TRI-TOWN JOINT REVIEW COMMITTEE MEETING

March 18, 2024
10:00 AM-11:00 AM

MEETING LOCATION: Water Resource Recovery Facility, 35 Cascade St, Essex Junction and
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Meeting ID: 211 394 451 728
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Agenda

1. Review and Approval of 12/10/24 meeting minutes
2. Drying Bed Project
3. Committee input of capital projects priority tanking from 10-year evaluation study
4. Pretreatment
   a. High Strength Waste Surcharge policy- next steps?
   b. Burlington Beer Pretreatment installation update?
   c. New influent tracking spreadsheet required monthly by State
5. Sludge Management
   a. Land Application update
   b. NY PFAS sampling requirements

TRI-TOWN JOINT REVIEW COMMITTEE
MEETING MINUTES
December 10, 2024
10:00 AM-11:00 AM
MS Teams

In attendance: Bruce Hoar, Chelsea Mandigo, Jess Morris, Annie Costandi, Aaron Martin, Kendall Chamberlin, Jeff Lewis, Wayne Elliott, Regina Mahony

1. **Draft meeting minutes from May 15, 2024, approval**
    a. Bruce made a motion to accept the minutes as drafted, Kendall second. Approved.
2. **FY24 Reconciliation**
    a. The group reviewed and discussed the initial fund balance for each community. Final reports will be received from the auditor soon. Historically, fund balances are not returned to the respective community unless a request is made.
    b. Williston will likely be requesting for some of their balance to be returned since it is approaching $350,000.
3. **FY26 Preliminary Budget and Wholesale Rate Discussion**
    a. Discussion occurred around the FY26 Preliminary Budget.
        i. The City Council instructed each department to limit their proposed budget for FY26 to a 3% increase over FY25. Achieving this will be nearly impossible for the utilities this year, as Wastewater has proposed a 5.2% increase.
        ii. The primary reason for the cost increase is related to the management of chemicals and biosolids. Additionally, there is a new line item for a stormwater fee of $4,000. This fee is associated with the amount of impervious surface area at the Wastewater Treatment Facility (WWTF) as part of the new stormwater utility.
        iii. The budget was created in September and submitted in October. Notifications of service increases have already exceeded the estimated amounts.
        iv. Chelsea mentioned that vendors providing budget quotes for parts and capital projects indicated to estimate a 10% price increase for purchases made after July 1, 2025.
        v. Jess noted that the budget for capital transfer did not increase by $20,000 as it has historically but remained level because the facility needs to replace 11 computers. By keeping the amount, the same, it funds the necessary replacement.
    b. Discussion occurred around the wholesale rate.
        i. It is too early to determine the final wholesale rate for FY26, as the calculation depends on the flow rates of each community. However, the preliminary rate indicates a decrease of 2.6%. There have been signs of inflow and infiltration (I&I), particularly regarding the City's flow. To establish the preliminary rate, the average flow from the past three fiscal years was used.
4. **10-year evaluation presentation and discussion by A&E**
    a. Wayne Elliott reviewed Sections 1, 8, and 9 of the 10-year evaluation report which included the Executive Summary, Selection of Alternatives and Capital Projects.

i. Key points discussed.
    1. The addition of secondary clarifier #3 provided an increase of 100,0000 gallons in flow but it was chosen not to amend the wastewater permit after the 2011-2014 upgrade.
    2. A discussion took place regarding the advantages and disadvantages of adding this flow to the permitted total, increasing the facility's capacity to 3.4 million gallons per day (MGD). It was mentioned that the state is significantly behind in processing permits for facilities, which might make this request a lower priority for the state to review or approve. Additionally, there needs to be a discussion about who would have ownership of the additional flow, considering that each facility currently holds about one-third of the permitted flow.
    3. Section 5 of the report discusses a software model designed to assist operators in making process decisions. The City has allocated a budget to purchase this software, ensuring that the model developed during the evaluation process can be transferred and utilized in the future.
    4. The projects developed as part of the 10-year evaluation were reviewed in detailed. A discussion occurred about which projects could be conducted in-house and utilize capital funds versus which projects would likely need an outside funding source.
        a. Main projects discussed- flow equalization building, aeration tank expansion, digester waste gas burner, filtration, UV addition, sludge dewatering equipment, Anaerobic digestion upgrades.
    5. A project priority ranking system was developed to evaluate projects, classifying them into three groups: high, medium, and low priority.
    6. A discussion occurred on the fate of the land application of biosolids program which likely can go away if PFAS regulations are issued by EPA. Chelsea is working on applying for recertification of the land application which can last for 5 years before needing to reapply.

ii. It was highly recommended by the group that the 10% increase in transfer to capital funds be restored to ensure we continue to have sufficient funds.

