SME
SEVEE & MAHER
ENGINEERS

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November 21, 2025

Derik Goodine
Town Manager
Town of Castine
67 Court Street
Castine, ME 04421

Subject: 2025 PFAS Investigation
Battle Avenue Site Considered for a Future Fire Station
Tax Map 20, Lot 8A
Castine, Maine

Dear Derik,

On behalf of the Town of Castine (the Town), Sevee & Maher Engineers, Inc. (SME) has prepared this report summarizing our supplemental investigation to further evaluate per- and polyfluoroalkyl substances (PFAS)-impacted groundwater that was discovered at the Proposed Fire Station – Battle Avenue site (Tax Map 20, Lot 8A) during SME's 2024 preliminary hydrogeologic evaluation. Please refer to the appended Figure 1, Site Location Map, to view the general location of the Site on a 7.5-minute topographic quadrangle. Please refer to Figure 2, Site Plan, for the location of key site features and sample locations for SME's investigations in 2024 and 2025.

OBJECTIVES

The objectives of this investigation were:

- Confirm that PFAS compounds are present on the Town's property by resampling groundwater at an on-site monitoring well (MW3); and
- Using a records search and interviews, identify possible historical sources of PFAS upgradient of the Site.

GROUNDWATER SAMPLE COLLECTION & ANALYSIS

On September 24, 2025, SME collected a groundwater sample from MW3 in accordance with MEDEP's SOP, "*Groundwater Sample Collection for Site Investigation and Assessment Monitoring"* (SOP No. RWM-DR-002 March 3, 2021, Rev. 3). The groundwater sample was delivered on ice under chain-of-custody protocol to Pace Analytical Laboratory, LLC of Westborough, Massachusetts in accordance with MEDEP SOP RWM-DR-01 for laboratory analysis of PFAS by U.S.EPA Method 537 Modified with isotope dilution with 28 compounds. Sampling also included the collection of one (1) field blank using laboratory certified PFAS-free water for quality assurance/quality control (QA/QC) purposes. A copy of SME's Monitoring Well Sampling Field Sheet is provided in Attachment 1.

LABORATORY ANALYTICAL RESULTS

The following subsections document the laboratory results of this supplemental investigation and comparisons of analytical results to Federal or State exposure risk standards or guidelines. A copy of the laboratory report is provided in Attachment 2.

Data Quality Review

SME conducted a data quality review in accordance with relevant MEDEP and U.S.EPA guidance. This review included verification of continuous chain-of-custody and verification that all holding times were met and no contaminants of concern were detected in the field blank. SME's review of the analytical data package and sample handling procedures revealed no significant deficiencies. Data were accepted as is without qualification and no results were rejected, which is an acceptance percentage of 100 percent. A copy of SME's data validation report is provided in Attachment 3.

Comparison to Regulatory Standards and Guidelines

As previously detailed in our 2024 preliminary hydrogeologic investigation, since the Site is located within the Town of Castine's Source Water Protection District of its Battle Avenue public water supply source (Tax Map 20, Lot 5), the groundwater sample analytical results were compared to U.S.EPA Maximum Contaminant Levels (MCLs) MCLs are the Federal maximum permissible level of a contaminant in water delivered to users of a public water system.

The groundwater sample results were also compared to MEDEP's Residential Remedial Action Guidelines (RAGs) and the State of Maine's 2021 Interim Drinking Water Standard of 20 ng/l for the sum of six "Regulated PFAS Contaminants" (PFOA, PFOS, PFHxS, PFNA, PFHpA, and PFDA). MEDEP's Residential RAGs and Maine's PFAS Interim Drinking Water Standard for "Regulated PFAS Contaminants" represent the State's most recent recommendations and standard for concentrations of PFAS in drinking water below which there is a minimal risk of a deleterious effect resulting from long-term ingestion of groundwater.

Summary of Groundwater Analytical Results

As shown in Table 1, seven PFAS compounds [Perfluorobutanoic Acid (PFBA), Perfluoropentanoic Acid (PFPeA), Perfluorohexanoic Acid (PFHxA), Perfluoroheptanoic Acid (PFHpA), Perfluorooctanoic Acid (PFOA), 1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS), and Perfluorononanoic Acid (PFNA)] were detected in the groundwater sample collected from MW3 at concentrations ranging from 4.4 to 60.2 nanograms per liter (ng/L).

The concentration of PFOA (60.2 ng/L) detected in monitoring well MW3 exceeded its U.S.EPA MCL (4 ng/L) and MEDEP RAG (60 ng/L) for Residential drinking water exposure risk. The summation of Maine's Six Regulated PFAS Contaminants detected in MW3 in September 2025 was 90 ng/L and the June 2024 groundwater sample had a summation of 67.1 ng/L. Based on these results, both sampling events (June 2024 and September 2025) had detectable levels of Maine's Regulated PFAS Contaminants at concentrations that exceeded the Maine Interim Drinking Water Standard of 20 ng/L. No other PFAS

compounds were detected at concentrations above their respective U.S.EPA MCLs, MEDEP RAGs and/or Maine's Interim Drinking Water Standard.

Most PFAS compounds were detected at slightly higher concentrations in September 2025 compared to their concentrations in June 2024. The increase in PFAS concentrations is inferred to be attributed to seasonal variability, which is common in groundwater evaluations conducted over multiple seasons or years. Seasonal variability of groundwater is driven by factors such as rainfall, evapotranspiration, and recharge, which have temporal effects on groundwater levels, groundwater geochemistry, and contaminant concentrations.

HYDROGEOLOGIC CONDITIONS IN THE SITE VICINITY

As detailed in our 2024 Preliminary Hydrogeologic Investigation, based on groundwater elevation surveys that were conducted at the Site in June and September 2024, overburden groundwater at the Site and vicinity has been calculated to flow generally south. Therefore, properties in the Site vicinity located to the north are hydraulically upgradient; properties to the south are hydraulically downgradient; and properties to the west and east are hydraulically crossgradient relative to the overburden groundwater flow direction calculated at the Site and vicinity.

Refer to Figure 3 for an aerial imagery overlay of the Site and vicinity showing the inferred overburden groundwater divide along the topographic high point ridge and overburden groundwater recharge area for MW3. These hydrogeologic features are based on ground surface elevation contours, provided by the Maine Geological Survey and SME's groundwater measurements and survey completed at the Site in 2024.

Based on available hydrogeologic and mapping data, overburden groundwater from the proposed Fire Station site does not flow towards the Town's water supply. Further, if the source(s) of impacted groundwater at MW3 did not originate from the Site, then it is inferred to have originated from property(ies) located to the north. SME further concludes that the source of PFAS-impacted, overburden groundwater at the Site did not originate from the Town's Golf Course property due to its distance and hydraulically crossgradient to downgradient location from the Site. Additionally, potential PFAS-impacted soil and/or groundwater at the Town's Golf Course property would not migrate to the Battle Avenue ponds (one of the Town's water supply sources) for the same reasons stated above.

HISTORICAL RESEARCH OF SITE & VICINITY FOR POTENTIAL PFAS SOURCES

Historical Sources

The history of the Site vicinity was researched to identify possible historical sources of PFAS upgradient of the Site. The following historical sources were reviewed by SME and are included in Attachment 4.

- Historical topographic maps provided by Environmental Data Resources, Inc. (EDR), dated 1902 to 2021.
- Aerial photographs provided by EDR, dated 1940 to 2023.
- Sanborn Fire Insurance Map, dated 1925.

- U.S.EPA and MEDEP online databases.
- Interviews with the following persons:
  - Peter Vogel [Castine resident and former Selectman]
  - Don Small [Castine resident]
  - Brooke Tenney [owner and occupant of nearby property (single-family residence; 174 Battle Avenue)]
  - Randy Stearns [Castine Fire Chief]
  - Josh Adam [owner and occupant of adjoining property (single-family residence; 140 Battle Avenue)]
  - Peter Stewart [Maine Maritime Academy, Director of Campus Safety and Facilities]

Environmental Database Findings

The Site property and upgradient properties were not identified on any U.S.EPA or MEDEP online databases. The online databases did not identify any additional properties with known and/or suspected environmental contamination that are anticipated to adversely impact environmental conditions at the Site property based on their distance from the Site or direction of groundwater flow.

Site History

Based on available information, the Site has always consisted of undeveloped land dating back to 1902. The Site was most recently a portion of the northeastern adjoining property (current MMA President's House; 162 Battle Avenue) when the properties were owned by the Foote family, prior to circa 2007. The Foote family reportedly utilized the Site as a hay field and remaining portions of the Site property consisted of wooded land, similar to current conditions.

History of MMA President's House Property (162 Battle Avenue; Tax Map 20, Lot 8)

The current MMA President's House dates back to the 1800s and remaining portions of the property were used as grassed lawns, landscaped areas, or consisted of wooded land. Based on the 1956 and 1960 aerial photographs, a clearing in the woods appears on the current MMA President's House property, approximately 400 feet northwest of MW-3. No additional information was provided about the former cleared area by historical resources or persons interviewed. However, the clearing appears overgrown with vegetation since the 1970s.

Persons interviewed stated that they were not aware of soil/fill, fertilizers, or pesticides containing PFAS that may have been imported to and/or applied at the MMA President's House property; however, PFAS was not required to be tested or listed as an ingredient in commercially-available pesticides, fertilizers, and loam/soil.

History of Properties in Site Vicinity – Water District Battle Avenue Ponds & Former Gravel Pit

Properties in the Site vicinity consisted of undeveloped wooded land, were utilized as pasture/hay fields, or developed for residential use. The Town of Castine's Water District Battle Avenue Ponds were developed as the Town's water supply source circa 1940.

A gravel pit operated approximately 1,000 feet northwest of the Site from circa 1940 to circa 1960 on property currently owned by Maine Coast Heritage Trust (Tax Map 19, Lot 2). This property is identified by the Town as "Witherle Woods." According to persons interviewed, unknown persons (reportedly MMA students) have recreated and burned solid waste, such as furniture, at the gravel pit.

As shown on Figure 3, the gravel pit is located on the northern (downgradient) side of a ridge that extends in a general northeast to southwest direction. Based on the location of the gravel pit, which is on the downgradient (northern) side of the local topographic high point (ridge) from MW3, its inferred that overburden groundwater beneath the gravel pit would flow in a generally northerly direction and away from MW3. Therefore, potential PFAS sources at the gravel pit are not anticipated to have migrated in overburden groundwater to MW3.

Current & Historic Wastewater Systems

According to persons interviewed, no septic systems are currently in use or were formerly utilized at the MMA President's House property. Rather, wastewater generated at the MMA President's House and developed properties in Castine were reportedly discharged "overboard" or directly into the ocean, prior to construction of the Town's Wastewater Treatment Plant in the 1970s.

CONCLUSIONS

Based on results of our supplemental investigation:

- Low-level concentrations of PFAS-impacted groundwater were confirmed at MW3 in September 2025. Similar PFAS compounds and concentrations were detected in MW3 in June 2024. One PFAS compound (PFOA) was detected at concentrations above its MEDEP RAG and U.S.EPA MCL. Three of six Maine Regulated PFAS Contaminants (PFHpA, PFOA and PFNA) were also detected in MW3 and the summation of their concentrations exceeded Maine's Interim Drinking Water Standard for PFAS. Monitoring well (MW3) is located at the eastern side of the Site, furthest from the Town's water supply;
- Groundwater analytical results from both June 2024 and September 2025 were reproducible, comparable, and are representative of groundwater conditions at the Site; and
- SME's review of historical resources and interviews, did not identify a specific/confined/discrete PFAS source for the PFAS compounds detected in the overburden groundwater samples collected at the Site. However, SME identified various potential PFAS non-point sources within the Site vicinity, including fill soils, pesticides, and/or fertilizers containing PFAS that may have been imported to upgradient properties in the Site vicinity during property improvements and/or subsequent landscaping activities.

