax County's I-95 Landfill Complex.

#### AREAS OF THE I-95 LANDFILL COMPLEX

Collection and disposal companies will deliver their municipal solid waste (MSW) into the Energy/Resource Recovery Facility (E/RRF) for processing. Companies may bring materials such as yard waste, brush and metals to the Recycling and Disposal Center (RDC) and tires to the tire pad.

Residents of Fairfax County and Commercial Cash (CC) customers will dispose of waste and deliver recyclable material to the RDC.

Residents who wish to dispose of household hazardous waste will use the Household Hazardous Waste facility.

It is the responsibility of the customer to immediately remove any unauthorized solid waste discharged at the I-95 RDC.

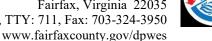
#### **ENERGY/RESOURCE RECOVERY FACILITY**

Covanta Fairfax, Inc. (CFI) owns the Energy Resource Recovery Facility (E/RRF). CFI publishes a separate set of rules and regulations for use of its facility (see attached document). CFI personnel may restrict access or suspend any customer from entering the E/RRF. CFI posts its most important rules on signs at the entrance to the E/RRF. If there is a question about any of the CFI rules, please call County personnel at 703-324-5230.

#### I-95 RECYCLING and DISPOSAL CENTER

Clean brush, yard waste and metals/white goods will be delivered to the I-95 Recycling and Disposal Center (RDC) areas designated for such materials. Yard waste consists of leaves, grass and twigs. Clean brush is the woody portion of yard waste, such as tree trimmings (including Christmas trees). The I-95 RDC can accept a branch and/or trunk with a diameter of 20 inches

> **Department of Public Works and Environmental Services Solid Waste Management Program** 12000 Government Center Parkway, Suite 458 Fairfax, Virginia 22035 Phone: 703-324-5230, TTY: 711, Fax: 703-324-3950



#### I-95 LANDFILL COMPLEX & ENERGY/RESOURCE RECOVERY FACILITY

or less. Metals/white goods include, but not limited to, appliances such as stoves, refrigerators, washing machines, clothes dryers, and hot water heaters. Other metal objects include aluminum siding, metal shelving, metal lawn furniture and smaller objects that are primarily made of metal.

## **CONSTRUCTION & DEMOLITION DEBRIS**

Dirt, concrete, asphalt, rock, shingles, drywall and other similar material will be accepted in moderate amounts.

## **CUSTOMERS AT THE I-95 LANDFILL COMPLEX**

Customers must obey the following rules in order to ensure the safe and efficient operation of the I-95 Landfill Complex. Failure to comply may result in the suspension of the individual(s) and the company from using the facility. The I-95 Superintendent or his representative will determine the duration of any such suspension. At the option of the I-95 Superintendent or his representative, the restriction may begin immediately or be scheduled based upon the circumstances. The I-95 Superintendent or his representative will telephone or email the company owner/representative to relay the specific circumstances and duration of any suspension.

#### **GENERAL REGULATIONS**

- 1) All individuals entering the I-95 Landfill Complex must conduct themselves in an orderly manner and follow the oral/written instructions of County personnel.
- 2) County solid waste decals must be clearly displayed on both sides of collection and disposal vehicles.
- 3) The speed limit is 25 mph in the I-95 Landfill Complex and 10 mph on the E/RRF tipping floor. *Drive safely* and minimize your speed when entering or leaving the facility. Follow road signs and adjust driving speeds to road conditions during inclement weather. Road maintenance and snow removal equipment have the RIGHT-OF-WAY.
- 4) All commercial vehicles entering the I-95 Landfill Complex are subject to random waste inspections by County personnel. In the event of a solid waste inspection, drivers are to remain with their vehicle until informed by County personnel that they may proceed to exit the I-95 Landfill Complex.
- 5) All persons/vehicles enter the I-95 Landfill Complex at their own risk.
- 6) No person will use or possess intoxicating beverages or illegal drugs of any kind while on the I-95 Landfill Complex.
- 7) The County of Fairfax assumes no liability for damages to vehicles or injuries to individuals on the I-95 Landfill Complex premises. Report any accident immediately to the I-95 Superintendent or his representative.
- 8) Fairfax County reserves the right to change or modify these rules without written notice.

## **VEHICLE REGULATIONS**

- 9) Waste disposal vehicles are restricted to using public roads to reach the site, such as I-95/Route 1 and the portion of Furnace Road leading to Mordor Drive (formerly Landfill Access Road).
- 10) Waste disposal vehicles are strictly prohibited from entering the complex next to the former DC Youth Center 1. In addition, U-turns at the former DC Youth Center or the I-95 RDC are prohibited.
- 11) Tailgates are not to be unlatched at the scale area. Tailgates are to be opened and closed only at the designated disposal area unless otherwise instructed.
- 12) All waste disposal vehicles entering the I-95 Landfill Complex must have a tow hook or bar so that in the event a vehicle breaks down in a high traffic area, it may be temporarily removed.
- 13) All waste disposal vehicles with materials that could blow out of the vehicle must be covered during transport. This includes empty open-body type vehicles that have finished disposal and may contain loose refuse. The cover may only be removed at the disposal area.
- 14) All open top or roll of containers, including compactors, must have the county's "Box Number" prominently displayed. Box Numbers are obtained at the scalehouse.
- 15) Drivers must remain with their vehicle. Vehicles may not be repaired or abandoned at the I-95 Landfill Complex. Any abandoned vehicle will be towed at the owner's expense.
- 16) The County of Fairfax assumes no liability for the towing of any vehicle.
- 17) All solid waste collection vehicles using the I-95 Landfill Complex must have operating back-up alarms.