5. **High Strength waste surcharge policy BOD Allocation**
    - **a.** The influent design BOD from the 10-year evaluation was inserted into the policy.
    - **b.** A discussion occurred on tracking the BOD per community if allocations were assigned as it's hard to isolate the Town of Essex flow from the City of Essex Junction flow given it enters the City in multiple areas. Also, the BOD of septage received would need to be accounted for and subtracted so it's not applied to the community's allocations.
    - **c.** More work needs to be done to figure out these details before the policy is finalized.
6. **Proposed meeting dates for 2025-all Tuesdays**
    - **a.** February 25, 2025, April 8, 2025, July 29, 2025, December 9, 2025
7. **Adjourned**: 11:20 AM

CITY OF ESSEX JUNCTION
TOWN OF ESSEX
and
TOWN OF WILLISTON

POLICY
for the
CONTROL OF HIGH STRENGTH WASTES AND WATER DISCHARGES
and
SURCHARGES FOR INDUSTRIAL AND COMMERCIAL DISCHARGES

Part I

A. Purpose

The purpose of this Policy is to:

1. Establish a process to review and control the discharges that contain high strength wastes or waters, or other regulated pollutants from industrial and commercial processes which may adversely impact the treatment process or the sludge (biosolids) at the City of Essex Junction Wastewater Treatment Facility (WWTF) via the Town of Essex, Town of Williston (Towns), and the City of Essex Junction (City) collection systems or hauled to the WWTF, and to ensure that use of the WWTF is sustainable and maximized.

2. Establish a methodology to recover the costs associated with the treatment and the disposal of byproducts from high strength wastes and waters or other regulated pollutants discharged from industrial and commercial processes into the WWTF via the Towns' and City's collection systems and high strength wastes and water or other regulated pollutants hauled to the WWTF for treatment and disposal.

B. Background

The Essex Junction WWTF receives wastewater from the City of Essex Junction and portions of the Town of Essex and the Town of Williston. To ensure that capacity allocations, operating responsibilities, and costs were properly addressed and managed, the Towns and City entered into a "Three Party Agreement on Sewage Treatment". Part H of the Agreement required the formation of a Joint Review Committee (Committee) consisting of representatives from the Towns and City to oversee the operating costs at the WWTF, major equipment purchases and repairs, the pollutant loads and flows, and the computations of payments.

The Essex Junction WWTF authorized to discharge into the Winooski River under the terms and conditions of Discharge Permit No. 3-1254 and currently has a permitted capacity to treat and discharge an annual average of 3.3 million gallons of per day of wastewater and has an organic treatment capacity to treat a monthly average influent loading of **????** pounds per day of Biochemical Oxygen Demand.

The Three-Party Agreement On Sewage Treatment (as Revised) identifies the allocation of treatment capacity of the WWTF between the Towns and the City.

The discharge of wastes or waters into a wastewater treatment facility from industrial or commercial process that have organic pollutant concentrations higher than typical domestic sewage consumes excessive organic treatment capacity and significantly increases the operational costs at the treatment facility and to the other system users inequitably and can cause upsets to the treatment process and violations the terms and conditions of the treatment facility's NPDES Discharge Permit.

In addition, the uncontrolled discharge of excessive concentrations of other regulated pollutants into a wastewater treatment facility such as heavy metals, volatile organic compounds, ammonia etc. can adversely impact the proper operation of the treatment facility. These impacts can include negatively affecting the biological treatment process and causing an operational upset, excessive pollutant accumulation in the biosolids, and effluent violations. These adverse impacts can result in a wastewater treatment facility incurring excessive operational costs to remediate the treatment process, to dispose of the biosolids, and to rectify potential violations of the effluent limitations.