RECOMMENDATIONS

Based on the results of this supplemental PFAS investigation, SME recommends the following:

- Since a specific/confined/discrete source for the PFAS compounds detected in Site groundwater has not been identified, groundwater monitoring activities may cease at the Site in order to facilitate construction of the new Fire Station; and
- The monitoring wells should be properly abandoned in accordance with MEDEP SOP "*Well and Boring Abandonment*" (SOP No. RWM-PP-020, September 15, 2021, Rev. 1) and any future revisions to this SOP.

LIMITATIONS AND EXCEPTIONS

This work was completed in accordance with SME's scope of work dated August 25, 2025, which was approved by the Town of Castine on August 28, 2025. The findings provided by SME in this report are based solely on the information reported in this document and the results of limited exploration and laboratory testing. Our findings and conclusions must be considered as our professional opinion concerning the significance of the limited data gathered during the course of the field investigation, historical research and interviews. SME does not and cannot represent that the Site contains no other adverse environmental conditions beyond that documented by SME during our investigations. Should additional information become available in the future, this information can be reviewed by SME and the findings presented herein may be modified as a result of the review.

We are pleased to have the opportunity to provide our environmental consulting services for the Town of Castine. If you have any questions regarding our findings and recommendations of this supplemental PFAS investigation, please feel free to call us at 207.829.5016.

Sincerely,

SEVEE & MAHER ENGINEERS, INC.

Aaron R. Martin, L.G.
Senior Geologist

Erik M. Clapp, Ph.D., L.G.
President/Principal

Attachments: Figures
Table
Attachment 1 SME Monitoring Well Sampling Field Sheet
Attachment 2 Laboratory Analytical Report
Attachment 3 SME Data Validation Report
Attachment 4 Historical Use Data

FIGURES

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BASEMAP ADAPTED FROM 7.5 MIN USGS TOPO QUADS
CASTINE, MAINE - 2021

FIGURE 1
SITE LOCATION MAP
PROPOSED BATTLE AVENUE
FIRE STATION SITE
CASTINE MAINE

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DWG: SITELOC LMN: NONE CTB: SME-STD.CTB JOB#: 240648 REV: 9/13/2024

\\Nserver\cfs\Town of Castine\2024 Hydrogeologic Investigation_Battle Avenue Site\Acad\Figures\SITELOC.dwg, A_FIG 1, 9/13/2024 10:06:12 AM, sjm

N

N/F
CUSHMAN COTTAGE
MAP 20, LOT 9

N/F
MAINE MARITIME ACADEMY
MAP 20, LOT 8

N/F
TOWN OF CASTINE
MAP 20, LOT 8A

B4/MW4

B3/MW3

N/F
MAINE MARITIME ACADEMY
MAP 20, LOT 30

PROPOSED FIRE STATION

B5/MW5

B2/MW2

BATTLE AVENUE

CASTINE WATER
DEPARTMENT

N/F
TOWN OF CASTINE
MAP 20, LOT 5

B1/MW1

N/F
MAINE COAST HERITAGE TRUST
MAP 20, LOT 31

N/F
JOSHUA M &
SUSAN P ADAM
MAP 20, LOT 6

STAFF GAUGE

TARRATINE STREET

N/F
MAINE COAST HERITAGE TRUST
MAP 20, LOT 31

NOTES:

1. AERIAL PHOTO FROM GOOGLE EARTH, DATED 9/15/2022.
2. PARCEL LINES FROM MAINE GIS DATA CATALOG.
3. PROPERTY OWNERS FROM TOWN OF CASTINE ASSESOR'S OFFICE.

50 0 100 FEET

FIGURE 2
SITE PLAN
PROPOSED BATTLE AVENUE
FIRE STATION SITE
CASTINE MAINE

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DWG: SITEPLAN LMN: SITE PLAN CTB: SME-STD.CTB JOB#: 240648 REV: 9/16/2024

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N/F
MAINE COAST
HERITAGE TRUST
MAP 19, LOT 2

N/F
TENNEY
MAP 20, LOT 10

N/F
MAINE MARITIME ACADEMY
MAP 20, LOT 8

WITHERLE
WOODS

FORMER GRAVEL PIT

APPROXIMATE OVERBURDEN
GROUNDWATER DIVIDE

CASTINE
GOLF
CLUB

FORT
GEORGE

N/F
CUSHMAN COTTAGE
MAP 20, LOT 9

BATTLE AVENUE

PROPOSED FIRE STATION

PROPERTY BOUNDARY (TYP)

MW3

N/F
TOWN OF CASTINE
MAP 20, LOT 8A

CASTINE WATER
DEPARTMENT

N/F
TOWN OF CASTINE
MAP 20, LOT 5

N/F
MAINE MARITIME
ACADEMY
MAP 20, LOT 30

TARRATINE STREET

120 130 140 150 160 170 180 180 170 160 150 130 120 110 100 90 80

N

NOTES:

1. AERIAL PHOTO FROM GOOGLE EARTH, DATED 9/15/2022.
2. PARCEL LINES FROM MAINE GIS DATA CATALOG.
3. PROPERTY OWNERS FROM TOWN OF CASTINE ASSESOR'S OFFICE.
4. TOPOGRAPHIC DATA IS LIDAR AS AVAILABLE FROM MAINE GIS DATA CATALOG.

LEGEND

INFERRED OVERBURDEN GROUNDWATER RECHARGE AREA CONTRIBUTING TO MW-3 WATER QUALITY (BASED ON TOPOGRAPHIC DATA)

50 0 100 FEET

FIGURE 3
INFERRED OVERBURDEN GROUNDWATER RECHARGE PLAN
PROPOSED BATTLE AVENUE FIRE STATION SITE
CASTINE MAINE

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DWG: SITEPLAN LMN: OVER CTB: SME-STD.CTB JOB#: 240648 REV: 11/14/2025

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TABLE

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TABLE 1: Summary of Groundwater Sample Analytical Results
Proposed Fire Station- Battle Avenue Site
Castine, Maine

MONITORING WELL IDENTIFICATION	MW3		United States Environmental Protection Agency (USEPA) Maximum Contaminant Levels (MCLs)	Maine Department of Environmental Protection (MEDEP) Residential Groundwater Remedial Action Guidelines (RAGs)	Maine Interim Drinking Water Standard for 6 Regulated PFAS Contaminants[1]
BORING IDENTIFICATION	B3				
LABORATORY SAMPLE IDENTIFICATION	SB-003-A-160T	MW3			
SAMPLE DATE	6/24/2024	9/24/2025			
Poly & Perfluorinated Alkyl Substances (PFAS)	**Concentrations in parts per trillion (ppt) or nanograms per liter (ng/L)**				
Perfluorobutanoic Acid (PFBA)	BRL (10)	5.91	NE	19,000	NE
Perfluoropentanoic Acid (PFPeA)	BRL (10)	5.14	NE	NE	NE
Perfluorohexanoic Acid (PFHxA)	18.1	16.9	NE	9,900	NE
Perfluoroheptanoic Acid (PFHpA)	**22.1***	**25.4***	NE	NE	20 [1]
Perfluorohexanesulfonic Acid (PFHxS)	BRL (10)	BRL (4)	10	390	20 [1]
Perfluorooctanoic Acid (PFOA)	**45***	**60.2***	4	60	20 [1]
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	BRL (10)	30.5	NE	NE	NE
Perfluorononanoic Acid (PFNA)	BRL (10)	**4.4***	10	59	20 [1]
Perfluorooctanesulfonic Acid (PFOS)	BRL (10)	BRL (4)	4	40	20 [1]
Perfluorodecanoic Acid (PFDA)	BRL (10)	BRL (4)	NE	NE	20 [1]
All Other Analyzed PFAS	BRL (Various)	BRL (Various)	NE	NE	NE
Field Parameters	**Units (In Parenthesis)**				
pH	7.24	7.12	NE	NE	NE
Dissolved Oxygen (mg/l)	4.74	1.87	NE	NE	NE
Specific Conductance (umhos/cm)	265.1	229.0	NE	NE	NE
Oxygen/Reduction Potential (mV)	0.6	101.6	NE	NE	NE
Temperature (degrees C)	13.6	12.9	NE	NE	NE

Notes:
1. Maine Interim Drinking Water Standard of 20 ng/l (ng/l = 1 ppt) is for the combined concentrations of 6 Regulated PFAS Contaminants (PFOA, PFOS, PFHpA, PFNA, PFHxS & PFDA).
Values in **bold** font exceed respective USEPA and/or MEDEP standards/guidelines for residential/drinking water.
Values in **bold** font with asterisk exceed Maine's Interim Drinking Water Standard for Regulated PFAS Contaminants for residential/drinking water.
NE= Indicates that a standard or guideline is "not established" for the referenced parameter.
BRL = Indicates that analyte not detected above laboratory reporting limit, as denoted in parenthesis.

ATTACHMENT 1

SME MONITORING WELL FIELD SAMPLING SHEET

SME
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SME
SEVEE & MAHER ENGINEERS
4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
Tel: 207.829.5016 / Fax: 207.829.5692
smemaine.com

MONITORING WELL – SAMPLE PURGING

SITE: Castine
PROJECT NO. 250860.00 **DATE:** 9.24.2025
SAMPLE LOCATION: MW-3
WEATHER: 66, overcast, mist
SAMPLE ID: MW-3
START TIME: 1055 **END TIME:** 1103
(Duplicates) _____
TRIP BLANK ID: NA

WELL DEPTH: 19.8 FT
- [x] Top of Well
- [x] Measured
- [ ] Top of Casing
- [ ] Historical

WATER DEPTH: 11.93 FT
- [x] Top of Well
- [x] Measured
- [ ] Top of Casing
- [ ] Historical

TUBING INLET (TPVC): 19
TUBING DIAMETER: 0.25
SCREENED INTERVAL (TPVC) 18.8-19.8

CONDITION OF WELL: good
SURFACE SEAL: [x] Good [ ] Cracked [ ] Other: _____
PROTECTIVE CASING:
- [ ] Locked
- [ ] No Lock
- [ ] Secure
- [ ] Needs Repair (able to move)

WELL: [ ] Cap [ ] No Cap
WELL MATERIAL: [x] PVC [ ] SS [ ] Other _____

PUMPING START TIME: 1045 **PUMPING END TIME:** 1110

EQUIPMENT DOCUMENTATION

PURGING	SAMPLING	
[ ]	[ ]	Peristaltic Pump ISCO
[x]	[x]	Peristaltic Pump Geotech
[ ]	[ ]	Submersible Pump
[ ]	[ ]	Bladder Pump
[ ]	[ ]	Air Lift Pump
[ ]	[ ]	Bailer I.D. _____
[ ]	[ ]	LDPE / Silicon Tubing
[ ]	[ ]	Teflon / Silicon Tubing
[ ]	[ ]	In-Line Filter
[x]	[x]	Dedicated Silicone Tubing
[x]	[x]	Dedicated Polyethylene Tubing

DECONTAMINATION FLUIDS USED
- [ ] Distilled / Deionized Water
- [ ] Tap Water
- [ ] Non-phosphate Detergent
- [ ] 10% Nitric Acid
- [ ] High-Pressure Steam Clean
- [x] Other NA-Dedicated Tubing

AMOUNT OF WATER CONTAINED IN DEDICATED SYSTEM: _____

AMOUNT OF WATER PURGED PRIOR TO GRAB SAMPLE COLLECTION: 400 ml

NOTES: Due to rapid drawdown at 100ml/min; start collection of samples first. HDPE tubing. Reduce pump rate to ~80ml/min. Finish samples at 1103hrs; parameters at 1110hrs; stop pump & remove tubing well recharge to 17.08 at 1115hrs

SAMPLED BY: Jace Pearson

SME
SEVEE & MAHER ENGINEERS
4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
Tel: 207.829.5016 / Fax: 207.829.5692
smemaine.com