#### **DRIVER'S REGULATIONS**

- 18) Drivers are not allowed to walk within 15 feet of the pit on the tipping floor of the E/RRF where refuse is discharged. All tailgate unlocking and cleaning must be done away from the pit area.
- 19) Drivers are reminded not to allow their vehicles to roll within six feet of the pit.
- 20) Drivers must pay attention to directions. When using the Covanta scales, drivers are not to exit the scale until instructed to do so by the scale operator. Failure to do so could result in charging the penalty rate to that load of trash.
- 21) Drivers must enter and exit the scales slowly and stop smoothly to prevent damage to the scale equipment.
- 22) Drivers must state ORIGIN and TYPE OF MATERIAL of the waste to be disposed. ORIGIN means where the waste was collected
- 23) Drivers who have routes or collection locations that include a medical facility, clinic, medical complex, or doctor's offices where medical procedures are performed must alert the scale house when entering the I-95 Landfill Complex.
- 24) Drivers are responsible for the removal of any litter from their vehicles left on the roads.

#### I-95 LANDFILL COMPLEX & ENERGY/RESOURCE RECOVERY FACILITY

- 25) Drivers of trucks with hydraulic leaks will be responsible for their own spills.
- 26) Drivers and all other personnel must wear safety vests with reflective material, or clothing with reflective markings (orange or yellow), while out of their vehicles at the I-95 Landfill Complex or E/RRF.
- 27) Drivers may not use cell phones, AM-FM, CB, and/or two-way radios at the I-95 Landfill Complex, and should limit their use at all other times while at the I-95 Landfill Complex.
- 28) Drivers must notify scale personnel immediately in the event of a vehicle fire/hot load and follow the instructions given by County Personnel.
- 29) It is the responsibility of the driver/permit holder to immediately remove any unacceptable waste discharged at the I-95 Landfill Complex.
- 30) If potential violations are noted during random or scheduled inspections, drivers must sign the inspection form used to document the issue for recordkeeping purposes. Signature does not indicate agreement with the alleged rules violation.
- 31) Drivers will not dispose of recyclable materials, brush, yard waste, or other special or prohibited waste on the E/RRF tipping floor.

## **SUSPENSION OF DISPOSAL PRIVILEGES**

The Solid Waste Management Program (SWMP) reserves the right to immediately suspend disposal privileges or charge a higher penalty rate for loads in the event of:

- Nonpayment of solid waste disposal fees or delinquent accounts.
- Disposal of unacceptable or hazardous waste.
- Failure to have a vehicle properly permitted and inspected.
- Operating vehicle and/or container with safety deficiencies or in an unsafe manner.
- Salvaging and/or removal of unauthorized items from discharged waste.
- Noncompliance with rules and regulations concerning the I-95 Landfill Complex or Chapter 109.1 of the Fairfax County Code.
- Disposal of items, which, at the discretion of the I-95 Landfill Complex Superintendent or his representative, may impede operations or are considered hazardous to personnel.
- Unacceptable behavior, as determined by County operations staff.
- Mixing recyclable materials with municipal solid waste.
- Driver giving incorrect information about the origin or type of waste being disposed.

## I-95 LANDFILL COMPLEX & ENERGY/RESOURCE RECOVERY FACILITY

## **FACILITY INFRACTIONS**

| Offense  | 1 <sup>st</sup> Action | 2 <sup>nd</sup> Action | 3 <sup>rd</sup> Action | Comments  |
|--|------------------------|------------------------|------------------------|---|
| Mis-Identification of Waste,<br>Origin & Material Type | 1 Load @ \$100/Ton     | 3 Loads @ \$100/Ton    | 6 Loads @\$100/Ton     | 4 <sup>th</sup> Action – Mandatory Meeting<br>with LIS Branch Chief at County's<br>Discretion |
| Unsatisfactory Waste<br>Inspections                    | 1 Load @ \$100/Ton     | 3 Loads @ \$100/Ton    | 6 Loads @\$100/Ton     | 4 <sup>th</sup> Action – Mandatory Meeting<br>with LIS Branch Chief at County's<br>Discretion |
| Non-Compliance with Other Facility Rules & Regulations | 1 Load @ \$100/Ton     | 3 Loads @ \$100/Ton    | 6 Loads @\$100/Ton     | Facility Manager Discretion   |
| Failure to Attend Mandatory<br>Meetings                | 1 Load @ \$100/Ton     | 3 Loads @ \$100/Ton    | 6 Loads @\$100/Ton     | Directory Review and Signature at 2 <sup>nd</sup> and 3 <sup>rd</sup> Action                  |
| Failure to Comply with WD/DA                           | 1 Load @ \$100/Ton     | 3 Loads @ \$100/Ton    | 6 Loads @\$100/Ton     | 4 <sup>th</sup> Action – Mandatory Meeting<br>with LIS Branch Chief at County's<br>Discretion |

