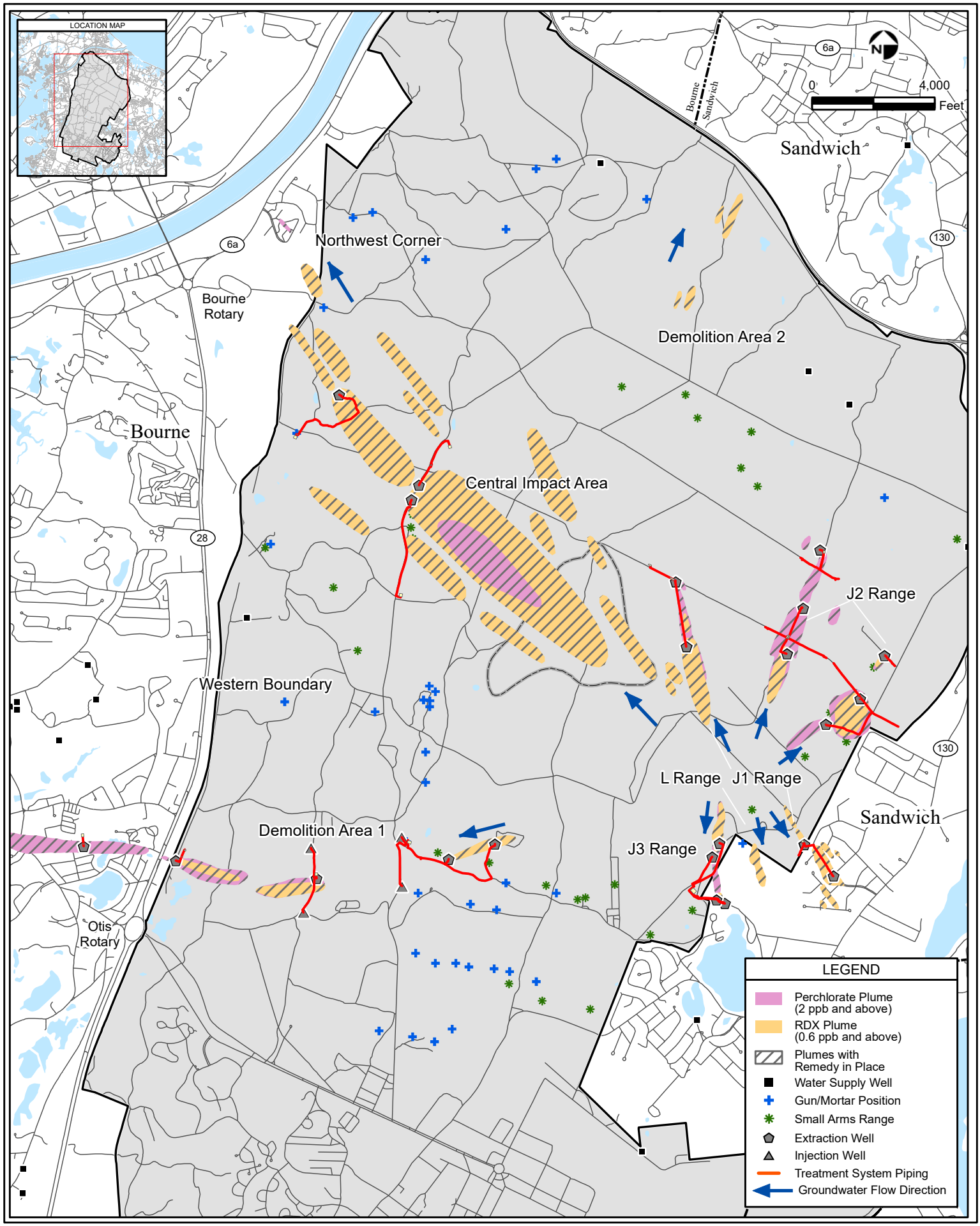

US Army Corps of Engineers
New England District

Impact Area Groundwater Study Program

Impact Area Groundwater Study Program
January 2018

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Legend

- Chlorinated Solvents Plume - Concentrations Exceed MCLs TCE = 5.0 µg/L PCE = 5.0 µg/L
- EDB Plume - Concentrations Exceed MMCL = 0.02 µg/L
- Perchlorate Plume - Concentrations Exceed MMCL = 2.0 µg/L
- RDX Plume - Concentrations exceed EPA 10^{-6} risk-based level = 0.6 ppb
- Fuel Plume - The Following Contaminants Exceed Associated MCP GW-1 or RBC Groundwater Standards:
  C5-C8 aliphatic hydrocarbons, GW-1 = 300 µg/L
  C9-C10 aromatic hydrocarbons, GW-1 = 200 µg/L
  C9-C12 aliphatic hydrocarbons, GW-1 = 700 µg/L
  C11-C22 aromatic hydrocarbons, GW-1 = 200 µg/L
  1,2,4-TMB, RBC = 19 µg/L
  1,3,5-TMB, RBC = 19 µg/L
  2-methylnaphthalene, GW-1 = 10 µg/L
- Plumes with Remedy in Place
- Extraction Well
- Extraction Well (Off)
- Reinjection Well
- Reinjection Well (Off)
- Outflow Bubbler
- Treatment Facility
- Municipal Water Supply Well
- Town Boundary
- Infiltration Trench/Gallery (On)
- Infiltration Trench/Gallery (Off)
- IRP LUC Boundary
- PFAS Reswell Outreach Boundary

Treatment System Pipeline:

Influent — Effluent

Scale: 1 inch = 1 mile

0 0.5 1 Miles

The areas of contamination show the combined contaminants of concern within each plume.