MONITORING WELL – SAMPLE PURGING

SITE: Castine **DATE:** 9-24-2025

SAMPLE LOCATION: MW-3 **ORP OFFSET:** _____ mV

Elapsed Time (min)	Liters Pumped	Flow Rate (mL/min)	WL TPVC (FT)	WL Top of Casing (FT)	Turbidity (1)	pH (2)	Specific Cond. (3)	Temp ° C (4)	DO (5)	ORP (6)	Comments
Unit ID No.:		↓	NA	NA	← SET →						
Model ID:			NA		*	REF	TO	CAL	SHEET		
0		100	11.80	NA						Static	With Tubing 1045hrs
10	.4	100	15.4	NA							1055hrs
13	0.48	~80	16.2	NA							1058hrs
18	0.56	~80	17.12	NA	-						1103hrs
20	0.64	~80	17.5	NA	-	7.73	0.230	13.3	4.7	113	1105hrs
23	0.72	~80	17.9	NA	-	7.37	0.225	12.9	2.31	106.6	1108hrs
25	0.80	~80	18.5	NA	-	7.12	0.229	12.9	1.87	101.6	1110hrs
30		0	17.08								1115hrs

NOTES:

1 TURBIDITY (NTU)
2 pH (STD UNITS)
3 SPECIFIC CONDUCTANCE (μmhos/cm @25°C)
4 TEMPERATURE
5 DISSOLVED OXYGEN (mg/L)
6 UNADJUSTED OXIDATION REDUCTION POTENTIAL (+/- mV)

ATTACHMENT 2

LABORATORY ANALYTICAL REPORT

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ANALYTICAL REPORT

Lab Number:	L2560227
Client:	Sevee & Maher Engineers, Inc. 4 Blanchard Road P.O. Box 85A Cumberland Center, ME 04021
ATTN:	Aaron Martin
Phone:	(207) 829-5016
Project Name:	TOWN OF CASTINE
Project Number:	250860.00
Report Date:	10/01/25

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

Project Name: TOWN OF CASTINE
Project Number: 250860.00

Lab Number: L2560227
Report Date: 10/01/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2560227-01	FIELD BLANK	WATER	2025 PFAS	09/24/25 11:05	09/24/25
L2560227-02	MW3	WATER	2025 PFAS	09/24/25 11:03	09/24/25

Project Name:	TOWN OF CASTINE	**Lab Number:**	L2560227
Project Number:	250860.00	**Report Date:**	10/01/25

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Pace Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments and solids are reported on a dry weight basis unless otherwise noted. Tissues are reported "as received" or on a wet weight basis, unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Pace's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Pace Project Manager and made arrangements for Pace to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: TOWN OF CASTINE
Project Number: 250860.00
Lab Number: L2560227
Report Date: 10/01/25

Case Narrative (continued)

Perfluorinated Alkyl Acids by Isotope Dilution

L2560227-01, WG2120104-1, and WG2120104-2: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

L2560227-02: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.

The WG2120104-2 LCS recovery associated with L2560227-01 and -02 is above the acceptance criteria for perfluorononanesulfonic acid (pfns) (160%); however, the associated samples are non-detect to the reporting limit for this target analyte. The results of the original analysis are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Darian Dailey

Title: Technical Director/Representative Date: 10/01/25

QC OUTLIER SUMMARY REPORT

Project Name: TOWN OF CASTINE
Project Number: 250860.00

Lab Number: L2560227
Report Date: 10/01/25

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab								
LCMSMS-ID	FIELD BLANK	L2560227-01	Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	Surrogate	135	70-131	-	- - not applicable - -
LCMSMS-ID	FIELD BLANK	L2560227-01	Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	Surrogate	140	71-134	-	- - not applicable - -
LCMSMS-ID	Laboratory Method Bl	WG2120104-1	Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	Surrogate	139	70-131	-	- - not applicable - -
LCMSMS-ID	Laboratory Method Bl	WG2120104-1	Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	Surrogate	142	71-134	-	- - not applicable - -
LCMSMS-ID	Laboratory Method Bl	WG2120104-1	1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10:2FTS)	Surrogate	163	50-150	-	- - not applicable - -
LCMSMS-ID	Batch QC	WG2120104-2	Perfluorononanesulfonic Acid (PFNS)	LCS	160	48-150	01-02	potential high bias
LCMSMS-ID	Batch QC	WG2120104-2	Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	Surrogate	134	70-131	-	- - not applicable - -
LCMSMS-ID	Batch QC	WG2120104-2	1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10:2FTS)	Surrogate	153	50-150	-	- - not applicable - -
LCMSMS-ID	Batch QC (L2560322-03)	WG2120104-3	Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	Surrogate	135	70-131	-	- - not applicable - -
LCMSMS-ID	Batch QC (L2560322-03)	WG2120104-3	Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	Surrogate	140	71-134	-	- - not applicable - -
LCMSMS-ID	Batch QC (L2560322-04)	WG2120104-4	Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	Surrogate	138	70-131	-	- - not applicable - -
LCMSMS-ID	Batch QC (L2560322-04)	WG2120104-4	Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	Surrogate	141	71-134	-	- - not applicable - -

ORGANICS

SEMIVOLATILES

Project Name: TOWN OF CASTINE
Project Number: 250860.00
Lab Number: L2560227
Report Date: 10/01/25

SAMPLE RESULTS

Lab ID: L2560227-01
Client ID: FIELD BLANK
Sample Location: 2025 PFAS
Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 09/27/25 15:37
Analyst: SG

Date Collected: 09/24/25 11:05
Date Received: 09/24/25
Field Prep: Not Specified

Extraction Method: ALPHA 23528
Extraction Date: 09/26/25 11:55

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.83	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.83	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.83	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.83	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.83	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.83	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.83	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.83	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.83	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.83	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.83	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.83	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.83	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.83	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.83	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.83	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.83	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.83	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.83	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.83	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.83	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.83	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.83	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.83	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	18.3	--	1

Project Name: TOWN OF CASTINE
Project Number: 250860.00
Lab Number: L2560227
Report Date: 10/01/25

SAMPLE RESULTS

Lab ID: L2560227-01
Client ID: FIELD BLANK
Sample Location: 2025 PFAS
Date Collected: 09/24/25 11:05
Date Received: 09/24/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.83	--	1
Perfluorohexadecanoic Acid (PFHxDA)	ND		ng/l	3.67	--	1
Perfluorooctadecanoic Acid (PFODA)	ND		ng/l	3.67	--	1
PFAS, Total (6)	ND		ng/l	1.83	--	1

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	98		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	98		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	**135**	Q	70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	132		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	95		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	95		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	**140**	Q	71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	98		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	136		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	93		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	94		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	89		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	126		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	77		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	92		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	36		5-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	89		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	90		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	92		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	108		10-165
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	121		10-206

Project Name: TOWN OF CASTINE
Project Number: 250860.00

Lab Number: L2560227
Report Date: 10/01/25

SAMPLE RESULTS

Lab ID: L2560227-02
Client ID: MW3
Sample Location: 2025 PFAS

Date Collected: 09/24/25 11:03
Date Received: 09/24/25
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 09/27/25 15:54
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 09/26/25 11:55

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	5.91		ng/l	4.00	--	1
Perfluoropentanoic Acid (PFPeA)	5.14		ng/l	4.00	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	4.00	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	4.00	--	1
Perfluorohexanoic Acid (PFHxA)	16.9		ng/l	4.00	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	4.00	--	1
Perfluoroheptanoic Acid (PFHpA)	25.4		ng/l	4.00	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	4.00	--	1
Perfluorooctanoic Acid (PFOA)	60.2		ng/l	4.00	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	30.5		ng/l	4.00	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	4.00	--	1
Perfluorononanoic Acid (PFNA)	4.40		ng/l	4.00	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	4.00	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	4.00	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	4.00	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	4.00	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	4.00	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	4.00	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	4.00	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	4.00	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	4.00	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	4.00	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	4.00	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	4.00	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	40.0	--	1

Project Name: TOWN OF CASTINE
Lab Number: L2560227
Project Number: 250860.00
Report Date: 10/01/25

SAMPLE RESULTS

Lab ID: L2560227-02
Client ID: MW3
Sample Location: 2025 PFAS
Date Collected: 09/24/25 11:03
Date Received: 09/24/25
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	4.00	--	1
Perfluorohexadecanoic Acid (PFHxDA)	ND		ng/l	8.00	--	1
Perfluorooctadecanoic Acid (PFODA)	ND		ng/l	8.00	--	1
PFAS, Total (6)	90.0		ng/l	4.00	--	1

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	74		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	83		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	125		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	130		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	76		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	76		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	126		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	80		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	123		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	81		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	90		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	77		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	115		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	53		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	86		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	25		5-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	63		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	66		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	73		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	85		10-165
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	104		10-206

Project Name: TOWN OF CASTINE
Project Number: 250860.00
Lab Number: L2560227
Report Date: 10/01/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 09/27/25 15:04
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 09/26/25 11:55

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-02 Batch: WG2120104-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	--
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--

Project Name: TOWN OF CASTINE
Project Number: 250860.00
Lab Number: L2560227
Report Date: 10/01/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 09/27/25 15:04
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 09/26/25 11:55

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-02 Batch: WG2120104-1					
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	20.0	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorohexadecanoic Acid (PFHxDA)	ND		ng/l	4.00	--
Perfluorooctadecanoic Acid (PFODA)	ND		ng/l	4.00	--
PFAS, Total (6)	ND		ng/l	2.00	--

Project Name: TOWN OF CASTINE
Project Number: 250860.00
Lab Number: L2560227
Report Date: 10/01/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 09/27/25 15:04
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 09/26/25 11:55

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-02 Batch: WG2120104-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	103		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	104		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	**139**	Q	70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	127		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	101		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	102		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	**142**	Q	71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	105		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	124		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	103		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	103		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	99		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	126		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	80		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	97		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	30		5-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	82		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	95		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	92		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	123		10-165
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	123		10-206
1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10:2FTS)	**163**	Q	50-150

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOWN OF CASTINE
Project Number: 250860.00

Lab Number: L2560227
Report Date: 10/01/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-02 Batch: WG2120104-2								
Perfluorobutanoic Acid (PFBA)	112		-		67-148	-		
Perfluoropentanoic Acid (PFPeA)	113		-		63-161	-		
Perfluorobutanesulfonic Acid (PFBS)	112		-		65-157	-		
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	102		-		37-219	-		
Perfluorohexanoic Acid (PFHxA)	113		-		69-168	-		
Perfluoropentanesulfonic Acid (PFPeS)	115		-		52-156	-		
Perfluoroheptanoic Acid (PFHpA)	112		-		58-159	-		
Perfluorohexanesulfonic Acid (PFHxS)	104		-		69-177	-		
Perfluorooctanoic Acid (PFOA)	112		-		63-159	-		
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	106		-		49-187	-		
Perfluoroheptanesulfonic Acid (PFHpS)	162		-		61-179	-		
Perfluorononanoic Acid (PFNA)	114		-		68-171	-		
Perfluorooctanesulfonic Acid (PFOS)	122		-		52-151	-		
Perfluorodecanoic Acid (PFDA)	112		-		63-171	-		
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	114		-		56-173	-		
Perfluorononanesulfonic Acid (PFNS)	**160**	Q	-		48-150	-		
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	100		-		60-166	-		
Perfluoroundecanoic Acid (PFUnA)	113		-		60-153	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOWN OF CASTINE
Project Number: 250860.00

Lab Number: L2560227
Report Date: 10/01/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-02 Batch: WG2120104-2								
Perfluorodecanesulfonic Acid (PFDS)	155		-		38-156	-		
Perfluorooctanesulfonamide (FOSA)	120		-		46-170	-		
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	95		-		45-170	-		
Perfluorododecanoic Acid (PFDoA)	113		-		67-153	-		
Perfluorotridecanoic Acid (PFTrDA)	112		-		48-158	-		
Perfluorotetradecanoic Acid (PFTA)	118		-		59-182	-		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	124		-		69-148	-		
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	111		-		69-143	-		
Perfluorohexadecanoic Acid (PFHxDA)	113		-		40-167	-		
Perfluorooctadecanoic Acid (PFODA)	56		-		10-119	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOWN OF CASTINE
Project Number: 250860.00
Lab Number: L2560227
Report Date: 10/01/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-02 Batch: WG2120104-2								