## **MATERIALS PROHIBITION LIST**

Some commercial recyclable materials, as noted, are accepted elsewhere at the I-95 Landfill Complex. Residents, see RDC brochures for additional services.

| Recyclable Materials   |
|--|
| Accepted at the I-95 Landfill Complex  |
| □Yard Waste  |
| □Brush   |
| □Tires   |
| Ferrous Metal/White Goods  |
| □Cardboard   |
| Maria Alamana 1981 Ielica I  |
| Materials Accepted at the I-95 Landfill Complex (Only by permission of I-95 Landfill Superintendent) |
| Stone/Gravel/Rock  |
| □Concrete/Cement   |
| □Brick/Block   |
| ☐ Asphalt/Tar  |
|  |
| Not Accepted at E/RRF  |
| (see attached for additional details)  |
| ☐Storage Tanks   |
| □Dirt/Soil/Sand  |
| □Stumps/Sawdust  |
| ☐Creosote Treated Lumber   |
| ☐Empty Metal or Plastic Drums  |
| ☐Offal/Dead Animals  |
| ☐ Shingles/Roofing Materials   |
| ☐Friable Asbestos/Asbestos Rock  |
| □Floor Tile/Asbestos   |
| □Dry Wall/Plaster  |
| □Petroleum Contaminated Soil   |
| ☐Hazardous Waste   |
| □Explosives  |
| ☐Medical Waste   |
| ☐ Radioactive Material   |
| □Porcelain Fixtures  |
| □Sludge/Sewage/Manure  |

## I-95 LANDFILL COMPLEX & ENERGY/RESOURCE RECOVERY FACILITY

## **CUSTOMER SERVICE OR EMERGENCY CONTACT**

In the event that a customer has a problem that is unresolved by scalehouse staff, or if an emergency arises, customers should contact the I-95 Landfill Complex management for resolution of the matter at 703-690-1703.

| Authorized Company Representative: |  |  |
|------------------------------------|--|--|
| Date:                              |  |  |
|                                    |  |  |

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## EXHIBIT B – WORK PLAN

Please see attached document.

Work Plan:
Field Investigations at I-95 Landfill,
Fairfax County, Virginia
Proposed Fairfax Peak Active Lifestyle
Complex



1308 Vincent Place McLean, VA 22101 703-509-2811

## SCS ENGINEERS

Project Number 02220011.00 | September 8, 2020 (Revised October 23, 2020

11260 Roger Bacon Dr Ste 300 Reston, VA 20190 703-471-6150

## Table of Contents

| Sect           | ction   | Page        |
|----------------|---|-------------|
| 1 2            | Introduction Field Activities  General Settlement Plates Cone Penetrometer Test (CPT) | 1<br>1<br>3 |
| 3              | Conventional Boring With Standard Penetration Tests (SPT)                             |             |
| 3<br>4         | Reporting Health and Safety Plan  |             |
| _              | COVID-19 Planning   | 6           |
| _              | Right of Entry Agreement  |             |
| 5<br>6         | Quality AssuranceSchedule of Activities   |             |
| Figur          | Figures ure 1. Typical Settlement Plate   | 2           |
|                | Tables  |             |
| Table<br>Table | le 2. Planned CPT Coordinates and Elevations  | 3           |

**Attachments** 

Attachment A Geotechnical Testing Map

## 1 INTRODUCTION

SCS has prepared this Work Plan for initial field investigations at the I-95 Landfill Complex in support of the development plans of the proposed Fairfax Peak Active Lifestyle Complex. Field activities proposed for this phase of the work and covered by this Work Plan include (1) installation of seven settlement plates located on the surface of the landfill, (2) Cone Penetration Testing (CPT) at eight locations that extend through the final cover and into the waste column, (3) Standard Penetration Testing (SPT) at four locations that involve auger borings into the waste near select CPT locations, and (4) reporting of results. The settlement plates will be installed and monitored later this year, with CPT and SPT testing beginning next spring 2021.

Site activities undertaken by SCS will be performed pursuant to the Right of Entry (ROE) agreement, executed May 11, 2020 between Fairfax County and Alpine-X, LLC.

## 2 FIELD ACTIVITIES

#### **GENERAL**

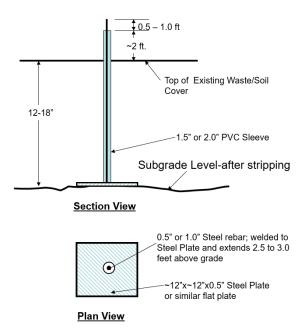
To the extent field activities will take place near monitoring wells or similar features, SCS will surround such features with orange construction fencing to prevent disturbance. If subsurface trash or waste is exposed, SCS will remove such trash or waste, if any, to an active area of the landfill, the adjacent resource recovery facility, or to another facility appropriate to receive the material(s).

