



Workplan – Soil Vapor Extraction Remediation System

**Vashon Auto Center / Island Mart
17817 (17803) Vashon Island Hwy SW (99th Ave. SW) King County
Vashon, Washington 98070
WA Ecology Facility/Site ID: 37689576
VCP Project No.: NW2863**

Prepared For:

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May 11, 2016

Kane Project Number: 55906

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1.0 INTRODUCTION

Kane Environmental, Inc. (Kane Environmental) prepared this Work Plan for a proposed remedial action at 17817 (17803) Vashon Island Highway SW in Vashon, Washington (the Subject Property). Refer to Figure 1 (Vicinity Map) and Figure 2 (Site Plan).

In May of 2015, Kane Environmental submitted a Remedial Investigation/Feasibility Study (RI/FS) report which described the Subject Property, the environmental conditions, identified the remedial action tasks, evaluated cleanup action alternatives as a basis for selecting the preferred cleanup alternative (soil vapor extraction, or SVE). The RI/FS described the appropriate cleanup standards selected under the Washington Model Toxics Control Act (MTCA) and Washington Department of Ecology (Ecology) regulations for the remediation of gasoline and related constituents. The RI/FS Report was prepared in accordance with MTCA Cleanup Regulations as outlined in WAC 173-340-390.

The choice of the SVE alternative for remediation of the Property was presented in a Draft Corrective Action Plan (CAP) Report, dated August 19, 2015. An Ecology response, dated September 25, 2015 requested a reduction of the proposed duration of the project to site restoration to three to four years. After Kane Environmental responded with a letter dated October 2, 2015, Ecology provided a NFA-Likely letter dated October 22, 2015. This letter stated that if the remedial action (SVE) was conducted according to the draft CAP with a 3 to 4 year SVE duration with an additional year of confirmation monitoring, cleanup of the site would likely be complete and an NFA would be issued.

This Workplan presents a timeline and cost estimates for an interim cleanup action, and installation and operation of the SVE system on the Property through completion of remediation of the gasoline and related contamination in soil and groundwater on the Property. Compliance monitoring consisting of performance and confirmation monitoring costs are also included.

After the SVE is implemented, operated, and monitored for a sufficient period of time, and the remediation is complete, a request for an Opinion Letter of No Further Action (NFA) will be sent to Ecology.

Table 1 includes estimated costs for all tasks included in this project.

2.0 INTERIM CLEANUP ACTION

As an interim cleanup action, Kane Environmental will pump contaminated groundwater from selected monitoring wells within the Subject Property and the vicinity. Groundwater will be removed using a vacuum truck and properly disposed of off-site.

Marine Vacuum (MarVac) has been contacted regarding this task and they will provide a vacuum truck with an 800-gallon tank capacity. We estimate a maximum of 500 gallons of contaminated water will be removed from the wells for offsite disposal at a cost of \$0.50 per gallon.

We propose to complete two separate rounds of groundwater pumping, each completed in one field day. The first will be scheduled immediately after approval of this Workplan, and use the existing monitoring wells as presented in the CAP (KMW-2, KMW-3, MW-2, MW-3, MW-4, KMW-4 and KMW-1). An additional round of groundwater pumping is proposed after installation of the five 4-inch diameter SVE wells (see Section 2.1.1).

In addition to removal of contaminated groundwater from the site, this interim cleanup task will also provide valuable information regarding the recharge of groundwater into the SVE wells. This information will be used to estimate the rate of groundwater production, for discharge into the sanitary sewer, during operation of the SVE system. Dailey Engineering will be onsite for this task, in order to modify the MarVac equipment to approximate the configuration of the SVE system, and monitor drawdown and recharge of the groundwater within the wells.

3.0 SOIL VAPOR EXTRACTION (SVE) SYSTEM

The following sections describe the installation of the SVE system on the Property and include cost estimates for equipment purchase (and possible rental of select equipment). Table 1 shows a comprehensive list of tasks and expenses required for installation, operation, and maintenance of the SVE system.

3.1 SVE System General Design

The CAP included details on the general design of the SVE system for remediation of total petroleum hydrocarbon (TPH) contaminated soil and, to a very limited extent, groundwater proximal to the bottom of the vadose zone.

The SVE system will incorporate five (5) new SVE wells within the zone of soil contamination. Underground lines will connect the wells to the above-ground SVE equipment compound. The SVE system is expected to remove TPH concentrations in the unsaturated (vadose) zone soils. SVE wells, placed at an approximate 12-foot horizontal spacing, are recommended for placement in close proximity to the underground storage tanks (USTs) at the Subject Property to remediate contaminated soils.

The SVE wells will be coupled to a vacuum system and water separation system located in the SVE equipment compound to be constructed at the northwest corner of the convenience store structure. The air emission from the SVE system will be treated with a catalytic oxidizer to remove petroleum constituents prior to discharge to the atmosphere. While this option is initially more expensive than an activated carbon system, it will result in less down time due to the time necessary to replace spent carbon.

The locations of the SVE wells, underground lines, and equipment enclosure are presented in Figure 3. The layout of the SVE equipment compound is presented in Figure 4.

3.1.1 SVE Well Installations

Kane Environmental has obtained two competitive bids for installation of the five (5) SVE wells. Each SVE well will consist of four (4) inch diameter schedule 80 PVC with screened section between five (5) and fifteen (15) feet below ground surface (bgs). Each location will be precleared to four (4) feet bgs by airknife or hydroexcavation to clear underground utilities and buried gas station related infrastructure. Each location will be completed with 18-inch square well vaults to allow for access system piping.

Holt Services, Inc. of Edgewood, Washington estimated three days for well installation at an estimated cost of **\$16,725**. Cascade Drilling, L.P. of Woodinville, Washington estimated two days for well installation at an estimated cost of **\$15,234**. Disposal of drilling spoils would add an approximate **\$2,000** to this task. Cascade drilling has been chosen to install the SVE Wells.

3.1.2 Construction of Enclosure

The SVE system enclosure will consist of a 10 foot by 16 foot concrete pad, 4 inches thick. The enclosure will be located on the western wall, south of the northwestern corner, of the current convenience store

structure. The stub-ins and fence posts will be installed prior to pouring the slab. A 6 foot by 10 foot prefabricated shed will be installed on the concrete slab. The shed will be insulated and vented, with no windows. A space heater and light will be installed within the shed by the contractor. The SVE system hardware will be installed within the shed. All costs related to purchase and construction of the enclosure, and installation of the contents are included in the SVE System Installation cost (Table 1 and Section 3.3).

3.2 SVE Equipment Purchase vs Rental

The SVE system will consist of equipment including a blower, moisture separation equipment, and the control panel and other instrumentation. A catalytic oxidizer will be used to remove petroleum constituents from the air emissions. Some of this equipment may be leased rather than purchased. Kane Environmental has evaluated the relative costs of purchasing all equipment versus leasing select equipment for the anticipated duration of the project, finding that purchase of equipment is more cost effective considering the duration of the project.

3.2.1 Equipment Costs - Purchase

Kane Environmental has obtained price quotes for purchase of all equipment from two suppliers. National Environmental Systems (NES) of Attleboro, Massachusetts quoted a pretax cost of **\$89,150**. ESD Waste2Water, Inc of Ocala, Florida quoted a pretax cost of **\$86,505**. Kane Environmental (and Dailey Engineering) were unable to locate vendors within Washington State capable of supplying the equipment required for this SVE system. According to the quote provided by ESD Waste2Water, approximately eight (8) weeks will be required for delivery of all equipment to the site after placement of the order. Delivery charges are included in the quote provided. All quotes provided by vendors are included in Attachment A. Other material and equipment costs required for installation and assembly of the SVE system are included in the SVE System Installation cost (Table 1 and Section 3.3).

3.2.1 Equipment Costs - Rental

Kane Environmental has evaluated rental costs for SVE equipment. According to ESD Waste2Water (Attachment A), rental fees will exceed the cost of equipment purchase in approximately fourteen months. Professional experience (Stephen Dailey, Dailey Engineering) has found that that this is generally the case, and that rental of equipment much beyond a year is rarely cost effective.

3.3 SVE System – Installation

The SVE system is expected to be installed by a construction contractor capable of assembling the SVE system hardware within the equipment enclosure, connecting SVE wells to the SVE equipment within the enclosure, and connecting the SVE system wastewater outflow to the side sewer cleanout. Mr. Bill Spooner of Spooner Contracting LLC provided a pretax quote for these tasks of **\$54,700**. Additional materials and equipment (piping and valves for example) that are not specified in the quote from ESD Waste2Water will be provided by the contractor.

3.3.1 Permits

Various permits will be obtained for installation and operation of the SVE system. Table 1 includes the expected costs of the permits and the labor anticipated to obtain them. The required permits are presented below.

Puget Sound Energy (PSE): Permitted connection to the local electrical utility Puget Sound Energy (PSE). This will likely require a site visit with PSE personnel prior to permitting. After obtaining the permit, the construction contractor will hire an electrical contractor to complete the electrical connection from the PSE feed to the SVE system control panel.

Vashon Sewer District (VSD): Permitted connection to the nearby side sewer, allowing for sewer disposal of effluent water from the SVE system. This will likely require a site visit with VSD personnel prior to permitting. After obtaining the permit, the connection to the side sewer will be completed by the construction contractor.

Publicly Owned Treatment Works (POTW): Permitted disposal of groundwater effluent entering the side sewer to be treated at the Vashon Treatment Plant operated by King County. This permit is dependent on the effluent rate anticipated. This permit will be finalized after the SVE wells have been installed and the drawdown and recharge test has been completed (see Section 2).

Puget Sound Clean Air Agency (PSCAA): Permitted release of the effluent air from the SVE system to the atmosphere to be permitted under the PSCAA.

Right-of-Way Permit: Permitted access and use agreement for the placement of piping within the public right-of-way.

3.4 SVE System – Operations and Maintenance

The SVE system is expected to operate for approximately 3 to 4 years. The actual time required for restoration can be affected by several factors including the differences between the estimated and actual physical/chemical/biological conditions, adjustments or additions to the selected remedy, future releases from the fueling process/system, or business actions that stall on-going SVE operation or necessitate implementation of more rapid remedies. O&M visits, including performance monitoring, will take place at least once per month. This Workplan assumes that O&M visits will initially be conducted weekly, with performance sampling (Section 3.2) conducted monthly, as required. This Workplan assumes that O&M visits will be reduced in frequency after three (3) months to two O&M visits per month as the stability of the SVE system is documented. Further reduction of O&M visits to once per month is unlikely, due to the complexity of the SVE system, and is not considered in this Workplan.