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	98				58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	100				62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	**134**	Q			70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	131				12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	93				57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	92				60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	133				71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	95				62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	131				14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	93				59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	92				69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	89				62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	132				10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	79				24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	93				55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	32				5-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	89				27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	93				48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	91				22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	95				10-165
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	123				10-206
1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10:2FTS)	**153**	Q			50-150

Matrix Spike Analysis
Batch Quality Control

Project Name: TOWN OF CASTINE
Project Number: 250860.00
Lab Number: L2560227
Report Date: 10/01/25

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2120104-3 QC Sample: L2560322-03 Client ID: MS Sample												
Perfluorobutanoic Acid (PFBA)	ND	38.3	43.4	113		-	-		67-148	-		
Perfluoropentanoic Acid (PFPeA)	ND	38.3	42.9	112		-	-		63-161	-		
Perfluorobutanesulfonic Acid (PFBS)	ND	34	38.9	114		-	-		65-157	-		
Perfluorohexanoic Acid (PFHxA)	ND	38.3	42.6	111		-	-		69-168	-		
Perfluoroheptanoic Acid (PFHpA)	ND	38.3	43.9	115		-	-		58-159	-		
Perfluorohexanesulfonic Acid (PFHxS)	ND	35	36.5	104		-	-		69-177	-		
Perfluorooctanoic Acid (PFOA)	ND	38.3	42.9	112		-	-		63-159	-		
Perfluorononanoic Acid (PFNA)	ND	38.3	45.5	119		-	-		68-171	-		
Perfluorooctanesulfonic Acid (PFOS)	ND	35.6	43.4	122		-	-		52-151	-		
Perfluorodecanoic Acid (PFDA)	ND	38.3	43.0	112		-	-		63-171	-		

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	91				62-124
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	95				57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	96				60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	**140**	Q			71-134
Perfluoro[13C4]Butanoic Acid (MPFBA)	97				58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	98				62-163
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	96				69-131
Perfluoro[13C8]Octanoic Acid (M8PFOA)	94				62-129
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	90				59-139

Matrix Spike Analysis

Batch Quality Control

Project Name: TOWN OF CASTINE

Project Number: 250860.00

Lab Number: L2560227

Report Date: 10/01/25

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2120104-3 QC Sample: L2560322-03 Client ID: MS Sample												

Surrogate (Extracted Internal Standard)	*MS % Recovery*	*MS Qualifier*	*MSD % Recovery*	*MSD Qualifier*	*Acceptance Criteria*
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	**135**	Q			70-131

Lab Duplicate Analysis
Batch Quality Control

Project Name: TOWN OF CASTINE
Project Number: 250860.00

Lab Number: L2560227
Report Date: 10/01/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2120104-4 QC Sample: L2560322-04 Client ID: DUP Sample						
Perfluorobutanoic Acid (PFBA)	ND	ND	ng/l	NC		30
Perfluoropentanoic Acid (PFPeA)	ND	ND	ng/l	NC		30
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	97		101		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	98		103		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	**135**	Q	**138**	Q	70-131
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	98		99		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	98		98		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	**138**	Q	**141**	Q	71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	97		99		62-129
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	95		96		59-139

Lab Duplicate Analysis
Batch Quality Control

Project Name: TOWN OF CASTINE
Project Number: 250860.00

Lab Number: L2560227
Report Date: 10/01/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG2120104-4 QC Sample: L2560322-04 Client ID: DUP Sample

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	95		96		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	89		94		62-124

Project Name: TOWN OF CASTINE
Project Number: 250860.00

Lab Number: L2560227
Report Date: 10/01/25

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2560227-01A	Plastic 250ml unpreserved	NA	NA			Y	Absent		A2-ME-537ISOTOPE-28+(14)
L2560227-02A	Plastic 250ml unpreserved	NA	NA			Y	Absent		A2-ME-537ISOTOPE-28+(14)
L2560227-02B	Plastic 250ml unpreserved	NA	NA			Y	Absent		A2-ME-537ISOTOPE-28+(14)

*Values in parentheses indicate holding time in days

Project Name: TOWN OF CASTINE
Project Number: 250860.00
Lab Number: L2560227
Report Date: 10/01/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TOWN OF CASTINE
Project Number: 250860.00
Lab Number: L2560227
Report Date: 10/01/25

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

Project Name:	TOWN OF CASTINE	**Lab Number:**	L2560227
Project Number:	250860.00	**Report Date:**	10/01/25

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	TOWN OF CASTINE	**Lab Number:**	L2560227
Project Number:	250860.00	**Report Date:**	10/01/25

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	TOWN OF CASTINE	**Lab Number:**	L2560227
Project Number:	250860.00	**Report Date:**	10/01/25

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: TOWN OF CASTINE
Project Number: 250860.00
Lab Number: L2560227
Report Date: 10/01/25

REFERENCES

134 Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) using Isotope Dilution. Alpha SOP 23528.

LIMITATION OF LIABILITIES

Pace Analytical Services performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Pace Analytical Services shall be to re-perform the work at it's own expense. In no event shall Pace Analytical Services be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Pace Analytical Services.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
EPA 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
SM 2540D: TSS.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
MADEP-APH.
Nonpotable Water: EPA RSK-175 Dissolved Gases
Biological Tissue Matrix: EPA 3050B

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, SM4500CL-G, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables).
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT.**

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1: Hg. **EPA 245.7:** Hg.
SM2340B

Certification IDs:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581
CT PH-0826, IL 200077, IN C-MA-03, KY kY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048
MA M-MA00030, CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 85084, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048
ANAB/DoD L2474, LA 245052, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

For a complete listing of analytes and methods, please contact your Project Manager.

SME
SEVEE & MAHER ENGINEERS
4 Blanchard Road, P.O. Box 85A
Cumberland, ME 04021
Tel: 207.829.5016 Fax: 207.829.5692
smemaine.com

9/25/25

CHAIN OF CUSTODY RECORD

L2560227

PAGE 1 OF 1

Client: SEVEE & MAHER ENGINEERS	Project Name: Town of Castine	TURN-AROUND TIME	
Address: 4 Blanchard Road	Project Location: 2025 PFAS	☑ Standard	☐ Rush
Town: Cumberland ME, 04021	Project Number: 250860.00	PRESERVATION CODE	
Phone: 207-829-5016	Project Manager: Aaron Martin	T	
E-mail: carolyn.snow@sme-engineer	Quote #: 270-829-5692	ANALYSIS REQUIRED	

Other Project Specific Requirements/Comment/Detection Limits:

Maine 28 compound list.

Preservative
= No Pres.. 4C and HNO3
A = No Pres.. 4C
B = HCL
C = HNO3
D = H2SO4
E = NaOH
F = MeOH
G = NaHSO4
H = Na2S2O2
I = Ascorbic Acid
J = NH4Cl
K = ZN Acetate
O = Other
T = Trizma
W = Hexane/acetone

SAMPLE	COLLECTION DATE	COLLECTION TIME	Sampler's Initials	MATRIX W - Water L - Liquid S - Solid X - Wipe	# containers	PFAS 537 Modified With Isotope Di	REMARKS	LAB No.
6588								
01 Field Blank	9/24/25	1105	JDB	W	2	2		
02 MW3	9/24/25	1103	JDB	W	2	2		

Relinquished	Date	Time	Received By:	Date	Time
	9/24/2025	1235	Aria Reyes Pace	9/24/25	12:35
Aria Reyes	9/24/25	17:00	Caleb Mundell PACE	9/24/25	17:00
Caleb Mundell	9/24/25	19:50	D Delado	9/24/25	1950
D Delado	9/24/25 2235		9/24/25 2235		
PACE	9/25 0500		PACE 9/25/25 0500		
	9/25/25 0626			9/25/25 0626	

Sample Delivery Group Summary

Pace Job Number : L2560227
Received : 24-SEP-2025
Reviewer : Dylan LeBlanc

Account Name : Sevee & Maher Engineers, Inc.
Project Number : 250860.00
Project Name : TOWN OF CASTINE

Delivery Information

Samples Delivered By : Pace Courier

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
A	Absent/	Ice	5.5	

Condition Information

1) All samples on COC received?	YES
2) Extra samples received?	NO
3) Are there any sample container discrepancies?	NO
4) Are there any discrepancies between COC & sample labels?	NO
5) Are samples in appropriate containers for requested analysis?	YES
6) Are samples properly preserved for requested analysis?	YES
7) Are samples within holding time for requested analysis?	YES
8) All sampling equipment returned?	NA

Volatile Organics/VPH

1) Reagent Water Vials Frozen by Client?	NA

ATTACHMENT 3

SME DATA VALIDATION REPORT

SME
SEVEE & MAHER
ENGINEERS

Data Validation Checklist
Town of Castine
Sample Delivery Group: L2560227

Laboratory: PACE ANALYTICAL - MANSFIELD
Report Level: Level 2
Matrix: Groundwater
Reviewer: Abigail Latulippe
Concurrence: Lisa Jacob
Methods: EPA, LCMSMS-ID

Associated Samples: 2
# of Records: 58
Collection Dates: 9/24/2025
Project #: 250860
Sample IDs: FBXXXX161T, GW003A161T

Data Completeness		
Question	**Response**	**Comment**
Did report include original lab reports?	Yes	
Was report paginated?	Yes	
Were all report pages received?	Yes	
Did report contain results for all samples and analyses requested on the chain of custody form?	Yes	
Were required QA/QC results included with lab report?	Yes	
Was EGAD EDD received?	Yes	
Were required QA/QC results included on EGAD EDD?	Yes	
Did reported analyte lists meet project specifications?	Yes	
Did reporting limits meet project specifications?	Yes	
Was the laboratory Maine certified for all methods/analytes/matrices performed at the time of sample analysis (if required)?	Yes	
*For all "NO" contact chemist, lab or consultant for resolution.		

Analytical Method, Preservation, and Technical Holding Times		
Question	**Response**	**Comment**
Were requested preparatory and analytical methods followed?	Yes	
Sample cooler within required temperature range at time of receipt at laboratory? If No, enter receipt date and cooler temp in reviewer comments.	Yes	5.5°C
Samples properly preserved at time of receipt at laboratory?	Yes	
Was sample extraction/digestion performed within holding time?	Yes	
Was sample analysis performed within analytical holding time?	Yes	

Data Validation Checklist
Town of Castine
Sample Delivery Group: L2560227

Blanks		
Question	**Response**	**Comment**
Were blanks run at the frequency specified by the method or SAP/QAPP?	Yes	
Were target analytes detected in laboratory method blanks?	No	
Were target analytes detected in trip blanks?	N/A	
Were target analytes detected in equipment blanks?	No	Field Blank
Were target analytes detected in any other types of blanks included in the laboratory data report?	N/A	
Were data appropriately qualified for blank contamination?	No	

Surrogates		
Question	**Response**	**Comment**
Did the laboratory report results for surrogates (if required by the analytical method)?	Yes	
If surrogates required, were recoveries within acceptance ranges?	No	Method LCMSMS-ID, Sample L2560227-01, Surrogate Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS) and Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS), % R = 135/140 > AC (70-131/71-134), ND, No Qualification Necessary; Method LCMSMS-ID, Sample Method Blank - WG2120104-1, LCS/LCSD - WG2120104-2, Surrogate Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS), Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS) and 1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10:2FTS), % R = 139/134, 142 and 163/153 > (70-131/71-134/50-150, ND, No Qualification Necessary Method LCMSMS-ID, MS Surrogate Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS) and Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS) % R = 140/135 > AC (71-134 / 70-131), ND, No Qualification Necessary; Method LCMSMS-ID, Lab Duplicate, Surrogate Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS) and Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS) % R = 135/138 and 138/141 > AC (70-131/ 71-134), ND, No Qualification Necessary
If surrogate recoveries were outside acceptance ranges, did the lab re-analyze to confirm matrix interference?	N/A	
Were data appropriately qualified for unacceptable surrogate recovery (if required)?	Yes	