## **SETTLEMENT PLATES**

SCS proposes to install seven (7) settlement plates on the surface of the I-95 landfill as the initial activity. The purpose of these settlement plates is to allow measurement of the rate of compression (i.e., surface settlement) of the existing waste column due to on-going decomposition for the anticipated range of waste depths of about 25 to 120 feet. By measuring the rate of settlement, we will be able to more accurately evaluate how it could impact the planned development by Alpine X. Since the waste is relatively old, and a significant amount of gas has been generated by the decomposing waste, we do not expect settlement to be more than a few inches over the next 6 to 12 months, but over a period of 20 years or more, such settlement is cumulative and may reach several feet. Generally, the rate and magnitude of settlement will occur where the waste is thicker and younger in age.

The settlement plates are simple devices, as shown below, and will be fabricated and installed by SCS Field Services. The base of the settlement plate will be a metal plate that will lay parallel to the ground surface, set between 12 and 18 inches below grade, but above any geomembrane cap liner that might be present. Extending perpendicular to and welded to the metal plate will be a length of steel rebar or metal pipe that will extend above the ground surface. The metal pipe will be protected by a section of PVC pipe, and the top of the metal pipe will be the point we will survey over the course of six or more months. Figure 1 is a detail of the settlement plate.

Figure 1. Typical Settlement Plate



A map depicting the proposed locations of the settlement plates can be found in Attachment A.

Overall, we are planning to install seven settlement plates, distributed between the soil cap areas and the geomembrane cap areas. Surveys will occur immediately after installation and approximately every six weeks thereafter, for at least six months. Elevations will be taken by a licensed land surveyor utilizing an existing bench mark near the landfill, but off of any waste areas. Elevation data will be plotted against time to establish the rate of settlement. Table 1 shows the approximate surface elevation at each settlement plate, as well as the approximate depth of waste from available information. Although some horizontal movement of the plates is possible due to normal slope creep, the elevation data are the most relevant.

Table 1. Planned Settlement Plate Coordinates and Elevations

| Test No. | Northing  | Easting    | Elevation<br>(ft) | Approx. Waste<br>Depth (ft) |
|----------|-----------|------------|-------------------|-----------------------------|
| SET-1    | 6,936,596 | 11,839,449 | 286               | 120                         |
| SET-2    | 6,935,922 | 11,839,330 | 239               | 108                         |
| SET-3    | 6,934,989 | 11,839,158 | 141               | 30                          |
| SET-4    | 6,937,376 | 11,840,136 | 260               | 55                          |
| SET-5    | 6,936,671 | 11,840,496 | 181               | 90                          |
| SET-6    | 6,935,743 | 11,840,495 | 154               | 75                          |
| SET-7    | 6,934,884 | 11,840,541 | 152               | 20                          |

<sup>\*</sup>Locations will be field adjusted to avoid roads and obstructions.

At the end of the six month period, we will compile the data and develop a plot of settlement vs. time to calculate the rate of movement in inches per year. This information, coupled with information on the average age of waste, and the depth and composition of waste placed in the landfill, will be

valuable in projecting future settlement of the landfill due to on-going waste decomposition over the next 20 or more years. Along with structural loading information, and grading plans, long term settlement rates will be useful in evaluating and designing foundation systems for the proposed structures, as well as roads and parking areas.

If any of the settlement plates are damaged by weather or equipment, broken-off, bent, or tilted over by more than about 20-degrees, SCS should be notified as soon as possible to decide if it can be repaired or not, or if a re-survey is needed. Since there are no landfill operations occurring in the area where the plates will be installed, it is unlikely they will be disturbed or damaged by operations.

## CONE PENETROMETER TEST (CPT)

Table 2.

We propose to perform eight (8) CPTs at various locations at the landfill as shown on Attachment A and Table 2. CPT-1, located near the high peak of the ski slope (and coincidently where the waste appears to be deepest) would be at least 100 feet deep, and up to 140 feet if feasible with CPT equipment to reach the bottom of the waste. CPT-2, located near the mid-point of the ski slope, will be approximately 100 feet deep, if feasible, and which approximates the waste depth shown on available maps. At the other locations (CPT-3 through 8), CPTs would extend to the bottom of the waste which we anticipate will be in the 5 to 50 foot deep range.