4.0 MONITORING

The following sections describe the compliance monitoring to be conducted according to MTCA requirements (WAC 173-340-410). Performance monitoring of air and groundwater will be conducted during operation of the SVE system. Confirmation groundwater monitoring will be conducted during and following completion of the SVE system operation. General protection monitoring will be conducted to confirm that human health and the environment are being protected during implementation of the cleanup action. This information will be provided in a site specific Health and Safety Plan (HASP) and will include appropriate soil and air monitoring, chemical and waste handling, decontamination and documentation procedures followed during the installation, operation, maintenance, and decommissioning of the remedial measures.

4.1 Indoor Air

In order to assess petroleum vapor intrusion (PVI) into the Vashon Mart structure, Kane Environmental will conduct indoor air surveys using Summa®-type vacuum canisters. A baseline survey will be conducted before SVE system operation starts, and a second survey will be conducted during SVE system operation. One set of canisters will be placed within the breathing zone above the floor slab and opened during the working day. Another set will be placed during closed hours to evaluate whether outdoor air intrusion during frequent door openings (during working hours) has a significant impact on indoor air.

The canisters will be analyzed by an Ecology-accredited analytical laboratory by EPA Method TO-15/8015 for volatile organic compounds and petroleum hydrocarbons. Analytical results will be compared with applicable worker safety numeric thresholds promulgated by Federal Occupational Safety & Health Administration (OSHA) and Washington (WA) OSHA and retail petroleum fueling industry guidance.

If PVI is considered a concern after the initial series of indoor air tests, one more series of tests will be conducted in accordance with the same protocol.

In addition, Kane Environmental will conduct a visual walk-through of the Vashon Mart to search for slab cracking, open drain lines, and other potential preferential pathways for PVI. Also, Kane Environmental will conduct a search of potential in-building sources of petroleum hydrocarbons (e.g., solvents, cleaners, etc). During the site walk, Kane Environmental will screen for organic vapors using a photoionization detector with ppb sensitivity. Kane Environmental will arrange with the owner to remove or seal all potential sources of in-building vapor sources.

4.2 SVE System Performance and Protection Monitoring

Performance monitoring of the combined influent (prior to treatment) and effluent air (after treatment) will be implemented to confirm that the SVE system is functioning properly and that air effluent Cleanup Levels are being achieved according to the PSCAA permit (protection monitoring). This monitoring of influent and effluent air will be conducted monthly during O&M visits: The air samples will be collected in tedlar bags and delivered to the laboratory and analyzed for total petroleum hydrocarbons (TPH) as gasoline as well

as benzene, toluene, ethylbenzene, and xylenes (BTEX), and 1,2-dichloroethane (EDC). During O&M visits that not requiring performance monitoring, a hand held PID unit will be used to collect field readings of influent and effluent air, thereby providing general performance status.

Performance monitoring of effluent water will be conducted monthly to assure that wastewater effluent is in compliance under the POTW permit. Effluent water will be sampled for TPH as gasoline, BTEX, and EDC, as well as any other parameters that may be specified in the POTW permit

Costs of performance monitoring of air and water are included in O&M costs (Table 2).

4.3 Groundwater Performance Monitoring

Groundwater performance monitoring will be conducted throughout the duration of SVE system operation to track the progress of the remediation process. Performance monitoring of groundwater will include monitoring groundwater levels to confirm that no free product exists. Groundwater will also be collected for analysis to determine if TPH concentrations are decreasing throughout the duration of SVE operation. The frequency of groundwater confirmation monitoring will initially be quarterly, and may range from quarterly to every six months, to annually, depending confirmation monitoring results and results of SVE air performance monitoring.

Sampling will be conducted for groundwater at the points of compliance wells, which will include a sub-set of the existing groundwater monitoring wells located on the Vashon Mart property. Kane Environmental will use the following five wells for confirmation monitoring of groundwater:

- **KMW-2** – near center of recent highest TPH-g and benzene, well also near north Property boundary,
- **MW-3** – TPH-g and benzene above MTCA, well also nearest to building and the center of the most contaminated area of soil and groundwater,
- **KMW-9** – recent detected TPH-g slightly above MTCA, well is also near east Property boundary;
- **KMW-1** - recent detected TPH-g and benzene slightly above MTCA, well is also near west limit of TPH-g impacts; and
- **KMW-6** – no detectable contaminants, across 178th Street beyond the northern extent of groundwater impacts

Refer to Figure 3 for monitoring well locations. Monitoring wells will be removed from confirmation monitoring if they do not contain TPH concentrations exceeding applicable MTCA Method A Groundwater Cleanup Levels for four (4) consecutive quarterly sampling events. (See Table 3 for soil and groundwater cleanup levels.) The remaining groundwater monitoring wells on the Property will not be sampled unless determined to be necessary at a later date. Operation of the SVE system will be terminated when performance monitoring of groundwater indicates compliance with Cleanup Levels.

Quarterly groundwater performance monitoring is expected to take one field day for each event, with additional expenses for equipment, analytical laboratory fees, and reporting.

4.4 Soil and Groundwater Confirmation Monitoring

Soil and groundwater confirmation monitoring will be used to demonstrate that soil and groundwater Cleanup Levels have been met. Confirmation soil and groundwater sampling will be conducted after the SVE system has been shut off.

One set of soil samples will be obtained through a series of direct push borings at locations scattered about the zone of soil impact. Analytical test results will be compared with applicable MTCA Method A levels (Table 3). Collection of soil samples using a direct push (DP) drill rig is expected to take one field day.

All existing groundwater monitoring wells (all "KMW" and "MWM wells) appearing on Figure 3 will be sampled on a quarterly basis until four consecutive rounds of TPH concentrations results are below applicable MTCA Method A Groundwater Cleanup Levels (Table 3). Groundwater monitoring data will be reviewed after each sampling event to determine if any monitoring wells should be removed from the sampling program.

Quarterly groundwater confirmation monitoring is expected to initially take two field days. Labor may be reduced as wells are removed from the confirmation monitoring list.

4.5 Compliance Monitoring Report

Groundwater compliance monitoring results will be summarized with QA/QC results. The report will include tables, comparison with MTCA Cleanup Levels for all points of compliance. A report will be prepared for each compliance sampling/testing event.

After each indoor air sampling event, a short written report will be prepared. The report will include tables and comparison of the results with applicable worker safety numeric thresholds promulgated by Federal OSHA, WA-OSHA and retail petroleum fueling industry guidance. A report will be prepared for each compliance sampling/testing event.

5.0 IMPLEMENTATION SCHEDULE

The remedial action tasks, including permitting and placement of orders for SVE equipment, will begin upon approval of this Workplan and cost estimates.

5.1 Groundwater Pumping

Kane Environmental will schedule the first round of vacuum pumping of groundwater as soon as this Workplan is approved. A second round of vacuum pumping of groundwater may be scheduled after installation of the five SVE wells, before connection of the wells to the SVE system.

5.2 Indoor Air

Indoor air sampling, described above, will be performed prior to remedial system installation and a minimum of one time during system operation. Based on review of the PVI guidance and other regulatory review of future results, indoor air corrective actions or monitoring is not expected or proposed for this remedial action. If concentrations exceed regulatory levels before, during or after SVE system operation, measures required to ensure that the proposed SVE does not exacerbate the indoor air quality will be proposed to Ecology and implemented following receipt of Ecology agreement.

5.3 SVE System

Kane Environmental has completed the final design for the SVE system and has obtained bids for well and equipment installation. Immediately after approval of this Workplan, Kane Environmental will begin the process of obtaining all required state/local/municipal construction and utility permits, and schedule the installation of the five SVE wells. Kane Environmental estimates a duration of approximately 3 months to obtain all permits, receive the SVE equipment, and install and troubleshoot the SVE system. Kane Environmental will inform the client as this process proceeds of any significant delays encountered.

When in operation, O&M visits will initially be performed weekly (for the first three (3) months, with performance and protection monitoring sample collection and analysis being conducted monthly. If the system remains stable over that time, O&M visits will be reduced to semi-monthly, thereby reducing O&M costs included in Table 1.

5.4 Groundwater Monitoring

Groundwater samples will be collected from groundwater monitoring wells located on and in the vicinity of the Subject Property. Following installation of the SVE and initial cleanup actions (e.g., groundwater pumping event), the wells will be sampled on a quarterly basis for performance monitoring, with the frequency of testing reduced to semi-annual (based on monitoring results and subject to Ecology approval) until the TPH concentrations in groundwater are below the MTCA Method A Cleanup Level for four consecutive quarters. The monitoring wells will continue to be sampled on a quarterly basis one year following SVE system shut down for confirmation monitoring.

Work Plan – Soil Vapor Extraction Remediation System

Vashon Auto Center / Island Mart

17817 (17803) Vashon Island Hwy SW (99th Ave. SW) King County

Vashon, Washington 98070



When the data show that cleanup levels have been met and confirmation monitoring is complete, then a request will be submitted to Ecology for an Opinion Letter for a site No Further Action determination for the Subject Property.

Unless the owner wishes to preserve some of the wells for business reasons, all of the wells will be decommissioned following receipt of the No Further Action (NFA) letter from Ecology. Decommissioning costs are not included in the budget for this project (Table 1).

6.0 REPORTING

Unless otherwise specified by Ecology, all reports, plans, specifications, and similar information submitted shall meet the requirements outlined in MTCA (WAC 173-340-840). This includes submittal of three copies (three hard copies and one electronic copy) of the report with a cover letter describing the submittal and specifying the desired Ecology action or response. Soil and groundwater analytical data from performance and confirmation monitoring will be submitted to Ecology's environmental information management (EIM) system. Analytical results from SVE system performance and protection monitoring of air and water effluent need not be submitted to EIM.

6.1 Quarterly Reporting

Kane Environmental will prepare quarterly groundwater monitoring reports, which will be submitted following the receipt of final quarterly data. Reports will be sent to the designated client representative for forwarding to the Ecology Site Manager each quarter.

6.2 Final Draft Report with Compliance Monitoring Report

Upon completion of site cleanup activities including final compliance (confirmation) monitoring results, a final draft report detailing site cleanup activities and compliance monitoring results will be submitted to a client representative for forwarding to Ecology under the Voluntary Cleanup Program.

6.3 No Further Action Letter

After the concentrations in soil and groundwater are determined to be in compliance with their respective MTCA Method A Cleanup Level, a request for a No Further Action (NFA) Opinion will be sent to Ecology. At this time, Kane Environmental anticipates requesting a site NFA. Following the issuance of the Opinion Letter, it is expected that Ecology will publish notice in the State Register pursuant to WAC 173-340-330(3).

7.0 LIMITATIONS

Kane Environmental Inc. has performed this work in general accordance with generally accepted professional practices using the standard of the industry today, for the nature and conditions of the work completed in the same locality and at the same time as the work was performed, and with the terms and conditions as set forth in our proposal.