Data Validation Checklist
Town of Castine
Sample Delivery Group: L2560227

Laboratory Control Samples (LCS/LCSD)		
Question	**Response**	**Comment**
Did the LCS include all spiked compounds as required by SAP/QAPP or method?	Yes	
Were recoveries within acceptance ranges?	No	Method LCMSMS-ID, Perfluorononanesulfonic Acid (PFNS), LCS % R = 160 > AC (48-150), ND, No Qualification Necessary
Were data appropriately qualified for unacceptable LCS recovery?	Yes	
Were RPD between LCS and LCSD within acceptance ranges?	N/A	

Matrix Spike Samples (MS/MSD)		
Question	**Response**	**Comment**
Did the MS (if performed) include all spiked compounds as required by SAP/QAPP or method?	Yes	L2560322-03
Were recoveries within acceptance ranges (if MS performed)?	Yes	
Were data appropriately qualified for unacceptable MS recovery (if MS performed)?	N/A	
Were RPD between MS and MSD (if performed) within acceptance ranges?	N/A	

Duplicates (Note: also applies for analytes reported by more than one method)		
Question	**Response**	**Comment**
Were lab duplicate or field duplicate analyses performed? If yes, list type in reviewer comments.	Yes	Lab Duplicate
Were RPDs (if applicable) within acceptance ranges?	Yes	

Data Validation Checklist
Town of Castine
Sample Delivery Group: L2560227

Data Usability		
Question	**Response**	**Comment**
Is there any reason to suspect carryover?	No	
Is there any reason to suspect matrix interference?	No	
Do chromatograms (if provided) look reasonable?	N/A	Chromatograms were not provided in this SDG
Is there a compound detected below quantitation limits that should be noted?	No	
Is there any other reason that the data should be qualified?	No	
Were all (or most) data qualified for a particular method or analyte?	No	
Were any data rejected during the above review?	No	
Is data quality sufficient for the intended use of the data?	Yes	

Reviewer Summary:

SME's review of the analytical data package and sample handling procedures revealed no significant deficiencies. The analytical results for this SDG were accepted as is, without qualification, which is an acceptance percentage of 100%. A review of the analytical data and laboratory report indicates that the data quality is acceptable for its intended use.

ATTACHMENT 4

HISTORICAL USE DATA

SME
SEVEE & MAHER
ENGINEERS

Battle Avenue, Castine Property

Battle Avenue

Castine, ME 04421

Inquiry Number: 8115797.3

September 22, 2025

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

09/22/25

Site Name:	Client Name:
Battle Avenue, Castine Propert	Sevee & Maher Engineers, Inc.
Battle Avenue	4 Blanchard Rd
Castine, ME 04421	Cumberland, ME 04021
EDR Inquiry # 8115797.3	Contact: Anthony Pais

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Sevee & Maher Engineers, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # E6B5-43F6-B3F6

PO # 2500860

Project Battle Avenue Project

Maps Provided:

1925

Sanborn® Library search results

Certification #: E6B5-43F6-B3F6

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

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Sanborn Sheet Key

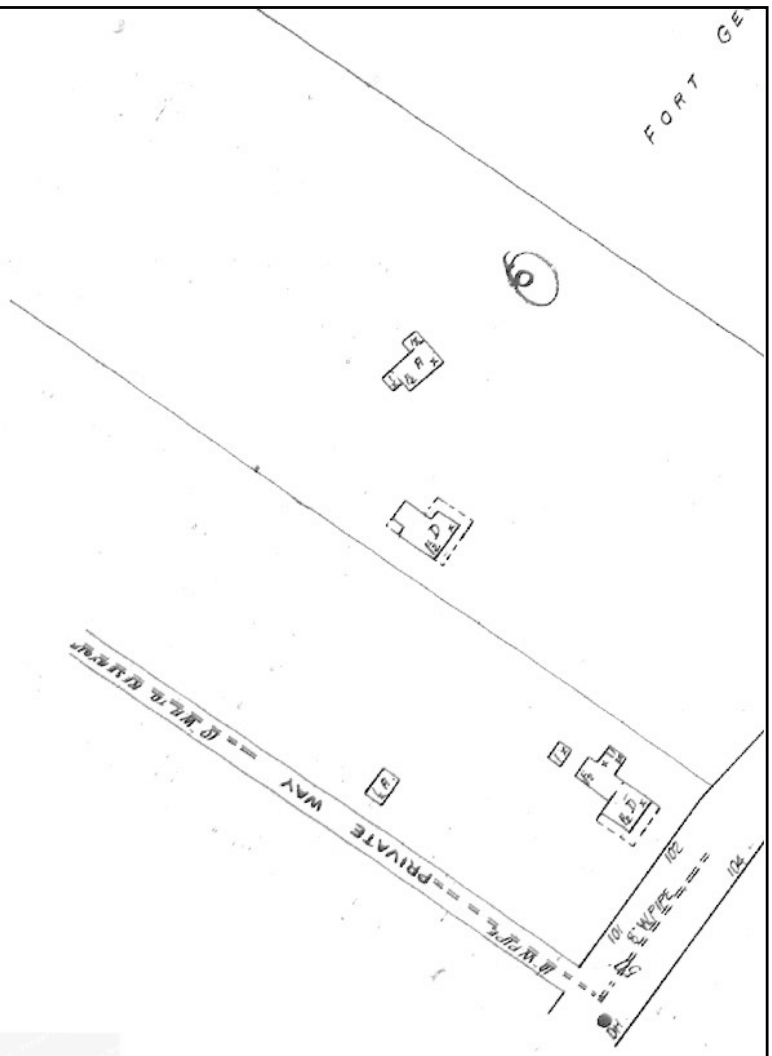
This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1925 Source Sheets

Volume 1, Sheet 2
1925

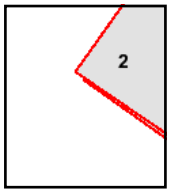
Volume 1, Sheet 2
1925

Certification # E6B5-43F6-B3F6



Site Name: Battle Avenue, Castine Property
Address: Battle Avenue
City, ST, ZIP: Castine, ME 04421
Client: Sevee & Maher Engineers, Inc.
EDR Inquiry: 8115797.3
Order Date: 09/22/2025
Certification #: E6B5-43F6-B3F6
Copyright 1925

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.



Volume 1, Sheet 2
Volume 1, Sheet 2

0 Feet 150 300 600

N

Battle Avenue, Castine Property

Battle Avenue

Castine, ME 04421

Inquiry Number: 8115797.8

September 23, 2025

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

09/23/25

Site Name:

Battle Avenue, Castine Propert
Battle Avenue
Castine, ME 04421
EDR Inquiry # 8115797.8

Client Name:

Sevee & Maher Engineers, Inc.
4 Blanchard Rd
Cumberland, ME 04021
Contact: Anthony Pais

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

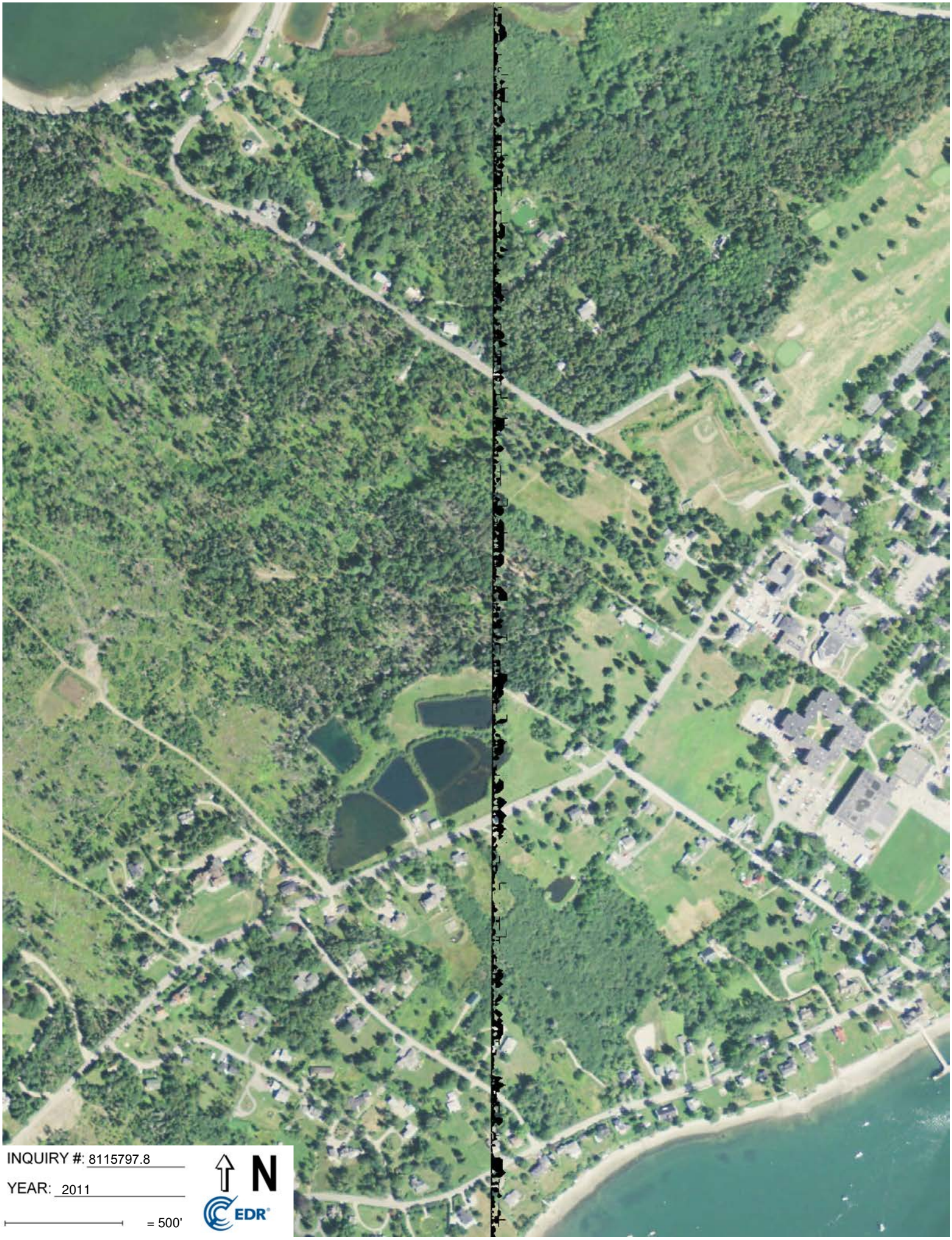
Year	*Scale*	*Details*	*Source*
2023	1"=500'	Flight Year: 2023	USDA/NAIP
2018	1"=500'	Flight Year: 2018	USDA/NAIP
2015	1"=500'	Flight Year: 2015	USDA/NAIP
2011	1"=500'	Flight Year: 2011	USDA/NAIP
2007	1"=500'	Flight Year: 2007	USDA/NAIP
1996	1"=500'	Flight Year: 1996	USGS/DOQQ
1991	1"=500'	Acquisition Date: June 18, 1991	USGS/DOQQ
1980	1"=500'	Flight Date: May 04, 1980	USGS
1976	1"=500'	Flight Date: May 10, 1976	USGS
1970	1"=500'	Flight Date: May 09, 1970	USGS
1960	1"=500'	Flight Date: May 01, 1960	USGS
1956	1"=500'	Flight Date: May 07, 1956	USGS
1940	1"=500'	Flight Date: August 17, 1940	USGS

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.