Planned CPT Coordinates and Elevations

| st |          |         | Elevation | Approx. Waste | Plann |
|----|----------|---------|-----------|---------------|-------|
|    | Northing | Fasting | (f+)      | Denth (ft)    |       |

| Test  |           |            | Elevation | Approx. Waste | Planned Test Depth |
|-------|-----------|------------|-----------|---------------|--------------------|
| No.   | Northing  | Easting    | (ft)      | Depth (ft)    | (ft)               |
| CPT-1 | 6,936,342 | 11,839,324 | 263       | 140           | 100 to 140         |
| CPT-2 | 6,935,979 | 11,839,341 | 245       | 100           | 100                |
| CPT-3 | 6,935,200 | 11,839,020 | 172       | 20            | 20                 |
| CPT-4 | 6,934,930 | 11,839,124 | 132       | 30            | 30                 |
| CPT-5 | 6,935,110 | 11,839,812 | 110       | 50            | 50                 |
| CPT-6 | 6,934,608 | 11,840,301 | 137       | N/A           | 20                 |
| CPT-7 | 6,934,886 | 11,840,608 | 151       | 5             | 20                 |
| CPT-8 | 6,935,303 | 11,840,561 | 132       | 5             | 20                 |

<sup>\*</sup>Locations will be field adjusted to avoid roads and obstructions

SCS will be contracting with ConeTec from Richmond, Virginia, to perform the CPTs and provide a report with the results of CPT testing. When performing each CPT, the data is recorded at frequent depth intervals using a depth wheel attached to the push cylinders, or by using a spring-loaded rubber depth wheel that is held against the cone rods. The typical recording intervals are either 2.5 cm or 5.0 cm. The system displays the CPTu data in real time and records the following parameters to a digital storage media during penetration:

- Depth of probe
- Uncorrected tip resistance (q<sub>c</sub>)
- Sleeve friction (f<sub>s</sub>)
- Ratio of q<sub>c</sub>/f<sub>s</sub>
- Dynamic pore pressure (u)

- Temperature
- Seismic shear wave or compression wave testing may be performed at several locations, but this is done as part of normal CPT operations and will be a field decision.

All testing will be performed in accordance with *ConeTec's* CPT standard operating procedures, which are in general accordance with the current ASTM D5778 standard. (These procedures can be provided under separate cover, if requested). Detailed CPT logs including SBT designations will be provided upon completion of the field work. All safety procedures will be followed when on site and during testing. If the cab of the *ConeTec* rig is enclosed, *ConeTec* will monitor methane gas levels in the cab, and, if elevated levels are detected, active ventilation or other engineering controls will be implemented.

In areas where a geomembrane cover liner is present, the CPT can penetrate through the liner easily but a small hole, about 1 inch in diameter, will be created. Should the County or VDEQ ask us to repair holes with a small piece of geomembrane over the hole, we will provide qualified personnel for patching. However, based on the small size of the hole, and limited potential for environmental impact, we believe a small plug of bentonite is appropriate to seal the hole with the area marked for reference. There are also specialized adhesive tapes that are used to seal geomembrane holes that could be used in lieu of bentonite.

No backfilling of the CPT probe hole will be necessary as the small probe hole will resolve itself due to lateral forces and relatively high compressibility of the waste. In other words, the hole will heal itself.

## CONVENTIONAL BORING WITH STANDARD PENETRATION TESTS (SPT)

We will perform four conventional auger borings with Standard Penetration Testing (SPT), as shown in **Attachment A** and Table 3 below. These borings will be advanced using conventional 6 or 8-inch diameter hollow stem augers (HSA) or flight augers, and will be performed after completion of the CPT probes. After obtaining written approval from the County, we propose to extend the borings to the bottom of the waste, or as close to the bottom as is feasible. In areas where waste is more than about 50 or 60 feet, full penetration of the waste may be difficult due obstructions and drilling resistance. In those areas, we would likely terminate the borings before reaching the bottom, especially if deeper penetration requires significant time and effort, or if a larger drill rig is needed.

| Test<br>No. | Northing* | Easting*   | Approx.<br>Elevation<br>(ft) | Approx. Waste<br>Depth (ft) | Planned Test<br>Depth (ft) |
|-------------|-----------|------------|------------------------------|-----------------------------|----------------------------|
| SPT-1       | 6,936,478 | 11,839,521 | 282                          | 140                         | 100 to 140                 |
| SPT-2       | 6,934,999 | 11,839,072 | 140                          | 30                          | 30                         |
| SPT-3       | 6,934,790 | 11,840,281 | 118                          | N/A                         | 20                         |
| SPT-4       | 6,934,948 | 11,840,545 | 148                          | 10                          | 20                         |

Table 3. Planned SPT Coordinates and Elevations

Conventional auger borings will allow the collection of waste samples using SPT (or split-barrel testing, SBT) methods in accordance with ASTM D1587 at intervals of 5 feet. The split barrel sampler is able to recover waste samples (depending on the size and composition of the waste) and also provides a numerical measure of compactness through the blow counts, or N-values on a per

<sup>\*</sup>Locations will be field adjusted to avoid roads and obstructions

foot basis. The N-values represent the number of blows of a 140-pound drop hammer falling 30 inches to penetrate one foot. N-values are recorded for each of three, 6-inch intervals of penetration.

By collecting actual samples of the waste, and comparing them to the Soil Behavior Type (SBT) designations derived from the CPT tests, we will be able to better understand the relative characteristics of the waste, including degree of decomposition, moisture content, density, shear strength and compressibility. While we do not propose performing actual shear strength or compression tests on waste samples in this phase of the field work, the SPT tests coupled with CPT probes will provide key information for preliminary foundation evaluation analyses.