Cape Cod Bay
Cape Cod Canal
Route 6
Route 130
Route 28
Route 151
Northwest Corner
Demolition Area 2
Central Impact Area
Demolition Area 1
Canal View Rd
Burgoyne Rd
Gibbs Rd
Barlow Rd
Jefferson Rd
Wood Rd
Greenway Rd
Pew Rd
Frank Perkins Rd
Tupentine Rd
Connery Rd
Quaker Meetinghouse Rd
Sandwich
Bourne
Falmouth
Mashpee
Joint Base Cape Cod
CS-19
J-1
J-2
J-3
L Range
FS-12
FS-1
FS-28
CS-10
CS-21
CS-4
LF-1
FTA-2/LF-2
PFSA
Former CS-23 Plume Area
Former CS-20 Plume Area
Former FS-29 Plume Area
All SD-5 extraction wells are turned off
Currier Road trench is off
Surface water from Long Pond is also used as a drinking water source for the town of Falmouth
Pocasset Harbor
Hen Cove
Red Brook Harbor
Squeteague Harbor
Megansett Harbor
Wild Harbor
Peters Pond
Snake Pond
Weeks Pond
Wakeby Pond
Mashpee Pond
Moody Pond
Johns Pond
Ashumet Pond
Ashumet Valley
Deep Pond
Coonamessett Pond
Crooked Pond
Jenkins Pond
Fresh Pond
Long Pond

Contaminant of Concern (COC)	Type of Contaminant	Risk-Based Level
TCE – trichloroethene	solvent	MCL = 5 µg/L
PCE – perchloroethene	solvent	MCL = 5 µg/L
CCl_4 – carbon tetrachloride	solvent	MCL = 5 µg/L
EDB – ethylene dibromide	fuel-related compound	MMCL = 0.02 µg/L
benzene	fuel-related compound	MCL = 5 µg/L
vinyl chloride	solvent	MCL = 2 µg/L
1,1,2,2-tetrachloroethane	solvent	GW-1 = 2 µg/L
1,4-dichlorobenzene	solvent	MMCL = 5 µg/L
manganese	metal	EPA Health Advisory = 300 µg/L
thallium	metal	MCL = 2 µg/L
lead	metal	15 µg/L (treatment technique action level for water distribution systems)
toluene	fuel-related compound	MCL = 1,000 µg/L
RDX - hexahydro-1,3,5-trinitro-1,3,5-triazine	explosive	HA = 2 µg/L GW-1 = 1 µg/L 10^{-6} = 0.6 µg/L
perchlorate	oxidizer	HA = 15 µg/L MMCL = 2 µg/L
C5-C8 aliphatic hydrocarbons	fuel-related compound	GW-1 = 300 µg/L
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1,2,4-TMB	fuel-related compound	RBC = 19 µg/L
1,3,5-TMB	fuel-related compound	RBC = 19 µg/L
2-methylnaphthalene	fuel-related compound	GW-1 = 10 µg/L

Joint Base Cape Cod Groundwater Plume Map, IRP LUC Areas, and PFAS Outreach Areas

Issued September 2018

Note: ppb = parts per billion and is a measure of concentration. It is approximately equivalent to micrograms per liter (µg/L).

MCL – Maximum Contaminant Level
MMCL – Massachusetts Maximum Contaminant Level
HA – Federal Lifetime Health Advisory
GW-1 – State default cleanup value to be used in lieu of site-specific risk-based level
10^{-6} – EPA level resulting in an excess cancer risk of one in a million
RBC - Site Specific Risk Based Concentration

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- Plumes with Remedy in Place
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Turpentine Rd
Connery Rd

SS094 'PFAS Site' Wastewater Treatment Plant Infiltration Beds
Northwest Corner
Demolition Area 2
Central Impact Area
Sandwich
CS-19
J-2
J-1
J-3
L Range
FS-12
Joint Base Cape Cod
Bourne
Demolition Area 1
SS090 'PFAS Site' Tanker Truck Rollovers
SS095 'PFAS Site' USCG Hangars 3170 and 3172
SS097 'PFAS Site' Lower 40 Ramp Area and Hangar 2816
SS031 'PFAS Site' Fuel Spill 1 (FS-1)
SS093 'PFAS Site' Former Fire Department Building 122
SS092 'PFAS Site' Former Building 118 and Runway 32
SS091 'PFAS Site' ANG Motor Pool Area
LF-1
CS-10
CS-21
CS-4
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