INQUIRY #: 8115797.8
YEAR: 2023
= 500'
N
EDR


INQUIRY #: 8115797.8
YEAR: 2018
= 500'
N
EDR


INQUIRY #: 8115797.8
YEAR: 2015
= 500'
N
EDR


INQUIRY #: 8115797.8
YEAR: 2011
= 500'
N
EDR


INQUIRY #: 8115797.8
YEAR: 2007
= 500'
N
EDR

INQUIRY #: 8115797.8

YEAR: 1996

= 500'

N

EDR

INQUIRY #: 8115797.8

YEAR: 1991

= 500'

N

EDR

INQUIRY #: 8115797.8

YEAR: 1980

= 500'

N

EDR


INQUIRY #: 8115797.8
YEAR: 1976
= 500'
N
EDR


INQUIRY #: 8115797.8
YEAR: 1970
= 500'
N
EDR


INQUIRY #: 8115797.8
YEAR: 1960
= 500'
N
EDR

INQUIRY #: 8115797.8

YEAR: 1956

= 500'

N

EDR


INQUIRY #: 8115797.8
YEAR: 1940
= 500'
N
EDR

Battle Avenue, Castine Property

Battle Avenue

Castine, ME 04421

Inquiry Number: 8115797.4

September 22, 2025

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

09/22/25

Site Name:

Battle Avenue, Castine Propert
Battle Avenue
Castine, ME 04421
EDR Inquiry # 8115797.4

Client Name:

Sevee & Maher Engineers, Inc.
4 Blanchard Rd
Cumberland, ME 04021
Contact: Anthony Pais

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Sevee & Maher Engineers, Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# 2500860
Project: Battle Avenue Project

Coordinates:

Latitude:	44.388866 44° 23' 20" North
Longitude:	-68.807747 -68° 48' 28" West
UTM Zone:	Zone 19 North
UTM X Meters:	515312.69
UTM Y Meters:	4915082.78
Elevation:	154.49' above sea level

Maps Provided:

2021	1904
2018	1902
2014	
1979	
1973	
1943	
1941	
1905	

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2021 Source Sheets

Castine
2021
7.5-minute, 24000

Cape Rosier
2021
7.5-minute, 24000

2018 Source Sheets

Castine
2018
7.5-minute, 24000

Cape Rosier
2018
7.5-minute, 24000

2014 Source Sheets

Castine
2014
7.5-minute, 24000

Cape Rosier
2014
7.5-minute, 24000

1979 Source Sheets

Castine
1979
7.5-minute, 24000
Aerial Photo Revised 1970

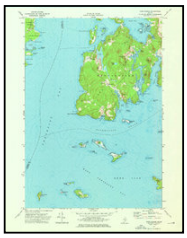
Cape Rosier
1979
7.5-minute, 24000
Aerial Photo Revised 1970

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1973 Source Sheets

Castine
1973
7.5-minute, 24000
Aerial Photo Revised 1970



Cape Rosier
1973
7.5-minute, 24000
Aerial Photo Revised 1970

1943 Source Sheets

Castine
1943
15-minute, 62500

1941 Source Sheets

Castine
1941
15-minute, 62500

1905 Source Sheets

Penobscot Bay
1905
30-minute, 125000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1904 Source Sheets

Castine
1904
15-minute, 62500

1902 Source Sheets

Castine
1902
15-minute, 62500

Historical Topo Map

2021

This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

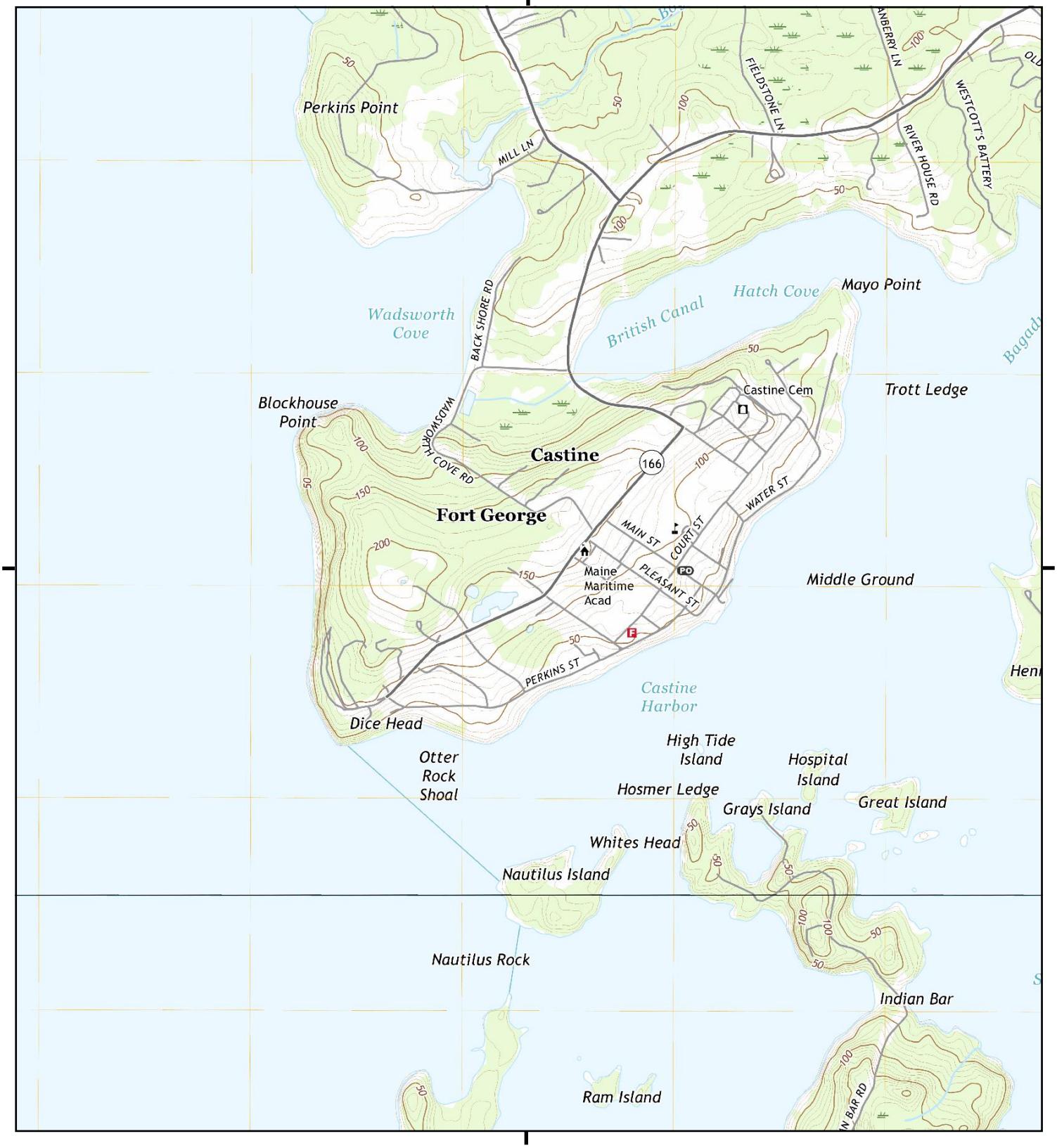
TP, Castine, 2021, 7.5-minute
S, Cape Rosier, 2021, 7.5-minute

SITE NAME: Battle Avenue, Castine Property
ADDRESS: Battle Avenue
Castine, ME 04421
CLIENT: Sevee & Maher Engineers, Inc.

N

Historical Topo Map

2018



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

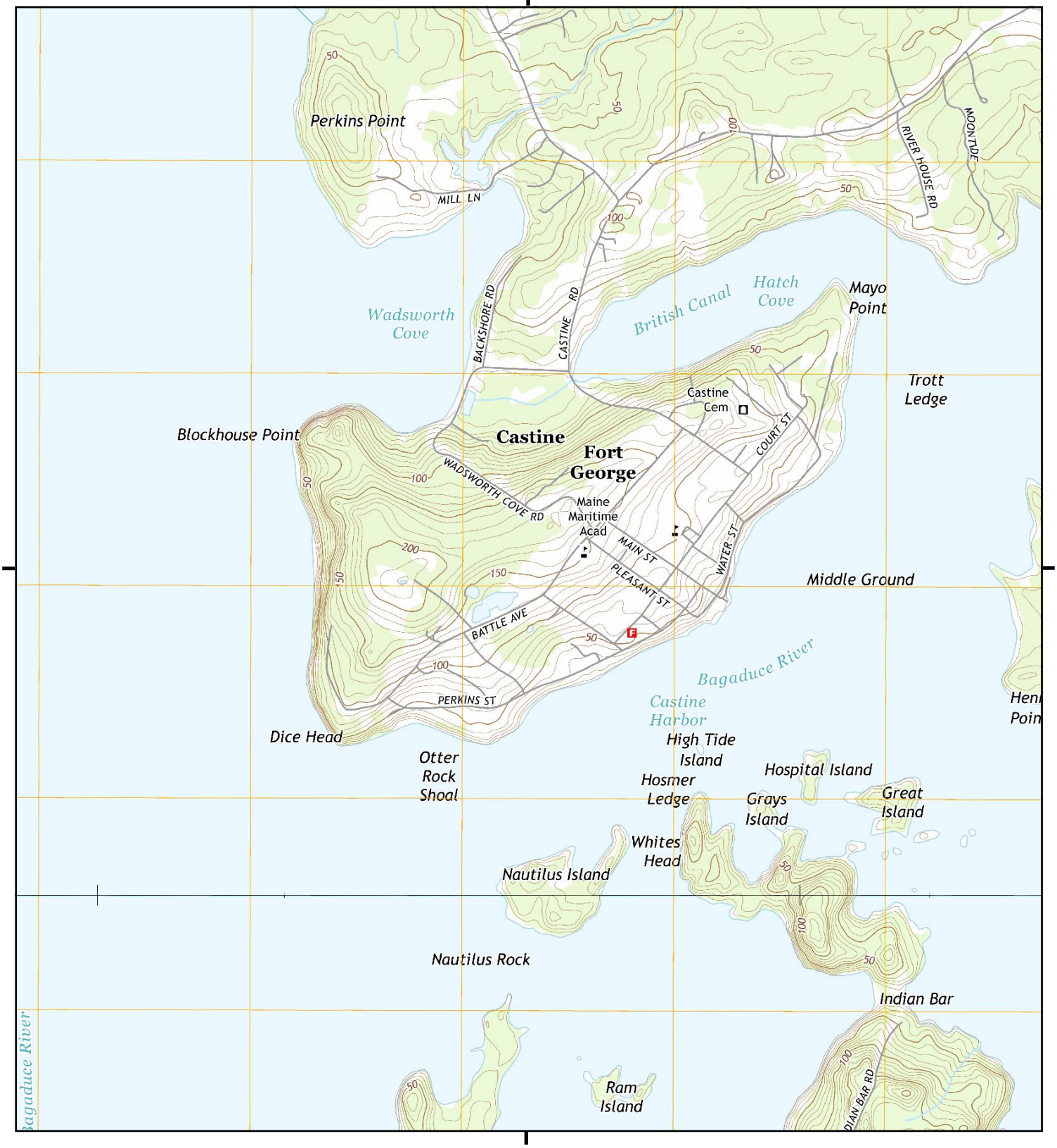
TP, Castine, 2018, 7.5-minute
S, Cape Rosier, 2018, 7.5-minute

SITE NAME: Battle Avenue, Castine Property
ADDRESS: Battle Avenue
Castine, ME 04421
CLIENT: Sevee & Maher Engineers, Inc.

N

Historical Topo Map

2014



This report includes information from the following map sheet(s).