Gas will be continuously monitored with a handheld meter to prevent buildup in the testing equipment. If there is buildup of landfill gas, we will evacuate the equipment/vehicles, open doors, and allow it to vent into the atmosphere before returning to the testing. We will monitor ambient air in the area or inside the equipment cab to evaluate levels before resuming work.

After drilling is completed, we will backfill the bottom of each hole with bentonite to plug the hole, and backfill the remainder of the hole with clean backfill. Waste cuttings will be collected and removed to an active area of the landfill, to the adjacent resource recovery facility, or to another facility appropriate to receive the material. Areas capped with a geomembrane cap will require hand digging to the geomembrane to expose and cut out a section of the geomembrane cap prior to drilling to prevent shearing of the cap elsewhere. Geomembrane capped areas include from top to bottom: 24 inches of vegetative support layer and topsoil; 6 ounce non-woven geotextile; 12 inch thick drainage layer, and a 40 mil thick VLDPE (very low density polyethylene) geomembrane. Since VLDPE is no longer available or being used in landfill cap systems, we will obtain 40 mil thick LLDPE (linear low density polyethylene), a very similar material, for patching the geomembrane after drilling and testing have been completed. As we are hand digging to the geomembrane, we will segregate vegetative layers and drainage layer materials for re-use, if possible. Similar to replacing the 40 mil thick VLDPE geomembrane with 40 mil thick LLDPE, we will obtain a minimum 6 ounce/square yard non-woven geotextile for patching the geotextile. Backfilling of the vegetative support and topsoil will be to existing grades prior to drilling.

## 3 REPORTING

After the completion of each of the above testing, SCS will prepare a report that highlights the analysis and results, including detailed boring and probe logs.

The settlement plates, survey results, calculations, and analysis will also be compiled into a single report that will be delivered to Alpine X upon completion. We will compile detailed logs and related information from ConeTec, as well as logs from the geotechnical drilling firm, SPT N-values, and observations during the drilling. The report will include a site map of test locations, test boring logs with descriptions and depths of materials encountered, liquid levels observed, obstructions (if present), geographic grid coordinates and elevations of the test locations, and other observations as are applicable.

SCS will summarize the results of test borings, including descriptions of waste materials encountered and their relative properties, liquid levels observed, conclusions and recommendations for additional investigations and suggestions for design of the planned development.

## 4 HEALTH AND SAFETY PLAN

The safety of everyone involved in the project is of utmost importance. A written Health and Safety (H&S) Plan will be prepared by SCS in advance of our field activities, and a copy of our Plan will be provided to Alpine-X LLC and Fairfax County for review. We will also review and consider specific elements of the I-95 safety plan, which we will obtain from Fairfax County prior to implementing field activities.

The SCS Plan will be prepared in general conformance to the applicable requirements of OSHA 29 CFR Part 1910.120, and will include the following topics at a minimum:

- Organizational structure of the key team members, with a specific chain of command established. Personal roles and responsibilities will be described, and emergency contact information will be provided, including directions to and information on the nearest hospital or clinic in proximity to the Site.
- Work Plan, describing the site-specific work scope in detail and the potential environmental, physical, and natural hazards that may be encountered. This section will include development of applicable job-task safety assessments (JTSA, or job hazard analyses) taking into account the specific task, potential hazards, critical actions to be taken, and necessary personal protective equipment (PPE). For the proposed work, potential hazards foreseen at this time include possible exposure to decomposition gases, working in uneven terrain (slips, trips, and falls), working around heavy equipment, and encountering biological hazards such as snakes, ticks, and bees.
- Summary of the training requirements for site workers and contractors.
- Medical surveillance program, if required, for those covered by the H&S Plan.
- Health and safety standard operating procedures to be followed.

The site-specific elements of the Plan may address additional topics, as needed. These include: specific air monitoring techniques (i.e., procedure for personal and ambient air monitoring) to evaluate for airborne hazards; specific site control measures; decontamination procedures; and emergency response procedures. SCS subcontractors will be required to provide copies of their safety plans, and provide evidence of applicable H&S training for their staff, prior to mobilizing to the Site.

SCS typically holds a daily safety meeting prior to the onset of work for that day. The daily safety meetings review the specific work scopes anticipated for that day, potential biological and physical hazards, landfill gas, drill-rig safety, and requisite PPE and monitoring. The daily safety meetings provide a forum to ask questions, or to clarify a scope step, procedures, or response.

We anticipate that SCS staff conducting field work on this project will have current H&S training consistent with the 24-hour or 40-hour OSHA HAZWOPER training requirements.

## COVID-19 Planning

In light of COVID-19, SCS has procedures in place to safely execute field work for the foreseeable future. Prior to engaging in-person, we will screen SCS employees who will be conducting field work or attending meetings in-person, as well as SCS subcontractor staff, regarding whether such persons

have within the past 14 days: tested positive for COVID; if test results are pending; experienced COVID symptoms; or traveled out of the area or internationally. For field work and in-person meetings, we will practice heightened personal hygiene and worksite cleanliness, including use of disposable gloves, frequent hand washing, use of face coverings, and social distancing.