C. Determination of High Strength Waters or Wastes

For the purposes of this Policy a discharge of high strength waste or water is defined as a discharge to a collection system into the Essex Junction WWTF or hauled to the WWTF which has a reasonable potential to routinely exceed the following characteristics:

i. an average five (5) day Biochemical Oxygen Demand (BOD) concentration greater than 300 mg/l; or
ii. an average Total Suspended Solids (TSS) concentration greater than 300 mg/l; or
iii. an average Total Phosphorus (TP) concentration greater than 10 mg/l; or
iv. an average Total Kjeldahl Nitrogen (TKN) of greater than 50 mg/l

D. Applicability to High Strength Wastes or Waters

This Policy applies to the discharge of high strength wastes or waters from industrial or commercial processes into the Towns and City collection systems or similar strength wastes including hauled wastes received at the WWTF and processed as septage under the Essex Junction allocation.

This Policy shall be applied to industrial or commercial discharges which have a reasonable potential to contain a daily average BOD loading (pounds) greater than **3%** of the organic (BOD) treatment capacity allocated to each party based on the pollutant concentration and flow.

The concentration of the pollutants in a discharge, the volume (flow) of a discharge, the frequency of a discharge, the rate of a discharge, and the impacts of the discharge at the Essex Junction WWTF over time shall be considered in applying this Policy.

The City and Towns may allow flexibility within their respective organic capacity at their discretion but shall not exceed their proportional share of organic loading at the time of connection approval.

This Policy shall not apply to discharges of residential wastewater or other discharges similar to typical domestic sewage strength unless a home or home business is found to be a significant contributor to a pollutant of concern.

Part II

A. Operation and Maintenance Surcharge

This Policy establishes a surcharge on the discharge of significant high strength wastes and waters into the Essex Junction WWTF to offset the additional operational and maintenance costs and the additional biosolid disposal costs incurred at the WWTF caused by the treatment of these high strength wastes or waters and establishes an equitable and feasible method to recover these costs.

B. Authority

24 V.S.A. Sections 3615 and 3617 authorizes municipalities to establish "sewer disposal charges" including charges based upon "variable operations and maintenance costs" and the "strength and flow where wastes stronger than household are involved". The City and Towns sewer use ordinances have conditions which enable the municipality to charge for the discharge of waters or wastes stronger than typical domestic (household) wastes.

C. Applicability

Surcharges shall only be applied to industrial or commercial discharges of high strength waters or wastes which have a reasonable potential to contain a daily average BOD loading (pounds per day) greater than **3%** of the organic (BOD) treatment capacity allocated to each party.

D. Implementation of Operational and Maintenance (O&M) Surcharges

1. Operational and Maintenance (O&M) Surcharge Cost Allocation Factors

The O&M surcharge shall be based on the cost incurred by the City at the WWTF to treat the high strength wastes or waters and to dispose of the additional biosolids generated in treatment process.

The O&M Surcharge shall be based upon the following pollutant discharged during billing period:

a. pounds of Biochemical Oxygen Demand (BOD)
b. pounds of Total Suspended Solids (TSS)
c. pounds of Total Phosphorus (TP)
d. pounds of Total Kjeldahl Nitrogen (TKN)

The determination of the unit cost per pound of each pollutant treated shall be based on computing the cost of the per pound of the pollutant treated or removed as determined by the annual recorded operational and maintenance costs at the WWTF and the annual pounds of the pollutants treated or removed by the WWTF.

This cost shall then be applied to the pounds of the pollutant contributed into the WWTF by the high strength discharge.

The Committee shall annually re-evaluate this cost factor to the reflect the current costs incurred by the City at the WWTF to treat the high strength water or waste and to dispose of the additional biosolids generated due to the high strength water or waste. These costs will be prepared annually in the budget process and shall serve as the basis for the surcharge in the upcoming year.

2. Determination of Flow, Pollutant Concentration, and Loading

The O&M Surcharge shall be based on the measured or estimated pounds of pollutants discharged (loading) into the WWTF.