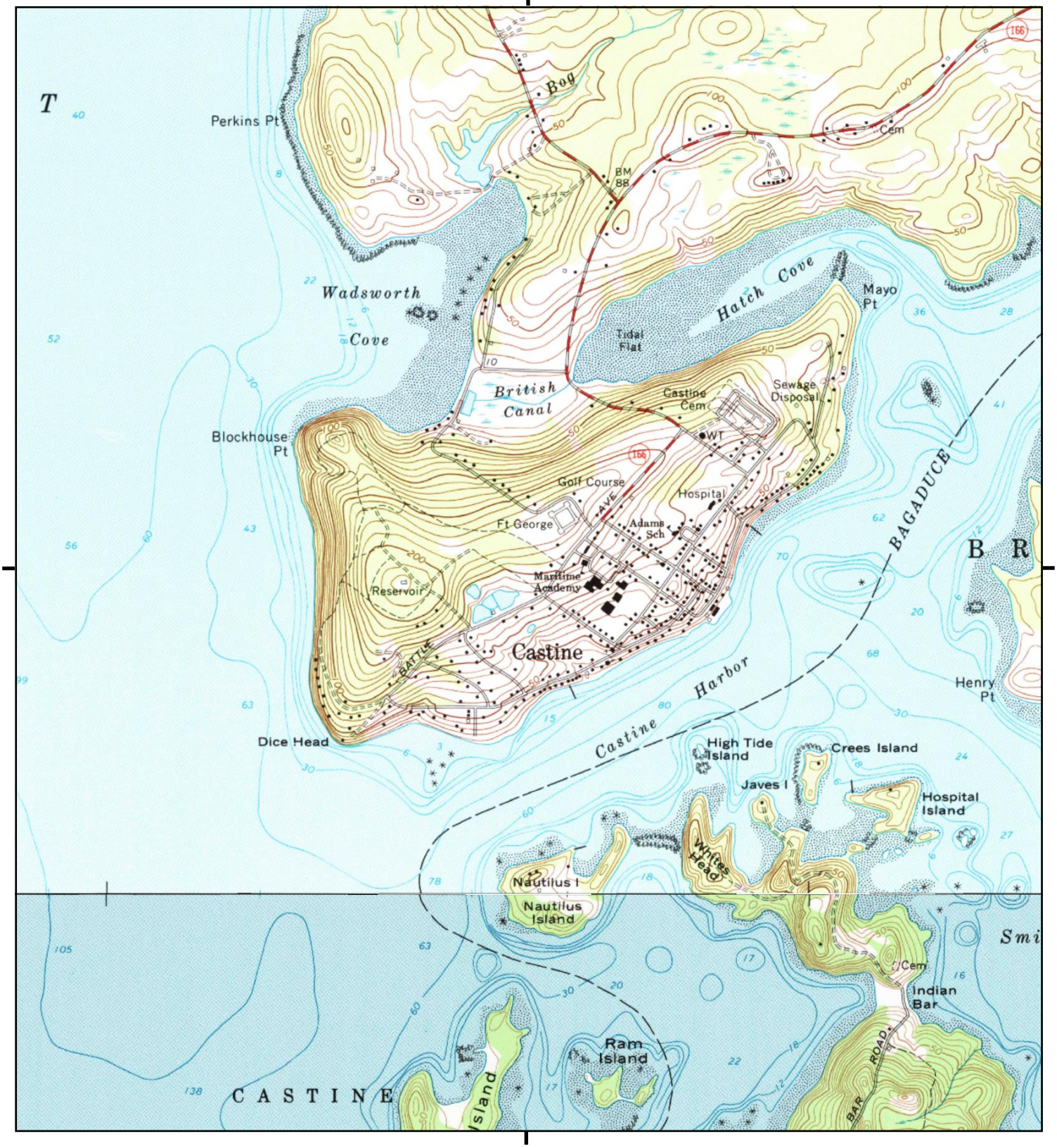
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Castine, 2014, 7.5-minute
S, Cape Rosier, 2014, 7.5-minute

SITE NAME: Battle Avenue, Castine Property
ADDRESS: Battle Avenue
Castine, ME 04421
CLIENT: Sevee & Maher Engineers, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Castine, 1979, 7.5-minute
S, Cape Rosier, 1979, 7.5-minute

SITE NAME: Battle Avenue, Castine Property
ADDRESS: Battle Avenue
Castine, ME 04421
CLIENT: Sevee & Maher Engineers, Inc.

N

This report includes information from the following map sheet(s).

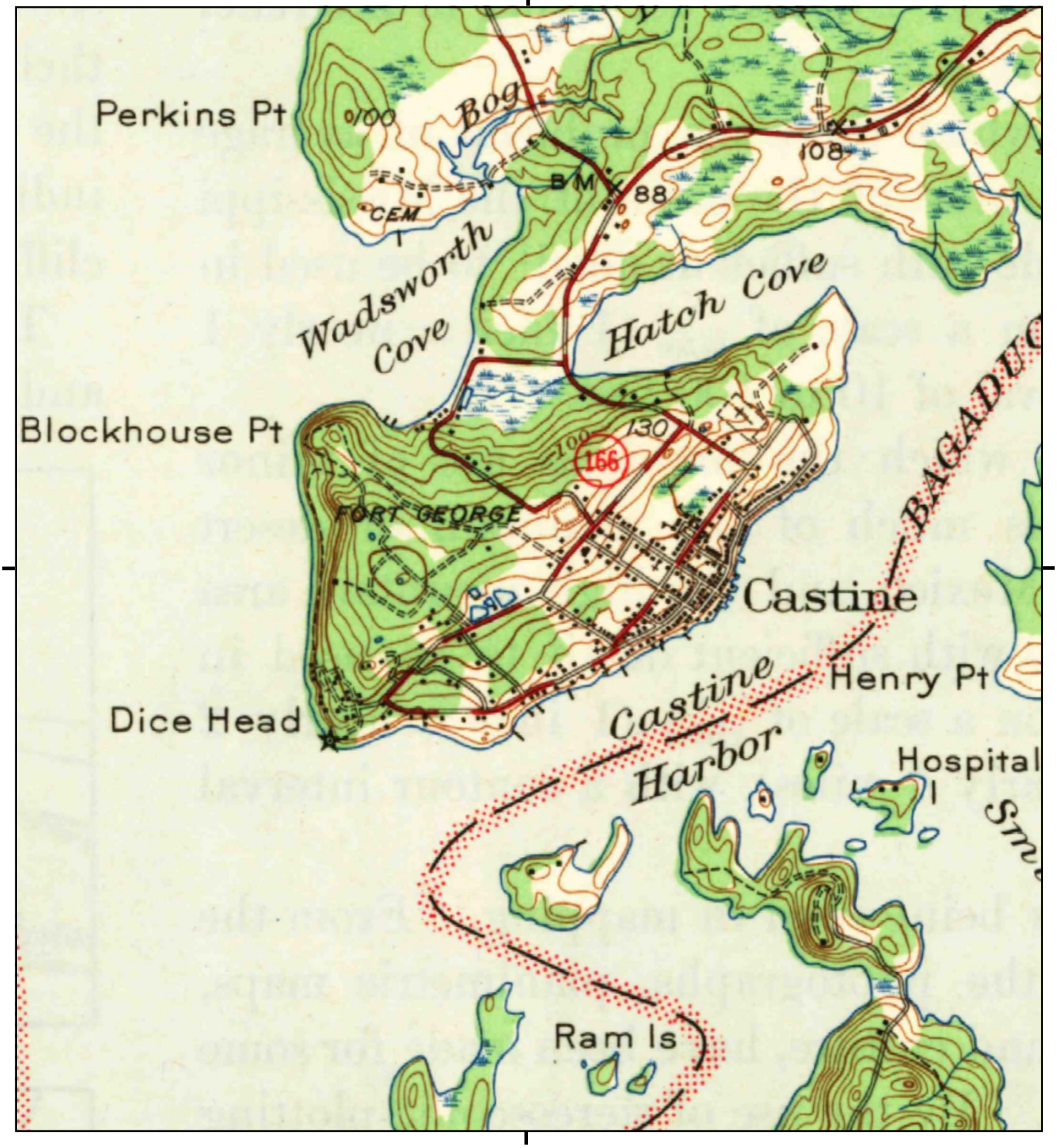
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Castine, 1973, 7.5-minute
S, Cape Rosier, 1973, 7.5-minute

SITE NAME: Battle Avenue, Castine Property
ADDRESS: Battle Avenue
Castine, ME 04421
CLIENT: Sevee & Maher Engineers, Inc.

N



This report includes information from the following map sheet(s).

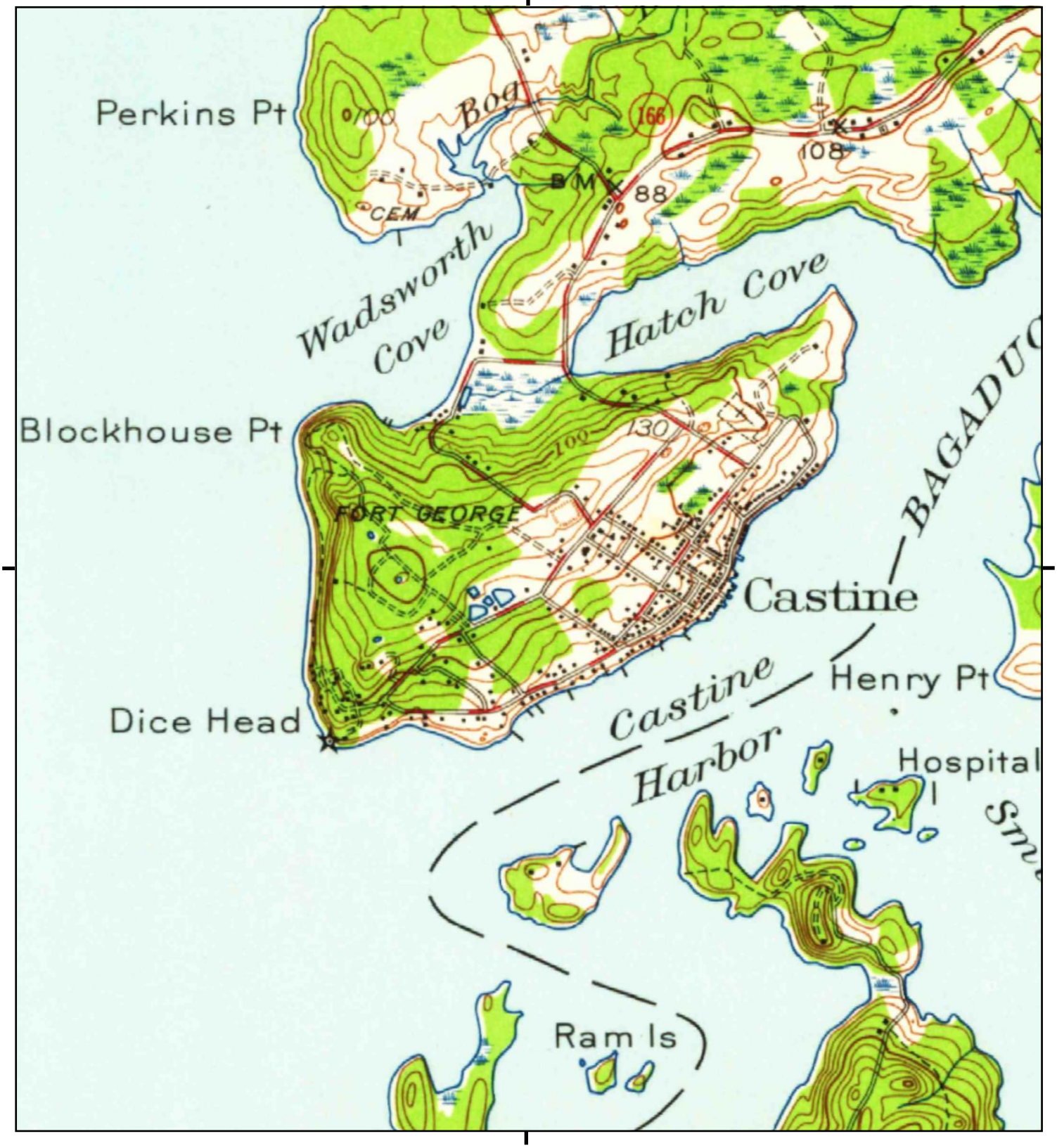
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Castine, 1943, 15-minute

SITE NAME: Battle Avenue, Castine Property
ADDRESS: Battle Avenue
Castine, ME 04421
CLIENT: Sevee & Maher Engineers, Inc.

N



This report includes information from the following map sheet(s).

