

**DES Waste Management Division
29 Hazen Drive; PO Box 95
Concord, NH 03302-0095**

**Proposed Scope of Work and Budget Estimate
Spring 2020 Monitoring Round
Troy Mills Landfill Superfund Site
Troy, New Hampshire
NHDES No. 198405082
Project No. 104**

NH Department of Environmental Services
Hazardous Waste Remediation Bureau
29 Hazen Drive, PO Box 95
Concord, New Hampshire 03302-0095
Contact: Mr. Michael Summerlin, P.E.
603-271-3649
michael.summerlinjr@des.nh.gov

Prepared By:
GZA GeoEnvironmental, Inc.
5 Commerce Park North
Suite 201
Bedford, New Hampshire 03110
(603) 232-8765
Ms. Tanya P. Justham
tanya.justham@gza.com
GZA File No. 04.P000426.20

February 10, 2020



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5 Commerce Park North

Suite 201

Bedford, NH 03110

T: 603.623.3600

F: 603.624.9463

www.gza.com



VIA EMAIL

February 10, 2020

File No. 04.P000426.20

Mr. Michael Summerlin, P.E.
New Hampshire Department of Environmental Services
Waste Management Division
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03301-0095

Re: Proposed Scope of Work and Budget Estimate
Spring 2020 Monitoring Round
Troy Mills Landfill Superfund Site
Troy, New Hampshire
NHDES No. 198405082, Project No. 104

Dear Michael:

As requested, GZA GeoEnvironmental, Inc. (GZA) has prepared this proposed Scope of Work to assist the New Hampshire Department of Environmental Service (NHDES) and the United States Environmental Protection Agency (EPA) with the 2020 on-site monitoring activities at the Troy Mills Landfill Superfund Site (Site) located in Troy, New Hampshire. The following Scope of Work has been developed based on our discussions with NHDES and our understanding of Site conditions. The work will be performed in general accordance with our NHDES Contract for Environmental Consulting Services effective as of July 1, 2019 through June 30, 2023 as approved by the Governor and Council on June 5, 2019.

SCOPE OF WORK

The following briefly describes the proposed Scope of Work. Standard operating procedures (SOPs) for sampling, as well as the specific analyses being sampled for each media, will be presented in detail in the Sampling and Analysis Plan (SAP) to be prepared following approval of the Scope of Work.

TASK 1 – SAMPLING AND ANALYSIS PLAN DEVELOPMENT

GZA proposes to prepare an updated SAP for the Site, which will be consistent with NHDES' Hazardous Waste Remediation Bureau Master Quality Assurance Project Plan, approved November 2017, Revision #1, February 2018, EQA RFA# 18008. In addition, GZA will prepare a Site-specific Health and Safety Plan (HASP) for the protection of GZA field personnel, addressing potential risks of exposure and safety issues associated with the proposed sampling tasks. GZA's Site-specific HASP will be



consistent with the Occupational Safety and Health Administration standards including 29 CFR 1910 and 1926.

TASK 2 – Spring 2020 MONITORING ROUND

Comprehensive Water Level Gauging Round

GZA proposes to collect one comprehensive round of groundwater level measurements from each of the Site groundwater monitoring wells to estimate groundwater surface and hydraulic head equipotential contours, from which we will infer directions of groundwater flow beneath the Site and Site vicinity. Depth-to-water at the Site will be measured using an electronic water level indicator probe. Groundwater elevations will be calculated by subtracting the depth-to-groundwater from the reference elevation previously established for each well (top of PVC or casing).

The Spring 2020 monitoring round is the sampling event prior to the Five-Year Review. In accordance with the SAP, the depth to bottom measurement will be confirmed in each monitoring well that does not contain a dedicated bladder pump during the comprehensive water level gauging round.

Groundwater Sampling

The 2020 monitoring at the Site will include the following in accordance with the October 2018 SAP and recommendations in the Fall 2018 Monitoring Round Data Report dated June 21, 2019:

- Groundwater samples will be collected at 32 wells;
- Leachate samples will be collected at two locations; and
- Surface water samples will be collected at five locations.

GZA understands that, for the collected groundwater, leachate, and surface water samples, the following analyses will be completed by NHDES' subcontract laboratory, Alpha Analytical (Alpha) of Marlborough, Massachusetts and by EPA Region 1 New England Regional Laboratory (NERL) of Chelmsford, Massachusetts (number of samples and analytical methods to be specified in the SAP):

Alpha – Groundwater, Leachate, and Surface Water Analyses

- Volatile organic compounds (VOCs);
- Semi-VOCs (SVOCs);
- Total and dissolved arsenic and manganese;
- 1,4-dioxane (groundwater only); and
- Hardness (leachate and surface water only).



NERL– Groundwater, Leachate, and Surface Water Analyses

- Per- and Polyfluoroalkyl Substances (PFAS).