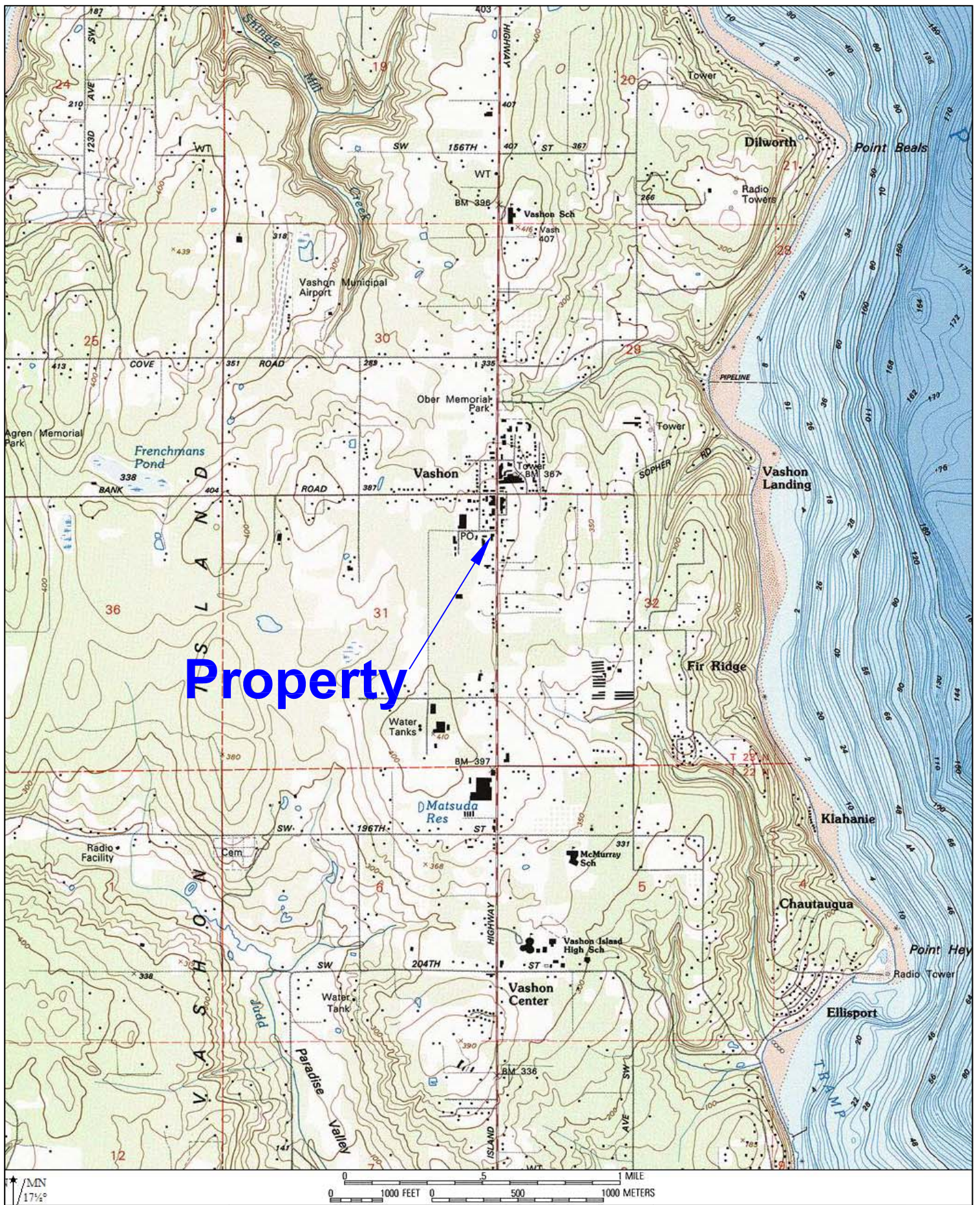
In preparing this report, Kane Environmental has examined and relied upon documents referenced in the report and on oral statements made by certain individuals. Kane Environmental has not conducted an independent examination of the facts contained in referenced materials and statements. Kane Environmental has assumed that these documents are genuine and that the information provided in these documents and statements is true and accurate. Kane Environmental shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time the report was prepared. Facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time the work was performed. This Workplan does not include other services not specifically described in report.

8.0 REFERENCES

Kane Environmental, 2015a, *Draft Corrective Action Plan, Vashon Auto Center / Island Mart - 17817 (17803) Vashon Island Hwy (99th Ave. SW) Vashon, WA 98070*, VCP Project No.: NW2863, August 19, 2015.

Washington State Department of Ecology, 2015, *Opinion Pursuant to WAC 173-340-515(5) on Draft Corrective Action Plan Report for the Following Hazardous Waste Site: Vashon Auto Center/Island Mart, 17817 99th Ave SW Vashon, WA 98070*, VCP Project No.: NW2863, September 25, 2015.