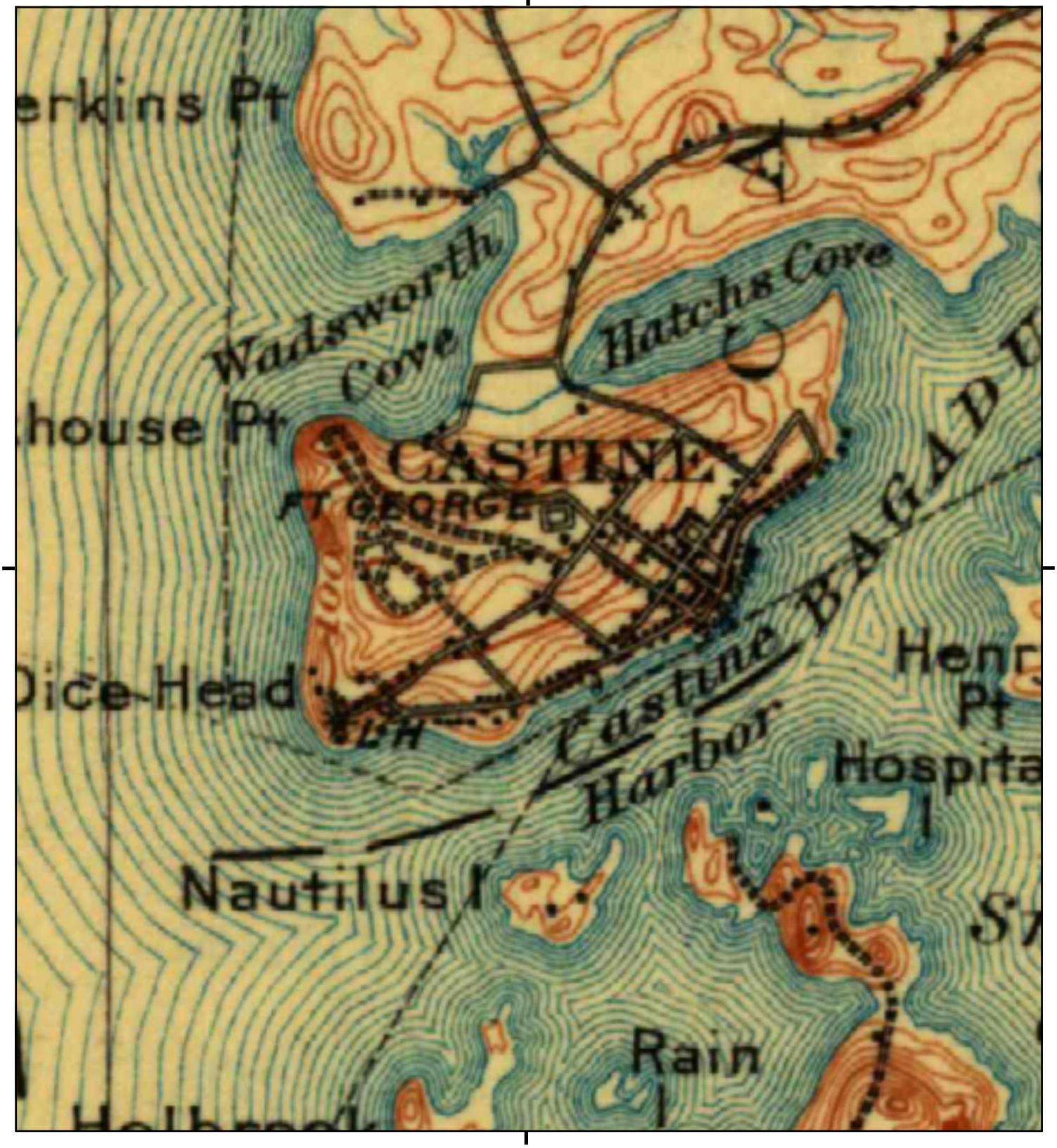
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Castine, 1941, 15-minute

SITE NAME: Battle Avenue, Castine Property
ADDRESS: Battle Avenue
Castine, ME 04421
CLIENT: Sevee & Maher Engineers, Inc.

N



This report includes information from the following map sheet(s).

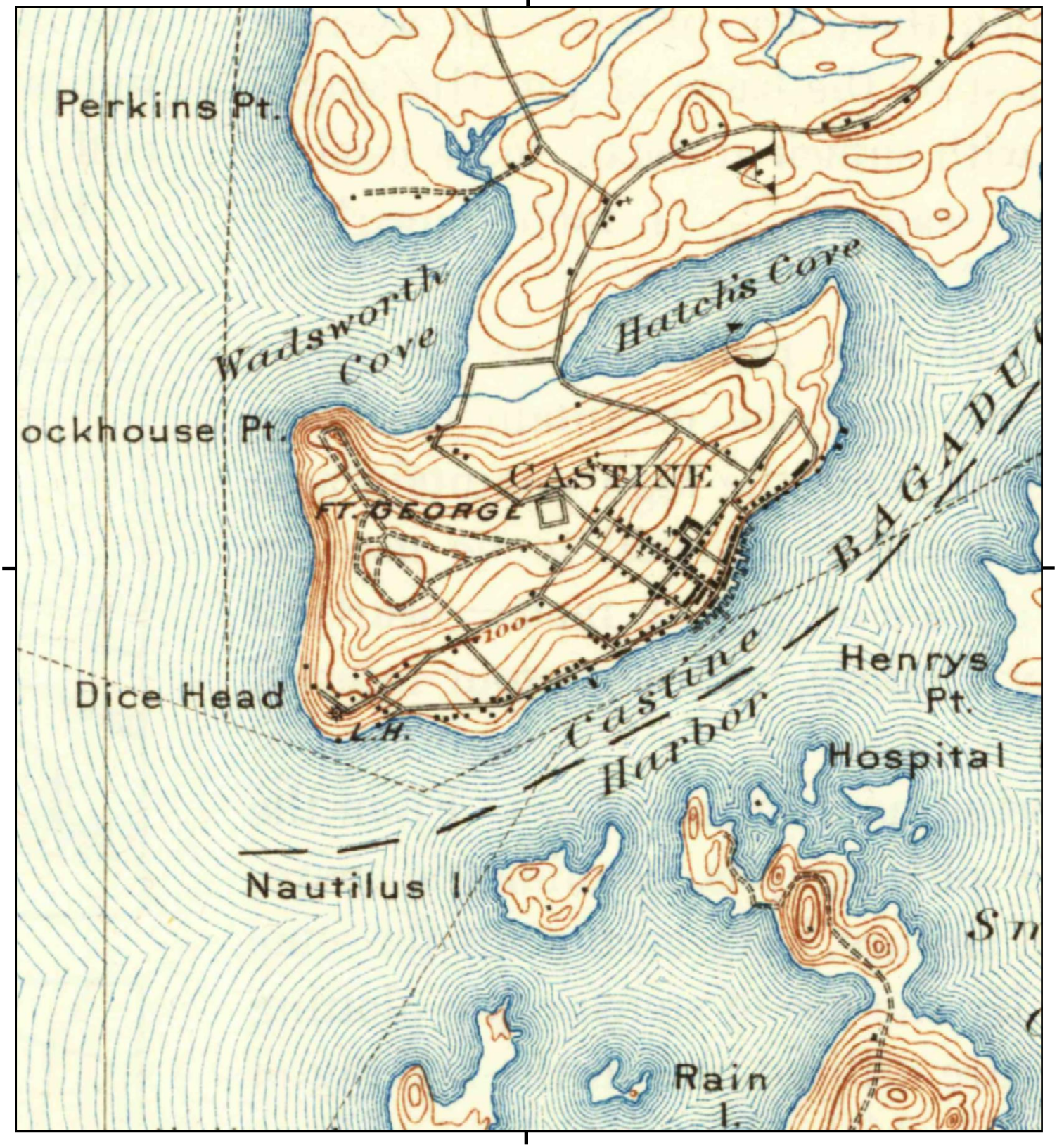
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Penobscot Bay, 1905, 30-minute

SITE NAME: Battle Avenue, Castine Property
ADDRESS: Battle Avenue
Castine, ME 04421
CLIENT: Sevee & Maher Engineers, Inc.

N



This report includes information from the following map sheet(s).

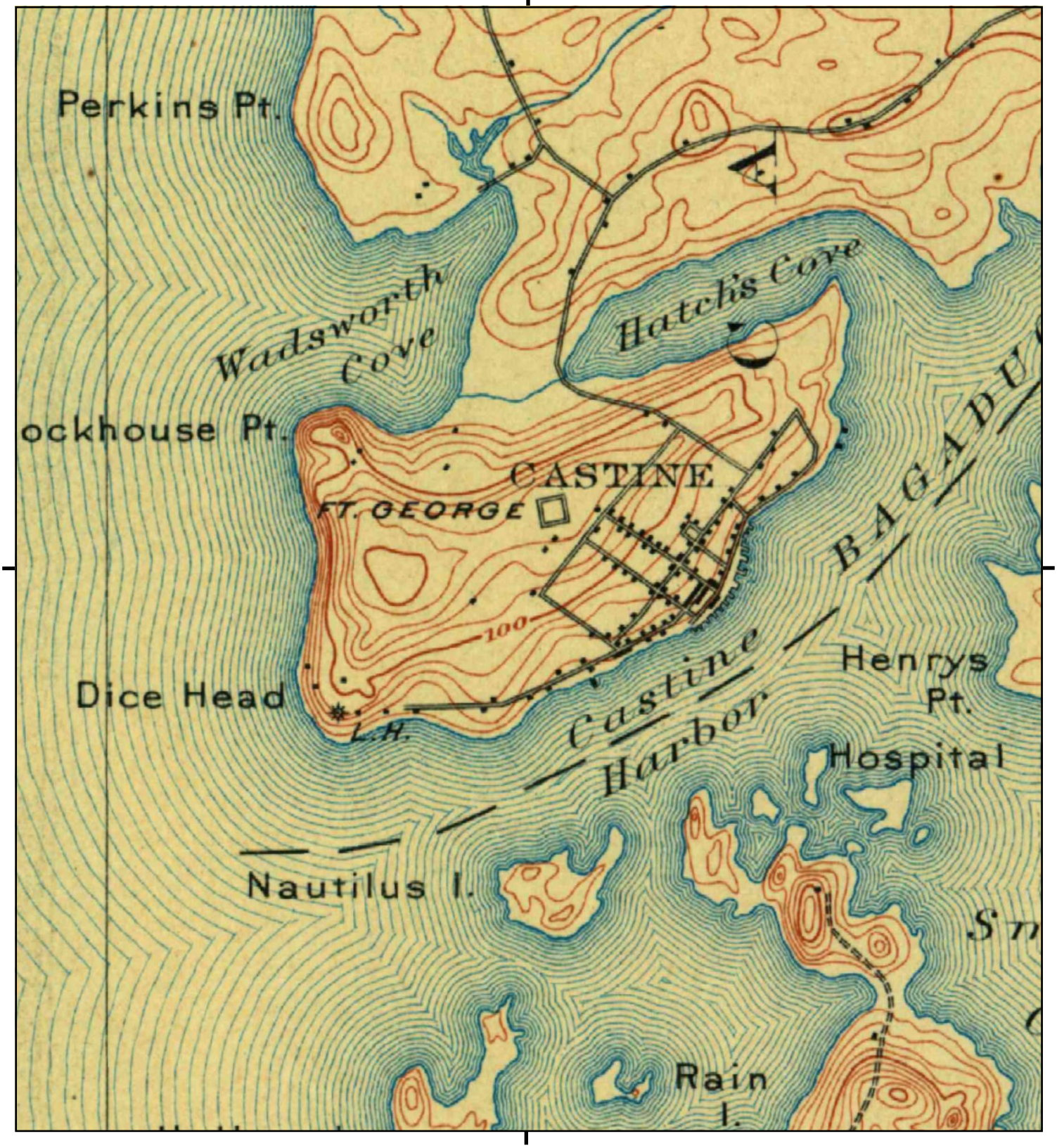
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Castine, 1904, 15-minute

SITE NAME: Battle Avenue, Castine Property
ADDRESS: Battle Avenue
Castine, ME 04421
CLIENT: Sevee & Maher Engineers, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Castine, 1902, 15-minute

SITE NAME: Battle Avenue, Castine Property
ADDRESS: Battle Avenue
Castine, ME 04421
CLIENT: Sevee & Maher Engineers, Inc.

N