The determination of flow (volume) shall be based on metered measurements as determined by the Towns or City capacity values. Sewer meter readings shall be considered more reliable than water meter readings. Adjustments may be allowed for liquid that is added or taken from the industrial or commercial process which may or may not enter the discharge. Any flow adjustments granted must be measurable and approved by the Towns.

The concentration of pollutants in a discharge shall be based on the representative sampling of the wastewater before it enters the collection system. Samples shall be collected at a location approved by the City and/or Towns and shall representative of the entire operational day. For hauled wastes, the concentration of pollutants in a discharge shall be based on the sampling of the wastewater before it is discharged into the WWTF.

The pounds of pollutants in a discharge shall then be derived based on the flow discharged and the concentration of pollutants measured in the wastewater.

The pound of pollutants discharge shall be calculated using the formula:

Pounds of Pollutant = Flow (MGD) x Pollutant Concentration (mg/L) x 8.34 pounds per gallon

The City and/or Towns shall have the option of conducting periodic sampling and flow measurements to ensure that representative sampling and flow measurements are being conducted and to confirm that the pounds of pollutants being computed is accurate.

The customer shall have the primary responsibility for conducting the sampling and flow measurements on a regular basis to determine the pounds of pollutants discharged into the collection system. All costs associated with sampling, measurements, and reporting shall be the responsibility of the customer, unless waived by the Towns or the City.

For discharges regulated under this Ordinance, the customer shall submit a report of the sampling results to the applicable Towns and to the WWTF via email.

For discharges regulated by Pretreatment Discharge Permits issued by the Agency of Natural Resources, the monthly WR-43 Discharge Monitoring Report shall be used to derive the O&M Surcharge.

3. Industries to Monitor Their Own Discharge

All industries and commercial facilities discharging into a public sewer shall perform any monitoring of their discharges as the Towns or City may reasonably require, including installation, use, and maintenance of monitoring equipment, keeping records, and reporting the results of such monitoring to the Towns or City.

Records shall be made available, upon request, to the Towns or City and to other agencies having jurisdiction over the discharge. Where pretreatment discharge permits are issued by the State of Vermont, monitoring records shall also be submitted to the State in accordance with such permit.

Records of any monitoring may be supplied by the Towns or City to the State on request.

All measurements, tests, and analyses of the characteristics of waters and wastes which are required by Towns or City shall be determined in accordance with the latest edition of "Standard Methods of the Examination of Water and Wastewater" published by the American Public Health Association.

Samples shall be collected at a sampling manhole or representative location. In the event that no sampling manhole has been required, or representative location available, the sampling manhole shall be considered to be the nearest downstream manhole in the public sewer from the point at which the building sewer is connected.

Sampling shall be carried out by qualified personnel by customarily accepted methods to reflect compliance with current municipal and Vermont Occupational Safety and Health standards.

Any discharger held in violation of the provisions of this ordinance may have its disposal authorization terminated and may be assessed penalties by the Towns or City, as permitted by law.

4. Sampling Plan

To determine the pounds of pollutants in a discharge, commercial and industrial customers subject to this Amendment shall prepare a Sampling Plan unless waived by the Towns and WWTF staff.

The Sampling Plan shall be submitted to the Towns and WWTF staff for review and approval prior to implementation. Pollution prevention measures shall be described, accompanied by plans and other documents to enable comprehensive review.

The Sampling Plan shall include but is not limited to identifying the methodology to measure flow, the minimum frequency of sampling the effluent, the sampling location, sample collection methodology, the parameters for analysis, and the protocol to process samples and reporting results to the Towns and to the WWTF.

Samples shall be flow proportioned whenever feasible and shall be representative of the volume and quality of effluent discharged into the sewer collection system over the sampling and reporting period. All samples shall be taken during normal operating hours over the production day. The Towns in conjunction with WWTF staff shall determine the appropriate composite sample duration or whether a grab sample or grab samples should be taken.

All measurements, tests, and analyses of the characteristics of waters and wastes which are required by the Towns or City shall be determined in accordance with the latest edition of "Standard Methods of the Examination of Water and Wastewater" published by the American Public Health Association.