FIGURES





LEGEND

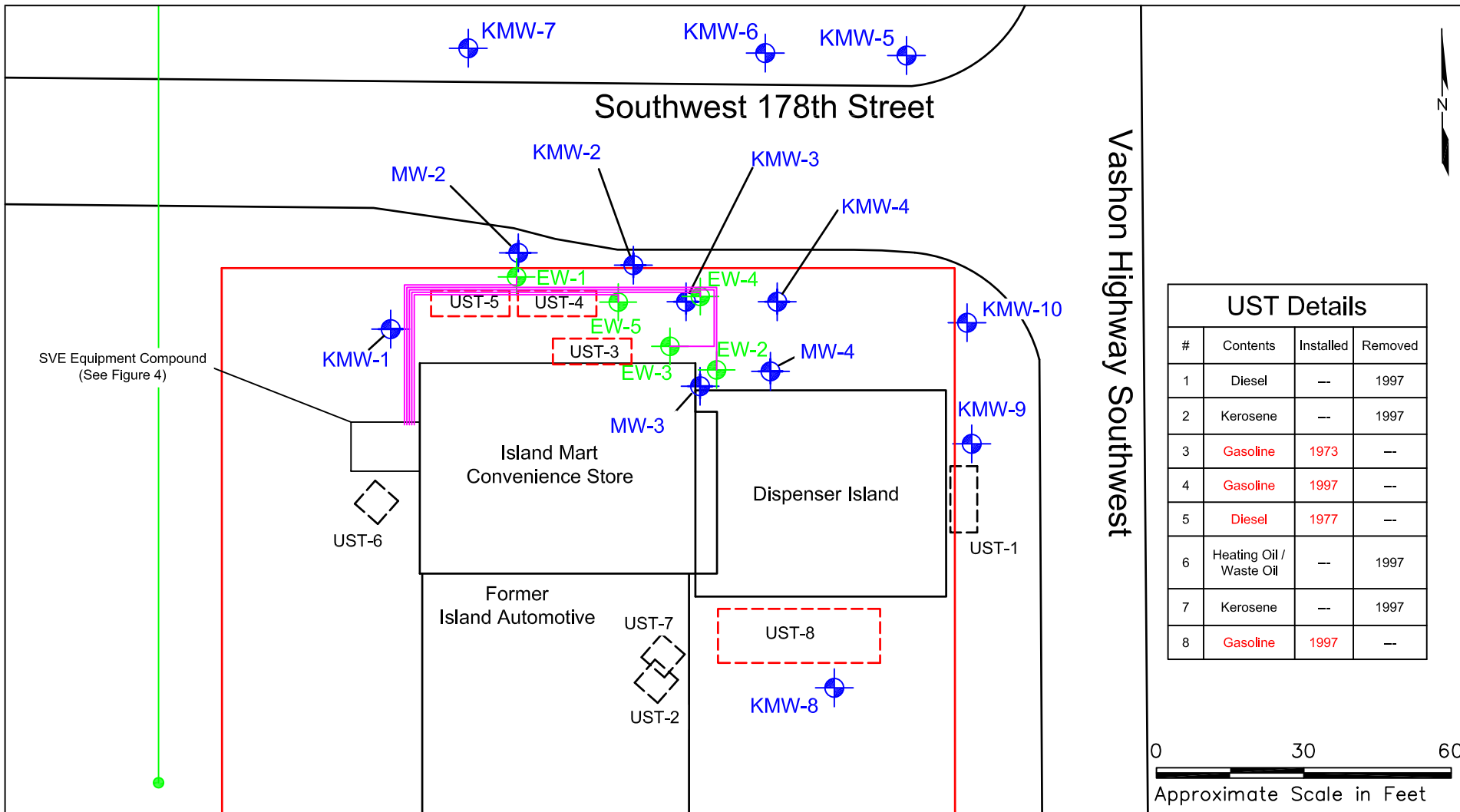
— Approximate Property Boundary

0 200 400
Approximate Scale in Feet



SVE Workplan
17817 Vashon Highway Southwest
Vashon, Washington

Figure 2
Site Plan

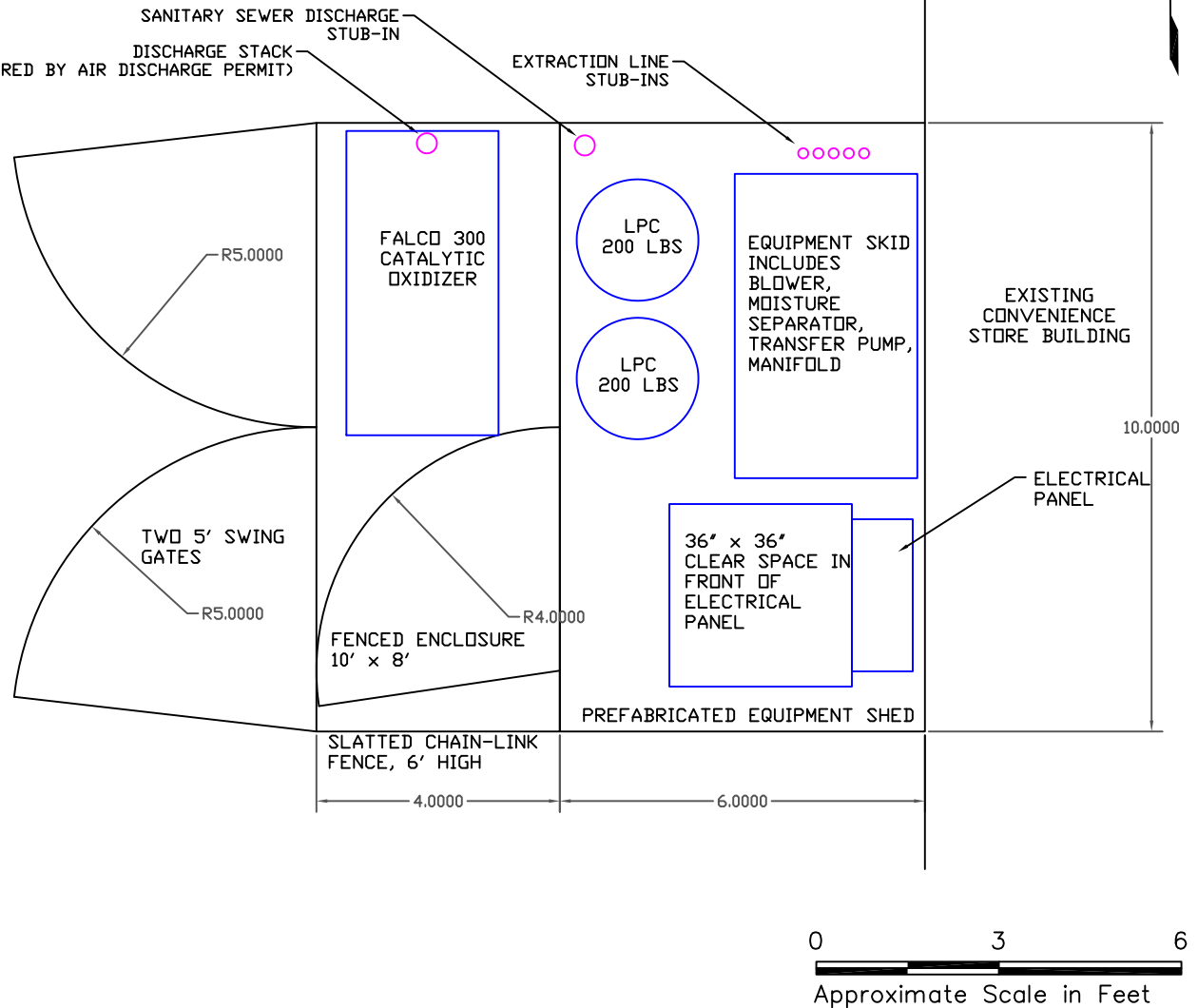


SVE Workplan
17817 Vashon Highway Southwest
Vashon, Washington

Figure 3
Site Plan Detail - With Existing and Proposed Wells

NOTES

1. FENCED ENCLOSURE AND EQUIPMENT SHED UNDERLAIN BY 4" THICK CONCRETE SLAB. MIN. 7-DAY STRENGTH = 2,500 PSI.
2. PLACE SLAB AFTER STUB-INS (EXTRACTION LINES AND SIDE SEWER DISCHARGE) ARE INSTALLED.
3. FENCE IS SLATTED CHAIN-LINK STYLE. SLAT COLOR TO BE DETERMINED IN CONSULTATION WITH PROPERTY OWNER.
4. EQUIPMENT SHED IS PREFABRICATED 10' x 6' SHED, TUFF-SHED OR EQUIVALENT. SINGLE ENTRY DOOR, 4' WIDE, HINGED SIDE OF DOOR IS 1' FROM RIGHT SIDE OF SHED AS VIEWED FROM FRONT.
5. LINES NOT SHOWN FOR CLARITY:
 - EXTRACTION LINES FROM STUB-INS TO MANIFOLD
 - WATER LINES FROM TRANSFER PUMP TO LPC
 - VAPOR LINES FROM BLOWER OUTLET TO MANIFOLD
 - VAPOR LINES FROM BLOWER OUTLET TO OXIDIZER



SVE Workplan
17817 Vashon Highway Southwest
Vashon, Washington

Figure 4
SVE Compound Layout Detail

TABLES

Table 1**Cost Estimate: Remediation System Construction, Operation, Maintenance, and Monitoring****Vashon Chevron****17817 Vashon Hwy SW, Vashon, WA**

Utilities & Permitting (Task A)	Qty Unit	Cost	SubTotal	9.5% Tax	10% Admin Markup	Total
PSCAA Permit Fee	1 ea	\$ 1,150.00	\$ 1,150.00		\$ 115.00	\$ 1,265.00
PSCAA Permit Preparation	8 hr	\$ 120.00	\$ 960.00			\$ 960.00
PSE Electrical Connction Fee	1 ea	\$ 2,000.00	\$ 2,000.00		\$ 200.00	\$ 2,200.00
PSE Coordination (Includes Site Visit)	16 hr	\$ 120.00	\$ 1,920.00			\$ 1,920.00
POTW Discharge Permit	1 ea	\$ 150.00	\$ 150.00		\$ 15.00	\$ 165.00
POTW Permit Preparation	8 hr	\$ 120.00	\$ 960.00			\$ 960.00
Side Sewer Permit	1 ea	\$ 1,000.00	\$ 1,000.00		\$ 100.00	\$ 1,100.00
Side Sewer Permit Preparation (Includes Site Visit)	16 hr	\$ 120.00	\$ 1,920.00			\$ 1,920.00
Right-of-Way Permit	1 ea	\$ 500.00	\$ 500.00		\$ 50.00	\$ 550.00
Right-of-Way Permit Application	4 hr	\$ 120.00	\$ 480.00			\$ 480.00
Project Manager Oversight	8 hr	\$ 150.00	\$ 1,200.00			\$ 1,200.00
Utilities & Permitting Subtotal			\$ 12,240.00	\$ -	\$ 480.00	\$ 12,720.00

Interim Cleanup Action (Task B)	Qty Unit	Cost	SubTotal	Tax	Admin Markup	Total
Vacuum Truck & Equipment	1 day	\$ 1,200.00	\$ 1,200.00	\$ 114.00	\$ 131.40	\$ 1,445.40
Groundwater Disposal	500 gal	\$ 0.50	\$ 250.00	\$ 23.75	\$ 27.38	\$ 301.13
Labor (Kane)	10 hr	\$ 120.00	\$ 1,200.00			\$ 1,200.00
Labor (Dailey Engineering)	10 hr	\$ 115.00	\$ 1,150.00		\$ 115.00	\$ 1,265.00
Interim Cleanup Action Subtotal			\$ 3,800.00	\$ 137.75	\$ 273.78	\$ 4,211.53

SVE System Equipment, Installation, O&M (Task C)	Qty Unit	Cost	SubTotal	Tax	Admin Markup	Total
Equipment Purchase (See Attached Quote)	1 ea	\$ 86,505.00	\$ 86,505.00	\$ 8,217.98	\$ 9,472.30	\$ 104,195.27
Project Manager (Scheduling)	16 hr	\$ 150.00	\$ 2,400.00			\$ 2,400.00
SVE Well Utility Locate (Mt View Locating)	5 hr	\$ 180.00	\$ 900.00		\$ 90.00	\$ 990.00
SVE Well Installation (Cascade Drilling)	1 ea	\$ 15,234.00	\$ 15,234.00	\$ 1,447.23	\$ 1,668.12	\$ 18,349.35
SVE Well Installation Oversight	30 hr	\$ 120.00	\$ 3,600.00			\$ 3,600.00
SVE System Installation (Bill Spooner)	1 ea	\$ 54,700.00	\$ 54,700.00	\$ 5,196.50	\$ 5,989.65	\$ 65,886.15
SVE System Installation Oversight	80 hr	\$ 120.00	\$ 9,600.00			\$ 9,600.00
Installation Per Diem	10 day	\$ 202.00	\$ 2,020.00		\$ 202.00	\$ 2,222.00
Jobsite Portable Restroom	2 week	\$ 50.00	\$ 100.00		\$ 10.00	\$ 110.00
Soil Drum Disposal	10 ea	\$ 200.00	\$ 2,000.00	\$ 190.00	\$ 219.00	\$ 2,409.00
Electricity, per month, 48 months	48 mo	\$ 1,750.00	\$ 84,000.00		\$ 8,400.00	\$ 92,400.00
Startup/Shakedown (Dailey Engineering)	16 hr	\$ 110.00	\$ 1,760.00		\$ 176.00	\$ 1,936.00
Startup/Shakedown (Kane Environmental)	16 hr	\$ 120.00	\$ 1,920.00			\$ 1,920.00
O&M - Four events each month (See Table 2)	3 mo	\$ 5,063.60	\$ 15,190.80	\$ 1,443.13	\$ 1,663.39	\$ 18,297.32
O&M - Two events each month (See Table 2)	45 mo	\$ 3,516.80	\$ 158,256.00	\$ 15,034.32	\$ 17,329.03	\$ 190,619.35
SVE System Equipment, Installation, O&M Subtotal			\$ 438,185.80	\$ 31,529.15	\$ 45,219.50	\$ 514,934.45

Monitoring and Reporting (Task D)	Qty Unit	Cost	SubTotal	Tax	Admin Markup	Total
Health & Safety Plan (HASP)	6 hr	\$ 120.00	\$ 720.00		\$ 72.00	\$ 792.00
Air Monitoring Labor (Sampling & Reporting)	20 hr	\$ 120.00	\$ 2,400.00		\$ 240.00	\$ 2,640.00
Air Monitoring Analytical (TO-15)	4 ea	\$ 330.00	\$ 1,320.00		\$ 132.00	\$ 1,452.00
GW Performance Monitoring Labor	128 hr	\$ 120.00	\$ 15,360.00		\$ 1,536.00	\$ 16,896.00
GW Performance Monitoring Analytical	80 ea	\$ 145.00	\$ 11,600.00		\$ 1,160.00	\$ 12,760.00
GW Confirmation Monitoring Labor	64 hr	\$ 120.00	\$ 7,680.00		\$ 768.00	\$ 8,448.00
GW Confirmation Monitoring Analytical	36 ea	\$ 145.00	\$ 5,220.00		\$ 522.00	\$ 5,742.00
Soil Confirmation Monitoring Labor	12 hr	\$ 120.00	\$ 1,440.00		\$ 144.00	\$ 1,584.00
Soil Confirmation Monitoring Drilling	1 ea	\$ 2,750.00	\$ 2,750.00	\$ 261.25	\$ 301.13	\$ 3,312.38
Soil Confirmation Monitoring Analytical	24 ea	\$ 145.00	\$ 3,480.00		\$ 348.00	\$ 3,828.00
Kane Env. Sampling Equipment & Expenses	16 day	\$ 300.00	\$ 4,800.00		\$ 480.00	\$ 5,280.00
Reporting (Quarterly and Final)	80 hr	\$ 120.00	\$ 9,600.00		\$ 960.00	\$ 10,560.00
Project Manager Oversight & Review	20 hr	\$ 150.00	\$ 3,000.00		\$ 300.00	\$ 3,300.00
Monitoring and Reporting Subtotal			\$ 69,370.00	\$ 261.25	\$ 6,963.13	\$ 76,594.38

Total			\$ 523,595.80	\$ 31,928.15	\$ 52,936.40	\$ 608,460.35
Total with 10% Contingency			\$ 575,955.38	\$ 35,120.97	\$ 58,230.03	\$ 669,306.38