GZA will coordinate sample courier services for samples going to Alpha and will deliver samples directly to NERL.

TASK 3.1 – DATA EVALUATION AND DATA REPORT PREPARATION

GZA will assess the water quality concentration data collected relative to regulatory action limits and historical concentration data collected at the Site. GZA will prepare an electronic (.pdf) copy of a *DRAFT* report summarizing: work performed; results of the water quality sampling and analyses; results of water level/hydraulic head measurements; observations; the updated conceptual Site model; trend analyses; and our conclusions. The *DRAFT* report will include updated summary tables for water level data, well depth measurements, and water quality analytical results for samples collected during the monitoring round. Water quality data and water level data will be summarized as appropriate to the project objectives in figures and plots. GZA will submit the *DRAFT* report including a complete bookmarked electronic copy (.pdf), a Microsoft® Word version of the report text, and Microsoft® Excel® version of all tables to NHDES and EPA for review and comment.

TASK 3.2 – FINALIZATION OF THE DATA REPORT

GZA anticipates receipt of comments from both NHDES and EPA. For the purposes of this proposal, GZA has included time required to address comments and finalize the report, including preparation of a bookmarked electronic (.pdf) copy of the final report.

TASK 3.3 – UPLOAD OF DATA TO NHDES' ENVIRONMENTAL MONITORING DATABASE (EMD)

As requested by NHDES, GZA will upload the data results from Alpha and NERL to NHDES' EMD for the existing wells. GZA has been provided a template and will enter appropriate information into the database.

TASK 4 – PROJECT COORDINATION, MANAGEMENT, AND MEETINGS

GZA anticipates that this project will include coordination between GZA's Project Manager, NHDES, and EPA during the course of the project, and may include meeting(s) with NHDES and EPA to discuss findings, etc. Based on this, GZA has included time associated with overall project management and coordination, and limited time for the Project Manager to attend meeting(s) with NHDES and EPA.

SCHEDULE AND BUDGET ESTIMATE

GZA is prepared to initiate the proposed Scope of Work upon receipt of a Work Scope Authorization and has tentatively scheduled the annual monitoring event to be performed during late April 2020. We anticipate that a *DRAFT* data report will be completed for NHDES and EPA review within 60 days following the receipt of the data results from Alpha and NERL.

Billings will be based on accrued time and expenses in accordance with our NHDES Environmental Consulting Services Contract as approved by the Governor and Council on June 5, 2019. The budget estimate to complete the proposed work is **\$90,920**. Refer to the attached Work Scope Budget sheet for a breakdown of the cost estimate by task. This estimate is based on the anticipated Scope of Work outlined above, which represents our



present judgment as to the level of effort requested. Actual charges may vary, either upward or downward, depending upon the execution of the work.

GZA greatly appreciates the opportunity to work on this important project. If you have any questions regarding the Scope of Work, please do not hesitate to contact Ms. Tanya Justham directly at (603) 232-8765.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

A handwritten signature in black ink, appearing to read 'Tanya P. Justham'.

Tanya P. Justham
Senior Project Manager

A handwritten signature in black ink, appearing to read 'Claire G. Lund'.

Claire G. Lund, P.E.
Consultant/Reviewer

A handwritten signature in black ink, appearing to read 'Steven R. Lamb'.

Steven R. Lamb, P.G., C.G.W.P.
Principal

TPJ/SRL/CGL: jc

\\GZABedford\RFPs\FY20\04.P000426.20\FINAL 04.P000426.20 Troy Site Sampling Round 02102020.docx

Attachment: Work Scope Budget Sheet



WORK SCOPE BUDGET SHEET

WORK SCOPE BUDGET SHEET - Troy Mills Landfill Superfund Site

NHDES No.: 198405082
UST Facility No.:
Date of Submittal: 02/10/20
Env-Or 600 Phase Code: RPI

Troy Mills Landfill
Facility Name: Superfund Site
Owner:
Town: Troy, NH
Priority No.:

Mailing Address: NHDES
29 Hazen Drive
P.O. Box 95
Concord, NH 03302-0095

GZA Job No. 04.P000426.20
GZA PM: Tanya Justham

				Overall Breakdown				Breakdown By Class						Assumptions	
Description By Task	Contractor	Description	Class Code	Units	Type	Rate	Cost	Eng./Hydro. Services	Lab	Subsurface	Cont. Soil T&D	GW Treatment/Product Recover	Other		
Task 1. Sampling and Analysis Plan Development	GZA	Preparation												includes time for development of sampling scope	
		Principal / QA	E	2.0	hrs.	\$220.00	\$440	\$440	--	--	--	--	--		
		Senior Project Manager	E	10.0	hrs.	\$176.00	\$1,760	\$1,760	--	--	--	--	--		
		Professional Level III	E	24.0	hrs.	\$120.00	\$2,880	\$2,880	--	--	--	--	--		
		Drafter	E	2.0	hrs.	\$107.00	\$214	\$214	--	--	--	--	--		
		Word Processing	E	4.0	hrs.	\$90.00	\$360	\$360	--	--	--	--	--		
					Task 1 Total:			\$5,654	\$5,654	\$0	\$0	\$0	\$0	\$0	
Task 2. Spring 2020 Monitoring Round	GZA	Preparation and Field Work												Includes water level round and groundwater monitoring round	
		Administrator (Billing Coordinator)	E	2.0	hrs.	\$90.00	\$180	\$180	--	--	--	--	--		
		Senior Project Manager (assumes 3 full days and 2 hrs per day for remaining)	E	52.0	hrs.	\$176.00	\$9,152	\$9,152							
		Professional Level III (assumes 1 day for WLs, 10 days sampling, 4 days prep/mobe, 1 day demobe)	E	180.0	hrs.	\$120.00	\$21,600	\$21,600	--	--	--	--	--		
		Professional Level II (assumes 1 day for WLs, 10 days sampling, 3 days prep/mobe, 1 day demobe)	E	170.0	hrs.	\$99.00	\$16,830	\$16,830	--	--	--	--	--		
		Professional Level I (assumes 4 sample pickups at site and deliveries of PFAS samples to EPA Lab)	E	16.0	hrs.	\$90.00	\$1,440	\$1,440	--	--	--	--	--		
	GZA	Mileage for sample pickup and delivery	E	560.0	miles	\$0.58	\$322	\$322	--	--	--	--	--	32 gw wells via low flow (2 wells per day per person), 2 leachate, 5 SW samples WL round assumes 2 people, 1 day(12 hr day); GW sampling assumes 2 people, 9 days (12 hr days); 2 people, 1 day surface water/leachate sampling (12 hr day); 7 man days prep/mobe (10 hr days) & 2 man days demobe (8 hr days)	
		Equipment Rental and Supplies													
		Enterprise box truck rental	E	3.0	week	\$393.80	\$1,181	\$1,181	--	--	--	--	--		
		Gator rental	E	2.0	week	\$632.50	\$1,265	\$1,265	--	--	--	--	--		
		Gator delivery fee (drop off/pickup)	E	1.0	nte	\$550.00	\$550	\$550	--	--	--	--	--		
		Truck Rental (assumes 1 truck per day/11 work days)	E	11.0	day	\$126.50	\$1,392	\$1,392	--	--	--	--	--		
		Peri Geopump2 (1 pump /2 wk)	E	2.0	week	\$69.30	\$139	\$139	--	--	--	--	--		
		Non-dedicated QED Sample Pro Bladder Pump (2 pumps / 2 weeks)	E	4.0	week	\$115.50	\$462	\$462	--	--	--	--	--		
		Teflon bladder kit (11 wells, plus 2 extras)	E	13.0	ea	\$52.80	\$686	\$686	--	--	--	--	--		
		Bottled nitrogen gas, regulator	E	10.0	ea	\$49.50	\$495	\$495	--	--	--	--	--		
		100 ft water Level meter (2 meters / 2 wk)	E	4.0	week	\$46.20	\$185	\$185	--	--	--	--	--		
		In-Situ SmarTROLL (2 units / 2 wk)	E	4.0	week	\$242.55	\$970	\$970	--	--	--	--	--		
		In-Situ SmarTROLL backup unit (50%)(1 unit / 2 wk)	E	2.0	week	\$182.60	\$365	\$365	--	--	--	--	--		
		Tablets for use with SmarTROLL (2 units / 2 wk)	E	4.0	week	\$110.00	\$440	\$440	--	--	--	--	--		
		Hach 2100Q Turbidity meter (2 units / 2 wk)	E	4.0	week	\$69.30	\$277	\$277	--	--	--	--	--		
		Hach 2100Q Turbidity meter backup (50%)(1 unit / 2 wk)	E	2.0	week	\$52.25	\$105	\$105	--	--	--	--	--		
		Masterflex Silastic Tubing box of #14 (25 ft in box)	E	1.0	ea	\$72.60	\$73	\$73	--	--	--	--	--		
		Masterflex Silastic Tubing box of #15 (50 ft in box)	E	1.0	ea	\$101.75	\$102	\$102	--	--	--	--	--		
		Masterflex Silastic Tubing box of #16 (25 ft in box)	E	1.0	ea	\$76.01	\$76	\$76	--	--	--	--	--		
		Calibration solution set (assumes 1 set plus extra solutions)	E	1.0	ea	\$247.50	\$248	\$248	--	--	--	--	--		
		Decon Solution (1 4-L Hexane; includes estimated shipping charge)	E	1.0	ea	\$393.39	\$393	\$393	--	--	--	--	--		
		Cooler ice and DI water (3 coolers a day, 6 bags/cooler for 11 days)	E	198.0	ea	\$2.75	\$545	\$545	--	--	--	--	--		
		Misc. Equipment and Supplies (decon supplies, PPE, paper towels/trash bags, etc.)	E	1.0	nte	\$500.00	\$500	\$500	--	--	--	--	--		
		Lodging/Meals per person (sampling crew 8 nights, field lead 1 night)	E	17.0	day	\$151.31	\$2,572	\$2,572	--	--	--	--	--		Based on Holiday Inn Express rates (\$107.55 w/ tax), plus meals (\$30)
		Waste Disposal													
	Strategic	Hexane decon disposal	E	1.0	ls	\$808.64	\$809	\$809	--	--	--	--	--		
					Task 2 Total:			\$63,352	\$63,352	\$0	\$0	\$0	\$0	\$0	
Task 3.1. Data Evaluation and Data Report Preparation	GZA	Principal	E	4.0	hrs.	\$220.00	\$880	\$880	--	--	--	--	--		
		Senior Project Manager	E	16.0	hrs.	\$176.00	\$2,816	\$2,816	--	--	--	--	--		
		Professional Level III	E	40.0	hrs.	\$120.00	\$4,800	\$4,800	--	--	--	--	--		
		Professional Level II	E	30.0	hrs.	\$99.00	\$2,970	\$2,970	--	--	--	--	--		
		Word Processing	E	8.0	hrs.	\$90.00	\$720	\$720	--	--	--	--	--		
		Drafter	E	8.0	hrs.	\$107.00	\$856	\$856	--	--	--	--	--		
					Task 3.1 Total:			\$13,042	\$13,042	\$0	\$0	\$0	\$0	\$0	