Part IV

Changes in Discharge

Any user discharging high strength waters or wastes to the Essex Junction WWTF and that is subject to this Policy shall provide the applicable Town and the WWTF staff 45-calendar day's prior notification of any of the following changes in writing:

1. any proposed substantial change in the volume, loading, or type of pollutants discharged to the WWTF.

2. any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants to the WWTF.

Part V

Applicability to Discharges of Metals and Other Regulated Pollutants

The uncontrolled or excessive discharge of metals or other regulated pollutants into a wastewater treatment facility can adversely impact the proper operations of treatment facility or the biosolids generated during the treatment process. These adverse impacts can result in a wastewater treatment facility incurring excessive operational costs to remediate the treatment process or disposal of the biosolids.

The Essex Junction WWTF has experienced high concentrations of zinc in the biosolids generated as part of the wastewater treatment process. To ensure that the quality of the biosolids and the wastewater treatment process are protected, as directed by federal regulations (40 CFR Part 403.2), during the connection approval process for any new or increased industrial or commercial discharge into the WWTF having a reasonable potential to contain concentrations or loadings of zinc or other similarly regulated pollutant measurably greater than typical domestic sewage, WWTF staff shall be consulted.

Based on the pollutant concentrations and flow of the new or increased discharge, the Towns or City after consultation with the WWTF staff, may approve, deny, or require treatment to control or remove zinc or the other similar pollutants from the discharge as part of the connection review process.

Existing discharges which are identified to have a reasonable potential to contain concentrations or loadings of zinc or other similarly regulated pollutants that are measurably greater than typical domestic sewage may be required to reduce, control, or treat their discharge as mandated by the Towns or City after consultation with WWTF staff to prevent excessive pollutant accumulation in the biosolids, protect the WWTF treatment process, and/or prevent effluent violations.

Any additional costs incurred at the WWTF to dispose of biosolids which contains excessive zinc or other regulated pollutants, to remediate the WWTF treatment process, or to correct effluent violations due to an identified existing discharge shall be addressed through the Towns or City to the satisfaction of the District.

Date _____

_____

_____

Table 9.3
Capital Projects Listed by Priority

Priority	Item	Need	Estimated Cost
Highest	Aeration header replacement Side A/Side B	PC, PO	$30,000
	Vt P Challenge PePhlo pilot	PO, OM	$250,000
	Generator for admin building	R	$52,000
	Digester flare control panel	PC, S	$305,000
	IT upgrades	RU, R	$22,000
	Aeration Tank air control	PO, OM	$5,000
	Alkalinity recovery trials	PO, OM	$15,000
	Sludge conveyer level sensors	PO, OM	$15,000
	Total Highest Priority		$694,000
Medium	Filter building catwalk addition	O, S	$60,000
	Energy conservation measures	PO, OM	$30,000
	Process monitoring upgrades	PO, RU	$48,000
	Cogen chiller	RU	$55,000
	Headworks improvements		$40,000
	Dewatering VFD's	PO, R	$60,000
	Admin building heating system	BM	$25,000
	Gravity flow/EQ modifications	PO, OM	$60,000
	Centrifuge rebuild	RU, R	$50,000
	Sludge dewatering building addition	PO, S	$100,000
	Sludge dewatering polymer system	PO, R	$45,000
	New drying beds	PO	$150,000
	Total Medium Priority		$723,000
Low	Concrete crack sealing	SI	$10,000
	Digester block reface	SI, BM	$125,000
	Flow EQ facility sewage pump #1	RU, R	$35,000
	Primary clarifier painting	RU, R	$75,000
	New cold storage building		$290,000
	Total Low Priority		$535,000

Notes:

1. Priority Criteria
    a. Permit compliance (PC)
    b. Improving process operations (PO)
    c. Required updates (RU)
    d. Reliability (R)
    e. Safety (S)
    f. Structural issues (SI)
    g. Building maintenance (BM)
    h. Code compliance (CC)
    i. Reducing O&M costs (OM)

PERMITTEE: Essex Junction **PERMIT No:** 3-1254 **Month:** January **SELECT MONTH**

Year: 2025 **INPUT YEAR**

Design Capacity: Flow(MGD): 3.3 BOD (lbs/day): 4616 TSS (lbs/day): 4481 TP (lbs/day) 193 Use effluent limit if no design capacity available.