Table 2

O&M Breakdown

Vashon Chevron

17817 Vashon Hwy SW, Vashon, WA

First Event Each Month

Item	Qty	Unit	Unit Cost	Total
Technician, Travel to/from site		4 hr	\$ 100.00	\$ 400.00
Technician, On-Site		3 hr	\$ 100.00	\$ 300.00
Technician, mob/demob at office		0.5 hr	\$ 100.00	\$ 50.00
PID, company-owned		1 day	\$ 50.00	\$ 50.00
Vehicle, company-owned		1 day	\$ 100.00	\$ 100.00
Ferry, roundtrip		1 ea	\$ 23.40	\$ 23.40
Minor repair materials		1 ea	\$ 150.00	\$ 150.00
Lab Analysis, water		3 ea	\$ 90.00	\$ 270.00
Lab Analysis, air		2 ea	\$ 70.00	\$ 140.00
Total				\$ 1,483.40

Additional Events Each Month

Item	Qty	Unit	Unit Cost	Total
Technician, Travel to/from site		4 hr	\$ 100.00	\$ 400.00
Technician, On-Site		2 hr	\$ 100.00	\$ 200.00
PID, company-owned		1 day	\$ 50.00	\$ 50.00
Vehicle, company-owned		1 day	\$ 100.00	\$ 100.00
Ferry, roundtrip		1 ea	\$ 23.40	\$ 23.40
Total				\$ 773.40

Reporting and Management, Per Month

Item	Qty	Unit	Unit Cost	Total
Project Manager		6 hr	\$ 120.00	\$ 720.00
Senior Review		1 hr	\$ 150.00	\$ 150.00
Admin		4 hr	\$ 85.00	\$ 340.00
Copies		1 ea	\$ 50.00	\$ 50.00
Total				\$ 1,260.00

2 events/month \$ 3,516.80

4 events/month \$ 5,063.60

Table 3

Cleanup Levels

Vashon Chevron

17817 Vashon Hwy SW, Vashon, WA

Analyte	Soil mg/kg	Groundwater µg/L
Benzene	0.03	5
Toluene	7	1,000
Ethylbenzene	6	700
Xylenes	9	1,000
1,2-dichloroethane*	11	5
TPH as Gasoline	30	800

* No Method A Value, Method B Value Reported

ATTACHMENT A
VENDOR PRICE QUOTES



Account Name	Kane Environmental, Inc.	Bid Date	4/26/2016
Address	3815 Woodland Park Ave. North Suite 102 Seattle, Washington 98103-	Quote Number	00010928
Contact Name	Eric Nassau	Quote Revision Date	4/26/2016 2:13 PM
Email	enassau@kane-environmental.com	Opportunity/Project Name	Vashon Island SVE Installation
Phone	(206) 691-0476	Work Site	Seattle, WA.
Bill To Account Number	4KANEEN103		

Cascade Rep Contact Information

Prepared By	David Gose	Phone	425-527-9704
		Email	dgose@cascade-env.com

Scope of Work

Vac (5) location's to 5' for utility clearance.
Drill, Sample @ 5' Intervals and Install (5) 15'-4" SVE Wells with 18'x18' flush galvanized vaults.

Notes/Assumptions: Full Size Auger

Full size, truck mounted rig with no overhead obstructions.

Drilling through asphalt or dirt surface (concrete coring/cutting at additional cost).

Prices assumes no work hour restrictions. Stand-by rates apply if work hours are restricted.

Prices are based on Standard Labor Rates (not Prevailing or Davis Bacon Wages)

Utility location/clearance, traffic control & site security by others.

Well development by others may void some or all of Cascade Drilling L.P. warranties of workmanship and materials.

Vac Clearing available with additional charges .

Proposal is subject to final review of terms and conditions; assume Net 30 Payment Terms.

Drums to be stored onsite, additional charges will apply if lift gate truck is needed.



Quantity	Product	Product Description	Unit	Sales Price	Optional	Subtotal
5.00	Drill, Sample @ 5' Intervals and Install	(5) 15'-4" SVE Wells with 10' of .020 screen (Min. Well Charge)		\$1,220.00	☐	\$6,100.00
1.00	Additional Footage	Per Foot		\$61.00	☒	\$0.00
1.00	Soil Samples	Additional Soil Samples	Each	\$30.00	☒	\$0.00
5.00	Surface Completion	(18") square, galvanized vaults	Each	\$475.00	☐	\$2,375.00
5.00	Permits	Start Card/Notice of Intent	Each	\$65.00	☐	\$325.00
1.00	Drums	Water Containment Drums (est.)	Each	\$75.00	☐	\$75.00
1.00	Standby	.	Per Hour	\$400.00	☒	\$0.00
1.00	Travel Time	Daily		\$350.00	☐	\$350.00
2.00	Ferry Fees	Per Day		\$500.00	☐	\$1,000.00
1.00	Mob/Demob	Mobilization/Demobilization	Each	\$750.00	☐	\$750.00
10.00	Vac Holes	(est.) 5 Holes to 5' (Per Hour, Portal to Portal)	Per Hour	\$195.00	☐	\$1,950.00
1.00	Vac Holes	(Minimum charge)(Up to 5 hours)	Min. Charge	\$1,400.00	☒	\$0.00
10.00	Additional Labor	(est.)(Per Hour, Portal to Portal)	Per Hour	\$60.00	☐	\$600.00
1.00	Drums	Soil Containment (est.)	Each	\$75.00	☐	\$75.00
1.00	Ferry Fees	Per Day		\$300.00	☐	\$300.00

Pre-Tax Total	\$13,900.00
Tax Percentage	9.600%
Taxes	\$1,334.40
Quote Total	\$15,234.40

This quote is based on information provided by you and is valid for 45 days from the bid date. Your firm is responsible for 1) Obtaining any site specific permits, 2) Locating and clearly marking underground installations or utilities, 3) Furnishing dig Alert numbers at least three working days prior to scheduled start date and proof of private locating services, 4) Obtaining access to site with no overhead wires within 20' of the holes. Cascade Drilling shall not be responsible for damages to underground improvements not clearly and accurately marked.

If bedrock, cobbles, flowing sands or other adverse or unsafe drilling conditions are encountered, drilling may continue on a time and materials basis or be terminated at the discretion of Cascade Drilling. Additional costs may apply if scope is significantly changed. Well development by others may void some or all of Cascade Drilling L.P. warranties of workmanship and materials. Prices assume standard labor rates and no work hour restrictions. Proposal is subject to final review of terms and conditions.

Signature of Client/ Owner Authorized Representative

Signature of Authorized Cascade Representative

Name & Title of Authorized Representative and Company

Name & Title of Authorized Cascade Representative

Date

Date



10621 Todd Road East
Edgewood, WA 98372
253 604-4878

ESTIMATE 4/13/2016

Client: Kane
Contact: Eric Nassau
Email: enassau@kane-environmental.com
Tel: 206-691-0476

Project: Vashon, WA

Drill Type: CME 85 HT Auger Drill

Description	Unit	Quantity	Price	Total
Mobilization/Demobilization	EA	1	\$ 1,000.00	\$ 1,000.00
DOE NOI/Well log	EA	5	\$ 50.00	\$ 250.00
Daily travel	DY	2	\$ 450.00	\$ 900.00
Set-up/Clean up/Decon - up to 1 hour each	EA	5	\$ 200.00	\$ 1,000.00
Drill and construct 4-inch schd. 40 PVC well	FT	75	\$ 60.00	\$ 4,500.00
Extra sample	EA	0	\$ 50.00	\$ -
18-inch flush square vault	EA	5	\$ 600.00	\$ 3,000.00
Vault installation	HR	10	\$ 250.00	\$ 2,500.00
Additional hourly/Stand-by/Safety meetings	HR	0	\$ 250.00	\$ -
Well development	HR	0	\$ 150.00	\$ -
55 gallon DOT 17H type recon drums	EA	11	\$ 75.00	\$ 825.00
Concrete core - standard slab	EA	0	\$ 300.00	\$ -
Air knife/vacuum excavate - portal to portal	HR	10	\$ 275.00	\$ 2,750.00
Subtotal			\$	16,725.00
Sales Tax			9.5%	\$ 1,588.88

Scope:

Five 4-inch PVC SVE wells to 15 feet, 18-inch flush square vault surface completions. Collect soil samples every 5 feet. Decon upon completion. IDW in drums and staged on site. Air-knife/Vacuum excavate each location. Suitable access and any required traffic control provided by others. Assume no work hour restrictions.

Total Cost Estimate

\$ 18,313.88

Prepared by: Dale Abernathy

Notes/Assumptions:

No work hour restrictions. Stand-by rates apply if work hours are restricted.
Standard labor rates. No state prevailing or Davis Bacon. No USL&H coverage.
Utility locates, traffic control & site security provided by others.
If penetration is less than 10 feet per hour; drilling will continue by the hour.
Construction/Sealing rates are based on actual borehole size volumes.
Subject to final review of terms and conditions; net 30 payment terms.

SPOONER CONTRACTING LLC
17807 SE 346th St
Auburn WA 98092



PROPOSAL – LUMP SUM BID

May 7, 2016

Stephen Dailey
Dailey Engineering / Kane Environmental Inc
3815 Woodland Park Ave N Suite 102
Seattle Wa 98103

Dear Mr. Dailey

Thank you for providing us the opportunity to bid for this project. Per our phone conversation I propose to furnish all materials and perform all labor necessary to complete the following. Install SVE System Per the work plan at 17817 Vashon Highway Southwest Vashon Washington. All of the work is to be completed in a substantial and professional manner for the lump sum of Fifty Four Thousand Seven Hundred dollars (\$54,700.00). This proposal requires 50 percent up front and weekly 15% progress payments. The entire amount of the contract is to be paid within 10 days after completion.

Any alterations or deviation from the above specifications involving extra cost of material or labor will be executed on a time and material basis, and will become an extra charge over the sum mentioned in this contract. All agreements must be made in writing.

Item	Description	Qty	Units	Unit Price	Total
1	Saw cutting Asphalt disposal	1	LS	\$2500.00	\$2500.00
2	Trenching with Vac Truck and disposal of soil	1	LS	\$4600.00	\$4600.00
3	Install PVC sch 40 pipe and hook up wells	1	LS	\$3500.00	\$3500.00
4	Backfill with CDF 1 sack	1	LS	\$3800.00	\$3800.00
5	Asphalt trench repair	1	LS	\$3200.00	\$3200.00
6	10x16 Slab 4 inch thick with 6 inch reinforcement	1	LS	\$12,000.00	\$12,000.00
7	Tuff Shed 6x10	1	LS	\$4800.00	\$4800.00
8	4x10 fenced area with two 5 foot gates	1	LS	\$6800.00	\$6800.00
9	Equipment Skid ,Water and Falco Hookup Labor and Materials	1	LS	\$10,500.00	\$10,500.00
10	Sewer Connection	1	LS	\$1500.00	\$1500.00
11	Per Diem For two 2 Weeks	1	Day	\$150.00	\$1500.00
				Total	\$54,700.00

Assumptions and Exclusions:

1. Proposal valid for 60 days
2. Washington sales tax and B&O tax not included
3. Utility locate and disconnect provided by others.
4. Permits to be provided by others.
5. Site Assessment/Sampling and Chemical Analysis provided by others.
6. Erosion control to be provided by others.

ACCEPTANCE

You are hereby authorized to furnish all materials and labor required to complete the work mentioned in the above proposal for which Dailey Engineering agrees to pay the amount mentioned in said proposal and according to the terms thereof.

Authorized Signature

Date

Printed Name

(253) 347-3321 Telephone
(253) 931-0533 Fax



Partnership for a Cleaner Tomorrow

4/14/2016

Equipment Bid For

High Vacuum Extraction System
Vashon Chevron
17817 Vashon Highway
Vashon, Washington
Proposal #041416.01

Prepared For

Stephen Dailey
Dailey Engineering, LLC
20115 6th Place NE
Shoreline, WA 98155

Phone: (206) 595-9588

Email: stephen@dailey-engineering.com

Prepared By

Mark A Farris
Remediation Project Manager
ESD Waste2Water, Inc



ESD Waste2Water, Inc
495 Oak Road
Ocala, FL 34472
www.Waste2Water.com

4-14-2016

Dailey Engineering, LLC
High Vacuum Extraction System
Vashon Chevron
17817 Vashon Highway
Vashon, Washington

Mr. Dailey,

Below Please find ESD's Technical Cost proposal for the above referenced site. This proposal was prepared in accordance with your written specifications and our phone conversations.

The system consists of a skid mounted High Vacuum Extraction system for installation by others within a remediation equipment enclosure to be fabricated on site. The skid mounted system will be constructed in accordance with NEC C1D2 Hazardous Location Classifications. The control panel is proposed loose to be installed outside of the classified location, and wired to the skid on site by others.

In addition, equipment for the treatment of extracted liquids is provided off skid for installation within the treatment enclosure by others, in the most optimal location.

Equipment detailed description is below:

High Vacuum Extraction Skid

Design Parameters

Vapor Flow Rate – 75 SCFM @ 18" Hg vacuum

Electric Service – 1/60/240v

Electric Classification – Class 1, Division 2 Haz Locations

Liquid Phase Design Flow – 10 GPM @ 40.0 PSIG

Item 1 – Busch Mink 1322.AVV8.VJXX dry rotary claw vacuum pump capable of 75 SCFM @ 18" HG

- 10.0 HP, 3/60/240v TEFC motor
- Integral vacuum relief and regulating valve
- Integral discharge check valve
- Vacuum indicator, 0-30" HG, SS case, liquid filled
- Inlet particulate filter, 2" NPT
- 2" dilution gate valve
- 2" dilution filter
- ESD installed FALCO VCV valve on suction side of claw pump, dilution piped to building exterior by others (valve supplied by others)
- Inlet flow meter, 2" averaging pitot tube and DP magnehelic gauge complete with DP to SCFM laminated conversion chart
- Discharge pressure gauge, 0-60 IWC
- Discharge temperature gauge, 50-500° F
- Discharge sample port
- Piped in 2" SCH80 PVC pipe on suction side, 2" SCH40 insulated steel pipe on discharge side

4-14-2016

Dailey Engineering, LLC

High Vacuum Extraction System

Vashon Chevron

17817 Vashon Highway

Vashon, Washington

Item 2 – Vapor Liquid Separator

- ESD model AWS-80, 80 gallon vapor liquid separator
- Marine grade 5052 aluminum construction
- 2" NPT inlet / outlet connections
- Integral demister ring
- 8" clean out port and plug
- 1" ball valve to bottom drain
- 2" clear PVC sight glass with unions for maintenance removal
- Three float multi-level switch, LSL, LSH and LSHH high level shut down
- Transfer pump – Liberty progressing cavity pump capable of 10 GPM @ 40 PSIG
- 1 HP, 1/60/240v TEXP motor
 - o 1" suction wye strainer
 - o 1" suction brass isolation ball valve
 - o Two (2) 1" discharge gate valve with recirculation line back to VLS for flow control
 - o Discharge pressure indicator, 0-60 PSIG, SS case liquid filled
 - o Discharge sample port
 - o 1" Discharge check valve
 - o Piped in 1" SCH40 galvanized steel with 1" flex hose connections for vibration isolation
- Skid mounted and piped to manifold and blower inlet

Item 3 – Inlet Manifold

- 3" aluminum header with five (5) 2" extraction legs, each leg to contain
 - o 2" bronze isolation gate valve
 - o Vacuum gauge, 0-30" Hg, liquid filled, SS case
 - o Each leg piped in 2" SCH80 PVC pipe and fittings
- Skid mounted and piped to VLS inlet

The above three items are fully assembled on a common skid, approximate dimensions 4' x 8', 5052 welded aluminum construction, fork tubes, lifting D-rings and anchor tabs.

Item 4 – Master Control Panel (MCP) – Shipped Loose for installation outside the hazardous location treatment room

- Input power – 1/60/240v
- Relay based controls, intrinsically safe field circuits
- NEMA 4 Door in Door enclosure
- Through door disconnect with main circuit breaker
- Individual branch circuit breakers for Claw Pump and Transfer Pump
- Variable Speed Drive / Single to Three Phase Converter for Claw pump – ABB ACS550, 15.0 HP rated to provide 3/60/240v power to Claw Pump only
- Manual speed control potentiometer mounted on enclosure swing door
- Motor starter and thermal overload protection for 1.0 HP transfer pump
- Two (2) illuminated HOA switches
- Two (2) alarm lights
- Run time meter for Claw Pump
- Manual alarm reset button
- FALCO Interlock circuitry
- FALCO power supply and main breaker by others
- UL 698A listed and labeled - "Industrial Control Panel Relating to a Hazardous Location"

ESD Waste2Water, Inc

495 Oak Road

Ocala, FL 34472

www.Waste2Water.com

4-14-2016
Dailey Engineering, LLC
High Vacuum Extraction System
Vashon Chevron
17817 Vashon Highway
Vashon, Washington

Equipment Pricing Summary

Net Price all items listed...	\$ 34,330.00
LTL Shipping to Job Site...	\$ 2,500.00
On Site Start Up, First Day All expenses...	\$ 1,500.00
Each Additional Day...	\$ 1,000.00

Option-Falmouth Products Falco 300 Catalytic Oxidizer

- 100-350 SCFM capacity
- Vapor control valve
- 99% destruction efficiency
- 2.5 cubic feet catalyst
- Heat exchanger
- Flame arrestor

Oxidizer Pricing Summary

Net Price all items listed...	\$ 45,375.00
LTL Shipping to Job Site...	\$ 1,800.00

Mark A Farris

Remediation Project Manager
ESD Waste2Water, Inc.
mfarris@waste2water.com
352-680-0400 ext 239

ESD Waste2Water, Inc
495 Oak Road
Ocala, FL 34472
www.Waste2Water.com

4-14-2016

Dailey Engineering, LLC

High Vacuum Extraction System

Vashon Chevron

17817 Vashon Highway

Vashon, Washington

Exceptions, Clarifications, Terms and Conditions

- All final invoices will be issued for equipment upon notice of readiness to ship.
- Proposal pricing is valid for 30 days from date of proposal.
- Payment terms are net 60 days from shipment.
- ESD Waste2Water, Inc.'s other standard terms and conditions of sale including warranty are applicable.
- Pricing is limited to only those items describe herein. Pricing does not include freight or applicable sales tax. Accidental errors or omissions in interpreting the bid documents may require additional costs.
- Sizing and costs where applicable, for the equipment containers, sheds or trailers may change based upon engineered and scaled drawings during the submittal process.
- Pricing is based on uninterrupted system construction at ESD Waste2Water, Inc.'s manufacturing facility. Customer requests to stop, delay, postpone or interrupt completion of a system already in the manufacturing process may result in additional handling and set up charges.
- If a customer or consultant operational witness test is required prior to shipment, the test shall be scheduled immediately following ESD Waste2Water, Inc.'s functional test of the system. Delays in performance of the customer witness test may result in additional handling and set up charges.
- If customer is unready to accept shipment at time of notification to ship, ESD Waste2Water, Inc. will store equipment for a period of 30 days free of charge. Customer will be invoiced monthly storage charges @ a rate of \$ 5.00/ square foot / month, plus any applicable one time mobilization charge to relocate equipment to a storage facility other than ESD Waste2Water, Inc.
- No permitting services or costs are included except where indicated.
- On-site construction services, on-site ancillary piping, or on-site electrical work are not provided as a part of this proposal as except where indicated
- Equipment offloading services at the destination or job site have not been included.
- **Delivery is ~ 8 weeks week after submittal approval.** Prior to system fabrication, ESD Waste2Water, Inc. will provide a submittals package for your review and approval. Submittals can include a system P&ID, layout drawing, electrical distribution diagram, control panel drawings, and manufacturer's catalog cut sheets for the system's major components. Once submittals are approved, the components will be ordered and the system will be fabricated.
- ESD Waste2Water, Inc. will provide an O&M Manual (one copy and one electronic copy (CD) that consists of system drawings and manufacturer's related component information. Any additional copies, or informational/operational plans, schedules or procedures may require additional cost.
- Pursuant to NEC Article 409; ESD Waste2Water, Inc. provides U.L. Listed industrial control panels manufactured with short circuit current ratings (SCCR) of 10kA as standard product. The need for an alternate SCCR must be communicated in writing to ESD Waste2Water, Inc. prior to placing any order.

ESD Waste2Water, Inc

495 Oak Road

Ocala, FL 34472

www.Waste2Water.com



Project Estimate

84 Dunham Street
Attleboro, MA 02703

Date	Estimate #
4/21/2016	16-141

Client
Dailey Engineering, LLC 20115 6th Place NE Shoreline, WA 98155 Attn: Stephen Dailey

Site Name
SVE Skid & Controls Vashon Chevron Vashon, WA

Valid Until	Terms	FOB	Project
7/29/2016	SEE T&C	Attleboro, MA	16-141 Dailey WA - SVE Sk...