## Right of Entry Agreement

Site activities undertaken by SCS will be performed pursuant to the Right of Entry (ROE) agreement, executed May 11, 2020 between Fairfax County and Alpine-X, LLC.

## **5 QUALITY ASSURANCE**

Each stage of the work will be covered by a Quality Assurance Plan (QAP) consistent with SCS's internal requirements and as required by Alpine X and the County. At a minimum, the QAP will address the following:

- Observation and monitoring: a representative of SCS Engineers will be present during settlement plate installation, as well as during CPT and SPT testing. Our representative will confirm the testing location and numerical designations.
- Detailed CPT and SPT logs will be prepared by the respective driller (CPT and SPT)
  including location, probe or boring designation, site conditions, weather conditions, field
  crew names, drilling equipment model, and other observations. SCS's representative will
  review the logs for completeness and accuracy.
  - CPT data will be recorded digitally and in real-time by ConeTec and provided at the completion of testing
  - SPT blow count data (N-values) will be recorded in the field and transferred to paper logs that will be prepared by the driller
- Elevations and coordinates of the CPT and SPT locations will be verified in the field BEFORE drilling operations begin (by surveyors) and used to confirm, as closely as possible, the depth to the bottom of the waste column based on available data. (Note: since we intend to penetrate through the waste, and thus penetrate the bottom soil liner if one exists, SCS's in-house protocols that guard against drilling through a liner will be adjusted for this project).
- Daily logs will be maintained that document work performed, weather conditions, equipment usage, personnel and other observations.
- Photos will be taken at each CPT and SPT location to document pre- and post-drilling conditions.
- SCS representatives will communicate directly with designated I-95 Landfill Complex and Fairfax County personnel prior to arrival at the site, during the field activities, and at the conclusion of activities.
- During the course of the work, SCS will maintain communications with Alpine X personnel as to the progress of the work and preliminary findings.

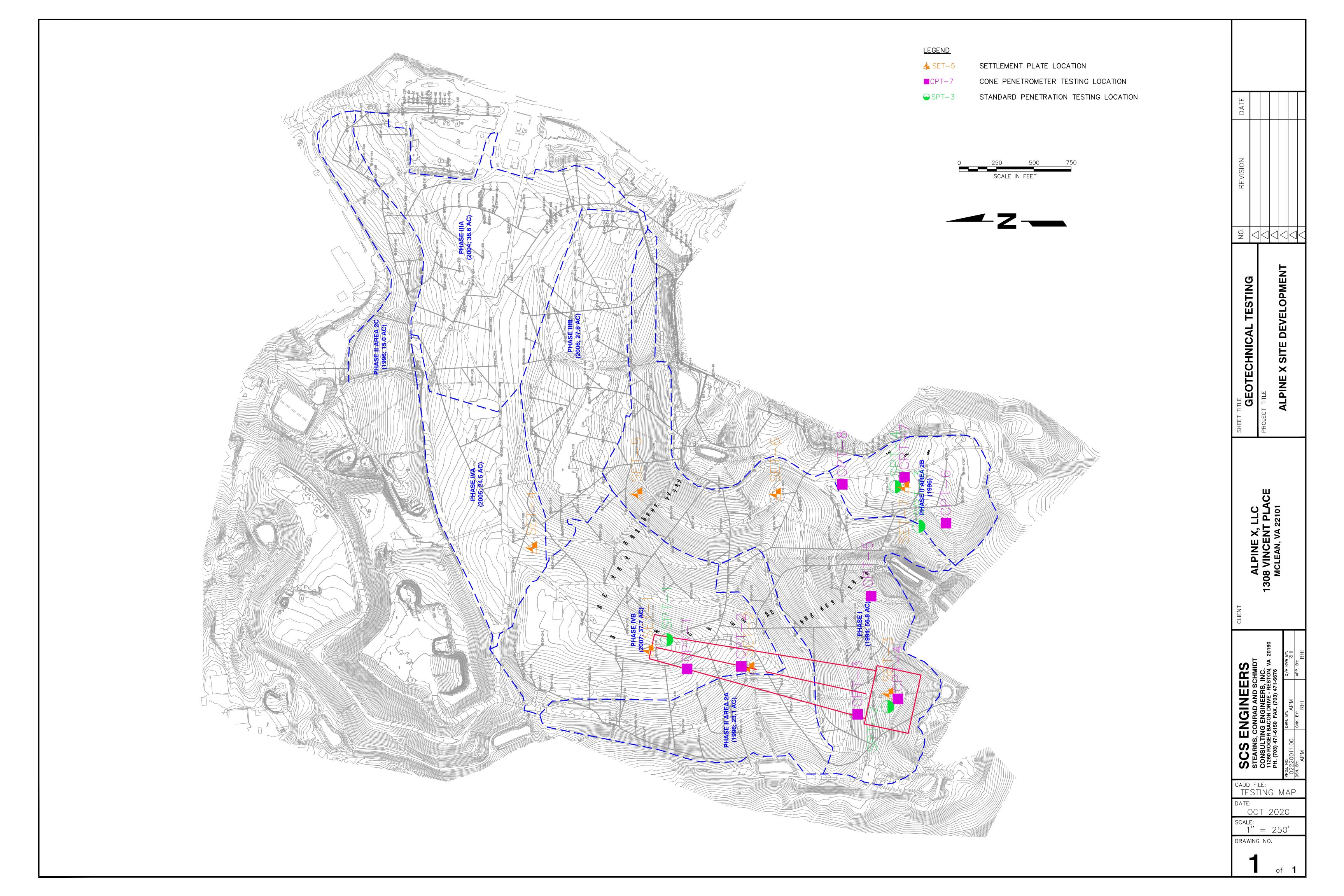
 CPT and SPT test locations will be field marked with a numbered stake and flagging for future reference.