7 mg/L

Other Parameter(s): TKN=40 mg/l

DATE	INFLUENT																			
			Conventional Pollutants					Priority Pollutants		Other Parameters										
	Influent Flow*	Septage/ Hauled Waste	BOD		TSS		Oil and Grease	Total Lead	Total Copper			Total Phosphorous								
	MGD	MGD	mg/L	lbs	mg/L	lbs	mg/L	mg/L	mg/L			mg/L	lbs							
	1	2	3	4	5	6	7	8	9			12	13							
1	1.827		314	4784.5	414	6308.2														
2	1.955	24550																		
3	1.875	8500																		
4	1.813																			
5	1.853																			
6	1.800	10100																		
7	1.741	6300	280	4065.6	378	5488.5														
8	1.730	2400																		
9	1.710	8950																		
10	1.730	1200																		
11	1.729																			
12	1.784																			
13	1.708	9000																		
14	1.679	4300	352	4929.0	382	5349.1			0.0597											
15	1.686	9450																		
16	1.687	2000																		
17	1.658	10500																		
18	1.657																			
19	1.705																			
20	1.707	4000																		
21	1.644	3500	305	4181.8	289	3962.5														
22	1.639	200																		
23	1.621	4000																		
24	1.625	1500																		
25	1.636																			
26	1.687																			
27	1.663	12400																		
28	1.624	16600	333	4510.2	476	6447.0						4.56	61.8							
29	1.548	3350																		
30	1.587	6450																		
31	1.577	11100																		
TOTAL	52.885		1584.0	22471.1	1939.0	27555.3			0.1			4.6	61.8							
Average	1.706	7288.6	316.8	4494.2	387.8	5511.1			0.1			4.6	61.8							
Max	1.955		352.0	4929.0	476.0	6447.0			0.1			4.6	61.8							
Min	1.548		280.0	4065.6	289.0	3962.5			0.1			4.6	61.8							
# of days with flow	31.000																			

WRforms

*Effluent Flow can be used if no influent flow is measured

From: Kelly O"Connell
To: Chelsea Mandigo
Cc: Jeremy Tensen
Subject: PFAS Testing
Date: Thursday, February 27, 2025 12:44:16 PM
Attachments: NYS Guideline to PFOA & PFOS.docx
Appendix B.pdf

[EXTERNAL]

Hi Cheslea,

Thank you for being a valued Casella customer! For over thirty years Casella has been a leader in sustainability and compliance. For us to continue offering resource solutions and acting as a leader in environmental stewardship Casella is implementing a PFAS testing policy for all our biosolids customers.

Going forward, we're requiring a preliminary set of PFAS analysis using Method 1633 by July 1 of 2025. We'll determine if additional testing is required upon receipt of the initial set of analytical but anticipate on-going annual PFAS testing. In accordance with NYS's Interim Guidelines for PFOA and PFOS in Recycled Biosolids (attached), Casella will require additional testing if either PFOA or PFOS concentrations exceed 20 ppb. For continued acceptance to beneficial use the yearly average of PFOA and PFOS concentrations must not exceed 20 ppb.

I've attached Appendix B of the Sampling, Analysis and Assessment of Per and Polyfluoroalkyl Substances (PFAS), April 2023 to use as a resource for sampling. You're welcome to use any lab that's certified to run Method 1633 but I also included a list of suggested labs below.

- Endyne
- Pace Analytical
- Eurofins

Please don't hesitate to reach out with any questions!

Thank you!

Kelly O'Connell
Compliance Specialist

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DEC interim guidelines for PFOA and PFOS in biosolids recycled:

PFOS in biosolids, dry weight (ug/kg or ppb)*	PFOA in biosolids, dry weight (ug/kg or ppb)*	Action Required for Biosolids that are Recycled
20 or less	20 or less	No action required
> 20 but < 50	> 20 but < 50	Additional sampling required. DEC will take appropriate steps to restrict recycling after one year if the PFOS or PFOA levels are not reduced to below 20 ppb.
50 or greater	50 or greater	DEC will take action to prohibit recycling until PFOS or PFOA concentration is below 20 ppb.