Bid Item	Description	Total
	DESIGN SUMMARY SVE RECOVERY: (1) Rotary Claw Blower 100 SCFM @ 18" HgV (250 ACFM) SVE VAPOR TREATMENT: Falco 300 Catalytic Oxidizer (Optional) SVE CONDENSATE TREATMENT: - (1) Particulate Cartridge Filter - (2) LGAC Vessels (by Others) COCs: Petroleum Constituents SITE POWER: 240 VAC, Single Phase Service NEC CLASSIFICATION: - Class 1, Division 2 Process Equipment Skid - Non-Classified Control Panel - Catalytic Oxidizer (refer to Falmouth Products Specifications)	
1	SVE SKID & CONTROL PANEL * (5) Leg SVE Inlet Manifold * 120g Moisture Separator (MS) Package * 1hp MS Progressive Cavity Transfer Pump Package * Single Element Cartridge Filter Housing Package * 15hp SVE Rotary Claw Blower * SVE Valve, Filter, & Piping Package * SVE Instrumentation Package * Carbon Steel Process Equipment Mounting Skid * UL-698 Control Panel (shipped loose for integration by site electrician)	45,800.00
2	CATALYTIC OXIDIZER * Falmouth Products Falco 300 rated 100-350 scfm	39,950.00
3	EQUIPMENT DELIVERY * SVE & CAT-OX Equipment * LTL Delivery to Vashon, WA * Off Loading & Final Placement by Others * Price is an Estimate and may vary based on market rates at time of delivery.	3,400.00
	TOTAL FOR ABOVE ITEMS 1, 2, 3	89,150.00

Please refer to the estimate clarifications section and NES's Standard Terms & Conditions.

Sales/Use Tax is assessed/collected in MA only - For taxable sales in other states the purchasing party is responsible for payment to the appropriate tax authority.

RapidTech LLC dba National Environmental Systems
Telephone: 508-226-1100 Fax: 508-226-1180 Email: sales@nes-inc.com



Client Project Reference: SVE Skid & Controls
Vashon Chevron
Vashon, WA

Estimate Date: 4/19/2016

Estimate No.: 16-141

Mr. Stephen Dailey, P.E.
Dailey Engineering, LLC
20115 6th Place NE
Shoreline, WA 98155

Dear Stephen,
Thank you for your interest in National Environmental Systems and our equipment for soil and groundwater remediation. In accordance with the specifications and clarifications received, we are pleased to provide the following technical description of the remediation system for this project.

DESIGN SUMMARY

SVE RECOVERY: (1) Rotary Claw Blower 100 SCFM @ 18" HgV (250 ACFM)

SVE VAPOR TREATMENT: Falco 300 Catalytic Oxidizer (Optional)

SVE CONDENSATE TREATMENT:

- (1) Particulate Cartridge Filter
- (2) LGAC Vessels (by Others)

COCs: Petroleum Constituents

SITE POWER: 240 VAC, Single Phase, 200amp Service

NEC CLASSIFICATION:

- Class 1, Division 2 Process Equipment Skid
- Non-Classified Control Panel
- Catalytic Oxidizer (refer to Falmouth Products Specifications)

SYSTEM INTEGRATION:

The Soil Vapor Extraction Equipment will be provided by NES as a pre-packaged assemblies. The Process Equipment will be installed on a steel skid base and is suitable for installation in a NEC Class 1, Division 2 Location. The Control Panel will be supplied as a loose assembly designed for installation by a licensed electrician in a NEC non-classified locations. Prior to shipment, the system will be assembled, piped, wired, and tested to the best extent practicable.

SVE INLET MANIFOLD

- * Five (5) Legs total (2 inch) with Header (4 inch) - SCH 80 PVC construction
- * Each Leg Includes:
 - Flow throttling gate valve
 - Vacuum gauge (PI)
 - Sample port ball valve with barb fitting, (SP)
- Each leg will terminate with a 2 inch aluminum male cam-lock

MOISTURE SEPARATOR TANK (MS)

- * 120 gallon, Carbon steel, enamel exterior
- * 4 inch Tangential inlet / 4 inch outlet
- * Coalescing Demister
- * (3) Position Level Switch, Transfer Pump On/Off, E-High
- * 2 inch Sight glass
- * Manual drain valve
- * Side mounted clean-out port
- * Automatic pump out connection

© RapidTech LLC dba National Environmental Systems (www.nes-inc.biz)

Phone (508) 226-1100 Fax (508) 226-1180 84 Dunham Street - Attleboro, MA 02703

Estimate Date: 4/19/2016

Estimate No.: 16-141

MOISTURE SEPARATOR TANK EFFLUENT PUMP

- * Moyno Model 34401 Progressive Cavity Pump
 - Cast Iron Construction with Stainless Steel Rotor
 - 1 HP, 240VAC, 1-Phase XP Motor
- * Pump Plumbing Package
 - Brass ball valve (inlet / service)
 - Brass wye strainer (inlet)
 - Brass gate valve (discharge / throttle)
 - Brass check valve (discharge)
 - Pressure gauge, 0 – 100 psig / liquid filled
 - Sample port ball valve with barb fitting (1/4 inch)
 - 1 inch re-circulation line for flow control

CARTRIDGE FILTER

- * Harrington Industrial Plastics Model 158006 cartridge filter housing
- * Filter cartridges, 10 Micron - One (1) case
- * Tru-union PVC ball valves (inlet/discharge)
- * Discharge pressure gauge, 0 – 100 psig / liquid filled
- * Discharge sample port ball valve with barb fitting (1/4 inch)

SVE BLOWER EQUIPMENT

- * Reitschle Rotary Claw Blower, Model C-VLR-500 (specifications attached)
 - 100 SCFM @ approximately 18" HgV (250 ACFM)
 - 15 HP, 240 VAC, 3 phase, TEFC Motor (VFD Ready)
 - Effluent Temperature: Approx. 285 F at 18" HgV
 - Estimated Noise Level: 84 dBA (based upon operating conditions)
- * In-line inlet particulate filter
- * Manual ambient air dilution line
 - Throttling gate valve
 - Filter/Silencer, Solberg FS Series
- * Piping Package - PVC (Sch 80) and Painted Steel (Sch 40)

SVE INSTRUMENTATION PACKAGE

- * Inline Filter Differential Pressure Gauge
- * Discharge Flow Sensor Pitot Tube / Magnehelic Gauge
- * Vacuum gauge at MS inlet
- * Vacuum gauge at blower inlet
- * Pressure gauge at blower discharge
- * Temperature gauge blower discharge
- * Sample ports at moisture separator inlet/blower discharge

CATALYTIC OXIDIZER *** (OPTIONAL) ***

- * Falco 300 catalytic oxidizer with the following components
 - Integrated spiral plate heat exchanger constructed of stainless steel (73% efficient at 300 scfm)
 - Aluminum frame with attached stainless forklift pockets
 - Temperature control system in a NEMA 4X enclosure



Client Project Reference: SVE Skid & Controls
Vashon Chevron
Vashon, WA

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- Thermostatically controlled enclosure cooling fan
- Thermocouples (3) measuring entrance, exit, and internal catalyst bed temperatures
- Temperature controllers (3) supplied with 4-20 mA retransmit
- SCR power controller, semi conductor fusing, and heat sink for heater control
- Heater high limit thermocouple, controller, and contactor
- Heaters wired and fused for single phase 240 volts
- Motor starter for SVE blower control/integration
- Islatrol electrical noise filter
- Normally open and normally closed terminals provided for integration with additional on-site equipment
- Precious metal catalyst (packed bed) for VOC destruction (2.5 cubic feet)
- Automatic Vapor Control Valve (VCV) with filter *** (Integrated on SVE Skid) ***
- Digital hours meter to record oxidizer run time
- Emergency stop switch
- Flame arrestor
- Five feet of gas vent pipe with rain hat (11' discharge height)
- Sample ports (influent and effluent)
- Installation and operations manual
- Factory Mutual Approval (US and Canada) for use in hazardous locations

UL-698A LISTED CONTROL PANEL *** (SUPPLIED LOOSE) ***

* Power Distribution Components by Site Electrician

Designed to Control:

- * 15 hp SVE Blower
- * 1 hp MS Transfer Pump

Alarms:

- Moisture separator high level
- SVE VFD Fault
- Cat-Ox Fault (contingent)
- Emergency Stop active

* Control Panel Construction

- Enclosure with NEMA 3R rating and pad-locking handle
- ADI Micro PLC with Swing Panel Control Access
- SVE Motor VFD for phase conversion
- H/O/As for Process Motors
- SVE Motor Hour Meter
- Control Power Selector switch and manual reset button
- Alarm Lights
- Motor starters
- Intrinsic safety barriers and relays
- Exterior Emergency Stop
- Panel listed UL-698A



Client Project Reference: SVE Skid & Controls
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SYSTEM SKID

- * Approximate dimensions, 8 ft (l) x 4 ft (w) x 7.5 ft (h)
- * Carbon steel construction, painted navy gray
- * Fork-lift access points and bolt down plates

PLEASE NOTE:

* Due to site conditions and installation practices beyond our control; NES cannot guarantee meeting any installed system sound requirement. During system testing at our facility- sound levels will be measured, recorded, and provided for review prior to system shipment.

SYSTEM DELIVERY

- * LTL Delivery to Vashon, WA
- * Off Loading & Final Placement by Others
- * Price is an Estimate and may vary based on market rates at time of delivery.

ENGINEERING, QUALITY CONTROL, AND DOCUMENTATION

Our integrated turnkey remediation systems incorporate the following general typical project sequence:

* Upon award of the project and successful contracting - NES will provide a submittals package electronically via email that includes the following using our standard Submittal Outline:

- Process and Instrumentation Diagram (P&ID)
- Equipment Layout Drawing (Plan View)
- Control Panel Layout Drawing
- Interlock Schedule
- Electrical Line Diagram

* If further information is required, please contact NES for an estimate revision to include the required documentation.

* Components are procured and the system is fabricated following receipt of written approval of our submittal package.

* The integrated system is fully wet tested for performance at our facility. Client personnel will be given notice regarding the projected testing dates so they can witness the testing if required.

* The Operation & Maintenance Manuals (close-out documentation) includes all mechanical & electrical drawings (as-built), a summary listing of the major components with serial numbers, individual component operating instructions and spare parts lists.

* The Operation & Maintenance Manual provided with the Integrated Treatment System is not intended as a training manual; Equipment Operators should be familiar with the operation of treatment systems and have appropriate training..

* NES will provide an twelve month warranty on the integrated system commencing on the date the equipment is completed for shipment.

* NES carries full product liability insurance.

QUOTATION COMMENTS

* This proposal has been prepared for the confidential use of Dailey Engineering, LLC. Dissemination of any proposal information without the express written consent of National Environmental Systems including but not limited to: pricing, equipment selection and configuration, integration techniques, and value added engineering approaches is strictly prohibited.