## **6 SCHEDULE OF ACTIVITIES**

Based on our discussions, it is understood the settlement plate activities are likely to commence later this year, with CPT and SPT work to occur next spring 2021.

To facilitate the settlement plate installations, we suggest performing a brief site visit with the surveyor and County operations representative to observe conditions around the proposed settlement plate locations, and to finalize the locations to avoid conflicts with access roads, ditches, gas well heads, and other site features. The areas will then be prepared for settlement plate installation. CPT activities are expected to take 3 to 4 days to complete, and SPT activities will take one or two weeks, depending on depth and difficulty of drilling into waste.

# Attachment A Geotechnical Testing Map



## EXHIBIT C – HDR MEMORANDUM

Please see attached document.

## Memo

| Date:    | Monday, November 09, 2020   |
|----------|---|
| Project: | I-95 Landfill Proposed Ski Slope – Due Diligence Review<br>Recommendations for Exploratory Boring Cap Repairs               |
| То:      | Mr. Eric Forbes, Director Recycling, Engineering and Environmental Compliance Fairfax County Solid Waste Management Program |
| From:    | Jeff Murray, P.E., BCEE   |
| Subject: | Recommendations for Exploratory Boring Cap Repairs  |

HDR has reviewed SCS Engineers document entitled *Work Plan: Field Investigations at I-95 Landfill, Fairfax County, Virginia, Proposed Fairfax Peak Active Lifestyle Complex* dated September 8, 2020 (Revised October 23, 2020). We have no further comments with respect to the revised work plan except for offering the following recommendations for plugging and patching the exploratory CPT soundings and SPT boreholes where they penetrate the existing final cover systems.

#### Soil Only Final Cover System

HDR recommends that the CPT sounding holes be plugged with bentonite extending through the design thickness of the final cover system (i.e. upper 24 inches).

HDR recommends that the SPT boring holes be backfilled with cement-bentonite grout extending through the design thickness of the final cover system (i.e. upper 24 inches). Soil backfill may be used beneath the final cover system. The grout should be allowed to set for at least one day and any remaining space resulting from grout settlement backfilled with compacted soil. Provide temporary barricades at each borehole until backfilling is complete.

#### Geosynthetic Final Cover System

HDR recommends that both CPT sounding and SPT boring penetrations of the 40-mil textured VLDPE liner be patched with 40-mil textured LLDPE liner in general accordance with the procedures described by SCS Engineers in the revised work plan for the SPT borings. Prior to patching, the existing geomembrane should be exposed by hand excavation to the extent required for the repairs. Patching should include the following procedures:

- Ensure boreholes are adequately backfilled with compacted soil to provide a firm surface to support the geomembrane patch.
- Thoroughly clean the exposed geomembrane patch to provide suitable surface for welding.
- Cut patches to extend a minimum of 6 inches of overlap in all directions.
- Patches shall have rounded corners.
- Extrusion weld patches to existing geomembrane.

- Perform vacuum tests on all seams per ASTM D5641.
- Repair any patches that do not pass the vacuum test.

As stated in the revised work plan, the various soil materials used for final cover construction should be segregated during patch excavation to allow reconstruction after patching with like materials and new 6 oz/sy non-woven geotextile should be used to patch the existing geotextile located over the 12-inch bedding layer.

#### **Site Restoration**

CPT sounding and SPT boring locations shall be restored to original condition or better. Any vegetated areas that are disturbed shall be seeded and mulched. Erosion control blankets should be used to protect seeded areas that may be prone to washouts. SCS Engineers shall be responsible for repairing any areas that are not restored to the satisfaction of Fairfax County.

#### CQA/CQC Recommendations

HDR recommends that SCS Engineers provide full-time observation during plugging, patching and site restoration activities. These activities should be documented in a final report addressed to Fairfax County. At a minimum, the report should include the following:

- Date and location of repairs (gps coordinates).
- Narrative of repair procedures used.
- Results of vacuum testing.
- Photo documentation to include pre- and post-plugging conditions, exposed geomembrane after excavation, completed patches, site restoration.