* In addition to dry weight results, DEC may require analyses using the SPLP (Synthetic Precipitation Leaching Procedure) and use those results to determine whether the biosolids source can be recycled.

"DMM- 7/ Biosolids Recycling in New York State – Interim Strategy for the Control of PFAS Compounds"

Appendix B - Sampling Protocols for PFAS in Soils, Sediments and Solids

General

The objective of this protocol is to give general guidelines for the collection of soil, sediment and other solid samples for PFAS analysis. The sampling procedure used should be consistent with Sampling Guidelines and Protocols – Technological Background and Quality Control/Quality Assurance for NYS DEC Spill Response Program – March 1991 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf), with the following limitations.

Laboratory Analysis and Containers

Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633.

The preferred material for containers is high density polyethylene (HDPE). Pre-cleaned sample containers, coolers, sample labels, and a chain of custody form will be provided by the laboratory.

Equipment

Acceptable materials for sampling include stainless steel, HDPE, PVC, silicone, acetate, and polypropylene. Additional materials may be acceptable if pre-approved by New York State Department of Environmental Conservation's Division of Environmental Remediation.

No sampling equipment components or sample containers should come in to contact with aluminum foil, low density polyethylene, glass, or polytetrafluoroethylene (PTFE, Teflon™) materials including sample bottle cap liners with a PTFE layer.

A list of acceptable equipment is provided below, but other equipment may be considered appropriate based on sampling conditions.

- stainless steel spoon
- stainless steel bowl
- steel hand auger or shovel without any coatings

Equipment Decontamination

Standard two step decontamination using detergent (Alconox is acceptable) and clean, PFAS-free water will be performed for sampling equipment. All sources of water used for equipment decontamination should be verified in advance to be PFAS-free through laboratory analysis or certification.

Sampling Techniques

Sampling is often conducted in areas where a vegetative turf has been established. In these cases, a pre-cleaned trowel or shovel should be used to carefully remove the turf so that it may be replaced at the conclusion of sampling. Surface soil samples (e.g. 0 to 6 inches below surface) should then be collected using a pre-cleaned, stainless steel spoon. Shallow subsurface soil samples (e.g. 6 to ~36 inches below surface) may be collected by digging a hole using a pre-cleaned hand auger or shovel. When the desired subsurface depth is reached, a pre-cleaned hand auger or spoon shall be used to obtain the sample.

When the sample is obtained, it should be deposited into a stainless steel bowl for mixing prior to filling the sample containers. The soil should be placed directly into the bowl and mixed thoroughly by rolling the material into the middle until the material is homogenized. At this point the material within the bowl can be placed into the laboratory provided container.

Sample Identification and Logging

A label shall be attached to each sample container with a unique identification. Each sample shall be included on the chain of custody (COC).

Quality Assurance/Quality Control

- Immediately place samples in a cooler maintained at 4 ± 2º Celsius using ice
- Collect one field duplicate for every sample batch, minimum 1 duplicate per 20 samples. The duplicate shall consist of an additional sample at a given location
- Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, minimum 1 MS/MSD per 20 samples. The MS/MSD shall consist of an additional two samples at a given location and identified on the COC
- Request appropriate data deliverable (Category B) and an electronic data deliverable

Documentation

A soil log or sample log shall document the location of the sample/borehole, depth of the sample, sampling equipment, duplicate sample, visual description of the material, and any other observations or notes determined to be appropriate. Additionally, care should be performed to limit contact with PFAS containing materials (e.g. waterproof field books, food packaging) during the sampling process.

Personal Protection Equipment (PPE)

For most sampling Level D PPE is anticipated to be appropriate. The sampler should wear nitrile gloves while conducting field work and handling sample containers.

Field staff shall consider the clothing to be worn during sampling activities. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFAS materials should be avoided. All clothing worn by sampling personnel should have been laundered multiple times.

Appropriate rain gear (PVC, polyurethane, or rubber rain gear are acceptable), bug spray, and sunscreen should be used that does not contain PFAS. Well washed cotton coveralls may be used as an alternative to bug spray and/or sunscreen.

PPE that contains PFAS is acceptable when site conditions warrant additional protection for the samplers and no other materials can be used to be protective. Documentation of such use should be provided in the field notes.