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- * The system has been quoted in accordance with our interpretation of the specifications and project requirements. Please let us know if this quotation should be revised to meet your specific needs for the project.
- * Prices quoted do not include freight or any applicable taxes unless specifically stated.
- * We recommend the use of a licensed electrician familiar with remediation and process equipment when installing this system.
- * Our scope of work is limited to equipment and services as described in this quotation. All other items and services are to be provided by others. Maintenance supplies are not included in this estimate.
- * The system will be designed and fabricated in accordance with nationally recognized electrical codes and standards as described in this quotation (for example - NEC and UL). We are not responsible for adhering to state or local codes/standards not specifically described in this estimate.

We at NES appreciate the opportunity to assist you with this project. If you have any questions and/or if you need additional information, please feel free to contact us. We look forward to working with you.

Regards,

John Dunn
(508) 226-1100 x101
jdunn@nes-inc.biz

Kate Bindas
(508) 226-1100 x102
kbindas@nes-inc.biz
Out-of-state sale, exempt from sales tax



STANDARD TERMS AND CONDITIONS

This offer may only be accepted on and is expressly limited to acceptance of the terms described herein and acceptance by the buyer shall be deemed as acceptance of all of the terms.

NES assumes the information provided by the buyer is the full extent of the information necessary to determine the scope of the project. It is the responsibility of the buyer to provide all information necessary to prepare the proposal to NES. In the preparation of the proposal, NES cannot consider any information germane to the project not provided by the buyer. This includes but is not limited to: local and federal applicable codes, government regulations, site conditions, project specification, available electric power, hazardous location classifications, etc. Any errors or omissions in the proposal resulting from unidentified legal or technical requirements are outside the scope of this proposal, and NES will not be responsible for them.

This proposal includes only equipment mentioned herein. National Environmental Systems offers this proposal as an Equipment Supplier exclusively, not as a Contractor or Sub-contractor.

No changes shall be made in the quotation or purchase order unless agreed to by the seller in writing. This order is not subject to deviations of customer's confirming purchase order. Under no circumstances will NES accept consequential or liquidated damages.

Terms are based upon approval of client credit application. If approved, Terms will be **Net 30** days from notification to client that the purchased system has met **milestones** proposed for the project. Final invoice dating will occur upon notification to the client that the equipment is complete for shipment. NES reserves the right to decline extended payment terms to any client whose credit application is incomplete or whose credit report is rejected. No retainer whatsoever will be allowed regardless of agreements between purchaser and ultimate owner or user.

The quoted price does not include any taxes that may be due to the jurisdiction to which the system is shipped.

A finance charge of 1½ % per month (annual percentage rate of 18%) will be charged on any balance over the due date. Accounts not timely paid will be charged costs of collection including reasonable attorney's fees.

Unless otherwise agreed upon in writing, any systems not accepted for delivery within one month of the ship date will be deemed delivered. Accordingly, a storage fee of \$50.00 per week will be charged on these "ready to be shipped" systems stored at National Environmental Systems. For orders that are canceled, there will be a restocking fee of up to 100%, based on the system complexity and production stage of the system.

Buyer may cancel this agreement only upon payment of reasonable cancellation charges that shall take into account expenses incurred and commitments made by NES.



Project Estimate

84 Dunham Street
Attleboro, MA 02703

Date	Estimate #
4/28/2016	16-141 RT

Client
Dailey Engineering, LLC 20115 6th Place NE Shoreline, WA 98155 Attn: Stephen Dailey

Site Name
SYSTEM RENTAL OPTIONS SVE Skid & Controls Vashon Chevron Vashon, WA

Valid Until	Terms	FOB	Project
7/29/2016	SEE T&C	Attleboro, MA	16-141 Dailey WA - SVE Sk...

Bid Item	Description	Total
	SVE SKID / CONTROLS & CATALYTIC OXIDIZER LEASE OPTIONS Please Note: 1. Separate Leases would be arranged with (2) Mfgs. (NES & Falmouth Products) as detailed below. 2. Please refer to accompanying description for full description of equipment. 3. Contact Falmouth Products directly for Lease details.	
	~~~~~	
	<b>NES - CUSTOM SVE SKID / CONTROLS EQUIPMENT RENTAL OPTIONS</b> 1 CUSTOM SVE SKID & CONTROL PANEL - (6) MONTH MINIMUM 30,000.00 2 CUSTOM SVE SKID & CONTROL PANEL - PER MONTH (7-12) 3,250.00 3 CUSTOM SVE SKID & CONTROL PANEL - PER MONTH (13+) 1,600.00	
	~~~~~	
	FALMOUTH PRODUCTS - CATALYTIC OXIDIZER EQUIPMENT LEASE OPTIONS 4 STOCK FALCO 300 - (6) MONTH MINIMUM 18,000.00 5 STOCK FALCO 300 - PER MONTH (7-12) 2,750.00 6 STOCK FALCO 300 - PER MONTH (13+) 2,500.00	
	~~~~~	
	<b>FALMOUTH PRODUCTS - CRATE FOR RENTAL OPTION</b> 7 EQUIPMENT DELIVERY 600.00 8 * SVE & CAT-OX Equipment 3,400.00 * LTL Delivery to Vashon, WA * Off Loading & Final Placement by Others * Price is an Estimate and may vary based on market rates at time of delivery.	
	PLEASE NOTE: An equipment return delivery estimate will be provided based on market rates at end of rental term.	

Please refer to the estimate clarifications section and NES's Standard Terms & Conditions.

Sales/Use Tax is assessed/collected in MA only - For taxable sales in other states the purchasing party is responsible for payment to the appropriate tax authority.

RapidTech LLC dba National Environmental Systems  
Telephone: 508-226-1100 Fax: 508-226-1180 Email: sales@nes-inc.com



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Vashon, WA

Estimate Date: 4/19/2016

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Mr. Stephen Dailey, P.E.  
Dailey Engineering, LLC  
20115 6th Place NE  
Shoreline, WA 98155

Dear Stephen,  
Thank you for your interest in National Environmental Systems and our equipment for soil and groundwater remediation. In accordance with the specifications and clarifications received, we are pleased to provide the following technical description of the remediation system for this project.

#### DESIGN SUMMARY

SVE RECOVERY: (1) Rotary Claw Blower 100 SCFM @ 18" HgV (250 ACFM)

SVE VAPOR TREATMENT: Falco 300 Catalytic Oxidizer (Optional)

SVE CONDENSATE TREATMENT:

- (1) Particulate Cartridge Filter
- (2) LGAC Vessels (by Others)

COCs: Petroleum Constituents

SITE POWER: 240 VAC, Single Phase, 200amp Service

NEC CLASSIFICATION:

- Class 1, Division 2 Process Equipment Skid
- Non-Classified Control Panel
- Catalytic Oxidizer (refer to Falmouth Products Specifications)

#### SYSTEM INTEGRATION:

The Soil Vapor Extraction Equipment will be provided by NES as a pre-packaged assemblies. The Process Equipment will be installed on a steel skid base and is suitable for installation in a NEC Class 1, Division 2 Location. The Control Panel will be supplied as a loose assembly designed for installation by a licensed electrician in a NEC non-classified locations. Prior to shipment, the system will be assembled, piped, wired, and tested to the best extent practicable.

*****

#### SVE INLET MANIFOLD

- * Five (5) Legs total (2 inch) with Header (4 inch) - SCH 80 PVC construction
- * Each Leg Includes:
  - Flow throttling gate valve
  - Vacuum gauge (PI)
  - Sample port ball valve with barb fitting, (SP)
- Each leg will terminate with a 2 inch aluminum male cam-lock

#### MOISTURE SEPARATOR TANK (MS)

- * 120 gallon, Carbon steel, enamel exterior
- * 4 inch Tangential inlet / 4 inch outlet
- * Coalescing Demister
- * (3) Position Level Switch, Transfer Pump On/Off, E-High
- * 2 inch Sight glass
- * Manual drain valve
- * Side mounted clean-out port
- * Automatic pump out connection

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Regards,

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jdunn@nes-inc.biz

Kate Bindas  
(508) 226-1100 x102  
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Out-of-state sale, exempt from sales tax



## STANDARD TERMS AND CONDITIONS - RENTAL

This offer may only be accepted on and is expressly limited to acceptance of the terms described herein and acceptance by the customer (renting entity) shall be deemed as acceptance of all of the terms.

NES assumes the information provided by the renting entity is the full extent of the information necessary to determine the scope of the project. It is the responsibility of the renting entity to provide all information necessary to prepare the proposal to NES. In the preparation of the proposal, NES cannot consider any information germane to the project not provided by the leasing entity. This includes but is not limited to: local and federal applicable codes, government regulations, site conditions, project specification, available electric power, hazardous location classifications, etc. Any errors or omissions in the proposal resulting from unidentified legal or technical requirements are outside the scope of this proposal, and NES will not be responsible for them.

No changes shall be made in the quotation or purchase order unless agreed to by NES in writing. **This estimate is not subject to deviations of customer's confirming purchase order.**

Terms are first months rent and freight charges due prior to rental equipment Ship Date. The remainder of the rental period will require monthly payments. The ship date will become the due date for payment each subsequent month. It is the responsibility of the Customer to submit these payments to NES whether or not the Customer has invoiced their end user. No retainer whatsoever will be allowed regardless of agreements between leasing entity and/or the end user. The quoted price does not include any taxes that may be due to the jurisdiction to which the system is shipped. A finance charge of 1½ % per month (annual percentage rate of 18%) will be charged on any balance over 30 days from due date. Accounts not timely paid will be charged costs of collection including reasonable attorney's fees.

### **Responsibilities of Customer (Renting Entity):**

1. The Customer will maintain full insurance coverage for the rented system to cover the equipment for damage or loss and liability from system operation.
2. The Customer will indemnify and hold NES harmless for loss of or damage to NES equipment while in possession of the Customer.
3. The Customer will indemnify and hold NES harmless for any and all losses, claims and damages including but not limited to: attorney's fees related to injury disability and death of workers, damage to property, the environment, or other equipment caused while operating and handling the equipment while the equipment is in the possession of the Customer.

### **Customer Agrees to the Following:**

1. Customer will pay all costs related to operation of the equipment.
2. Customer agrees to pay for all repairs to the equipment resulting from negligence, accident, and misuse.
3. Customer agrees to pay all freight and handling charges related to equipment repair.
4. Customer will not operate the equipment outside of the manufacturer's recommendations and rated capacities. Copies of all manufacturers' operating instructions will be shipped with the equipment.
5. Customer agrees that the equipment will be operated by competent employees trained and experienced with the operation of remediation equipment.
6. Customer agrees that the equipment will be returned to NES free of any contamination and debris.
7. Customer agrees to return the equipment to NES in the same condition as received except for ordinary wear and tear resulting from normal usage.
8. Customer agrees to allow NES or its agents to inspect the equipment upon reasonable notice from NES to Customer.

_____ Client Acknowledges Receipt of Rental Terms