

#### **Current PFAS Investigations at Treasure Island**

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- Key Terminology
- Background
  - What are Per- and Polyfluoroalkyl Substances (PFAS)?
  - Navy PFAS Guidance and why PFAS investigations are being conducted at Former Naval Station Treasure Island (NSTI).
- PFAS Investigations at NSTI
  - Basewide Preliminary Assessment (PA)
  - Site Inspections (SI) for 11 AOIs
  - Remedial Investigation (RI) at Site 6
- Timeline
- Questions?



**PFASs** – per- and polyfluoroalkyl substances, are a family of hundreds of human-made chemicals that do not occur naturally in the environment

- **PFBS** perfluorobutane sulfonic acid
- **PFOA** perfluorooctanoic acid
- **PFOS** perfluorooctane sulfonate
- **<u>AFFF</u>** aqueous film-forming foam, used for firefighting training and fire suppression
- **CERCLA** comprehensive environmental response, compensation, and liability act
- **IR** installation restoration
- AOI area of interest
- **PA** preliminary assessment
- <u>SI</u> site inspection
- RI remedial investigation

**Emerging chemical** – a chemical or material that is characterized by a perceived, potential, or real threat to human health or the environment that lacks comprehensive published health standards

### Background

#### • What are PFAS?

- -Synthetic organofluorine compounds that are thermally stable
- -Decades of use in industrial and consumer products:
  - Manufacturing/factory sites
  - Aqueous film-forming foam (AFFF) in firefighting drill/training sessions and fires
  - Metal plating operations
  - Stain-resistant and waterproof textiles (e.g., GORE-TEX®), nonstick cookware (e.g., Teflon<sup>™</sup>), food wrappings
- -PFAS released can enter the soil, groundwater and surface water where people can be exposed to them (e.g., gardening in soil, trenching into groundwater, wading in shallow water, etc.)
- -Many PFAS are persistent in the environment they don't break down and can accumulate over time.
- Emerging chemical no federal promulgated standards currently exist, but the U.S. EPA is considering designating two PFAS (PFOS and PFOA) as hazardous substances











- Following the 15 October 2019 Department of Defense (DoD) Guidance to investigate PFAS under CERCLA process
- Groundwater at NSTI is not suitable for drinking and no water supply well is within 1 mile of the installation boundary. Drinking water is piped by SFPUC to NSTI from a public water system
- Migration and potential exposure at NSTI include:
  - Human (e.g., worker) exposure to PFAS in soil and (non-drinking) groundwater
  - Human and ecological (e.g., benthic organisms) exposure to PFAS in the Bay
- Navy initiated PA in 2019 at multiple installations including NSTI
- Finding of PA: no further action, or advance to the SI or RI



#### CERCLA Process\*





#### **PFAS Sampling Performed**

- Currently, Site 6 is the only Treasure Island site where samples have been analyzed for PFAS
- Soil samples collected from 5 soil borings at Site 6 in 2015
  - PFOS concentrations in soil samples exceeded DoD and U.S. EPA risk-based screening levels
- Groundwater samples collected from monitoring wells at Site 6 during 2017 and 2020 through present
- Groundwater samples were collected from temporary wells at Site 6 in September 2020
  - Concentrations of PFOS and PFOA in groundwater samples from Site 6 have exceeded the DoD and U.S. EPA risk-based screening levels

# **PFAS Investigation Approach at NSTI**



#### **Planned PFAS Investigations**

- PA started in 2019 for the entire former installation
  - PA looked at 89 Areas of Interest (AOI) based on past activities
  - 12 AOIs were identified for further investigation at NSTI by the Navy (see Figure on next page)
  - SI for 10 AOIs started in 2021
  - SI for one AOI (WWTP Outfalls) will proceed separately
  - RI is being performed at one AOI (IR Site 6)

### **Planned PFAS Investigation at NSTI**





# **Planned PFAS Investigation at NSTI**



#### **Site Inspection**

- The SI started in July 2021
  - Includes 10 AOIs recommended for investigation by the PA
  - Navy will submit work plan was to regulatory agencies and RAB in late 2021.
  - Objective of the SI is to confirm the presence or absence of PFAS above DoD screening values
  - Sampling for PFAS in soil and groundwater at 9 AOIs
  - Sampling for PFAS in pore water and sediment at AOI 54

## **Planned PFAS Investigation at NSTI**



### **Remedial Investigation at IR Site 6**

- Planning for the RI at Site 6 started in 2020
  - Draft work plan was submitted to regulatory agencies and RAB in March 2021. The Navy is working to resolve the received comments.
  - Goals of RI
    - Sample for PFAS in soil and groundwater at Site 6 to evaluate potential risk to human receptors at Site 6
    - Sample for PFAS in sediment and pore water to evaluate potential risk to ecological receptors nearshore of Site 6
    - Use sampling and risk assessments to recommend
      - » no further action, if acceptable risk
      - » additional actions for Site 6, if unacceptable

## **IR Site 6 Conceptual Site Model**





#### BRAC Program Management Office

## Planned PFAS Soil Sampling at IR Site 6



# Planned PFAS Groundwater Sampling at IR Site 6





#### BRAC Program Management Office

#### August 2021

## Planned PFAS Offshore Sampling at IR Site 6









- July 2021: Basewide PA finalized. Kick-off meeting for SI.
- August 2021: Preparation of SI planning documents

- Fact Sheet distributed, RAB presentation

- September 2021: Finalize Site 6 RI Work Plan
- October 2021: Site 6 RI fieldwork
- January 2022: Finalize SI Work Plan
- February 2022: SI Fieldwork







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