WORK SCOPE BUDGET SHEET - Troy Mills Landfill Superfund Site

NHDES No.: 198405082
UST Facility No.:
Date of Submittal: 02/10/20
Env-Or 600 Phase Code: RPI

Troy Mills Landfill
Facility Name: Superfund Site
Owner:
Town: Troy, NH
Priority No.:

Mailing Address: NHDES
29 Hazen Drive
P.O. Box 95
Concord, NH 03302-0095

GZA Job No. 04.P000426.20
GZA PM: Tanya Justham

				Overall Breakdown				Breakdown By Class							
Description By Task	Contractor	Description	Class Code	Units	Type	Rate	Cost	Eng./Hydro. Services	Lab	Subsurface	Cont. Soil T&D	GW Treatment/Product Recover	Other		
Task 3.2. Finalization of the Data Report	GZA	Principal	E	1.0	hrs.	\$220.00	\$220	\$220	--	--	--	--	--		
		Senior Project Manager	E	8.0	hrs.	\$176.00	\$1,408	\$1,408	--	--	--	--	--		
		Professional Level III	E	8.0	hrs.	\$120.00	\$960	\$960	--	--	--	--	--		
		Word Processing	E	6.0	hrs.	\$90.00	\$540	\$540	--	--	--	--	--		
		Drafter	E	2.0	hrs.	\$107.00	\$214	\$214	--	--	--	--	--		
		Expenses/Reproduction etc.	E	1.0	ea	\$250.00	\$250	\$250	--	--	--	--	--		
					Task 3.2 Total:			\$3,592	\$3,592	\$0	\$0	\$0	\$0		\$0
Task 3.3. Upload of Data to NHDES' EMD Database	GZA	Professional Level III	E	16.0	hrs.	\$99.00	\$1,584	\$1,584	--	--	--	--	--		
					Task 3.3 Total:			\$1,584	\$1,584	\$0	\$0	\$0	\$0		\$0
Task 4. Project Coordination, Management & Meetings	GZA	Principal	E	4.0	hrs.	\$220.00	\$880	\$880	--	--	--	--	--		
		Senior Project Manager	E	16.0	hrs.	\$176.00	\$2,816	\$2,816	--	--	--	--	--		
					Task 4 Total:			\$3,696	\$3,696	\$0	\$0	\$0	\$0		\$0

Env-Or 600 Phase Code
IRA - Initial Response Action
FPR - Free Product Removal
ISC - Initial Site Characterization
SIR - Site Investigation/Reporting
RAP - Remedial Action Plan
RPI - Remedial Plan Implementation
GMP - GW Monitoring/Permits

Class Codes:
E = Eng./Hydrogeology Services
L = Laboratory Services
X = Subsurface Explorations
S = Cont. Soil Treatment/Disposal
G = GW Treatment/Product Recovery
O = Other

TOTAL PROPOSED:

\$90,920	\$90,920	\$0	\$0	\$0	\$0	\$0
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Comments: