St. Juliens Creek Annex Restoration Advisory Board Meeting Summary: November 14, 2018 Meeting

Meeting Attendees

Robert Bray	NAVFAC Mid-Atlantic	Kathryn Smith	CH2M
Robert Stroud	EPA Region 3	Tracy Hughes	CH2M
Weel Lindsay	VDEQ	Adrienne Jones	CH2M
Robert Mann	RAB Community Member	Barbara Brumbaugh	RAB Community Member
Mary Stuck	NAVFAC Environmental	Kevin Lew	RAB Community Member
Madison Witte	APTIM	Dennis Long	RAB Community Member
Ari Reyes	APTIM		

Location: Major Hillard Library, Chesapeake, Virginia

Meeting Date: November 14, 2018

From: Kathryn Smith/CH2M

Minutes Date: April 9, 2019

Restoration Advisory Board Welcome and Introductions

At 5:10 p.m., Mr. Bray presented opening remarks and introductions to the Restoration Advisory Board (RAB). Mr. Bray thanked everyone for coming and explained that he is the Naval Facilities Engineering Command (NAVFAC) Mid-Atlantic Remedial Project Manager for St. Juliens Creek Annex (SJCA). The other RAB members and guests introduced themselves. All presentation handouts were distributed.

Waste Characterization, Management, and Transportation for the Environmental Restoration Program

Ms. Witte led the topic and projected a presentation. The objectives of the presentation were to provide an overview of waste characterization, management, and transportation for the environmental restoration program.

Ms. Witte explained and defined the different types of waste generators. Waste generators are defined based on how much waste they produce every month.

The cradle to grave concept for waste generation is the process through which waste is tracked as soon as it is created until it is properly disposed of. It is regulated under Resource Conservation and Recovery Act (RCRA). If you are creating waste you are legally responsible for it until it is disposed of, and must characterize the waste and ensure it is fully documented how the waste is identified, managed, treated, and/or recycled.

Ms. Witte provided an overview of the different types of waste that are regulated under RCRA, how waste is stored on site, and how the waste is characterized before treatment and/or disposal. The Department of the Navy (Navy) is involved in all steps of the process, and comes on site to establish the temporary waste accumulation area and make sure all safety procedures are being followed. After the waste is generated, it is sampled to characterize the waste and determine if it is hazardous or nonhazardous waste. The waste profile and manifest is also developed to document the waste characterization, transportation and disposal process. The profile includes what type of waste it is and serves as a “receipt” to dispose of the waste as a disposal facility. The profile is used to generate a manifest. The waste generator signs the manifest which authorizes the transporter to take temporary control of the waste for transportation to the disposal facility.

Ms. Witte asked if there were any questions or comments. No questions or comments were received.

St. Juliens Creek Annex Fiscal Year 2019 Environmental Restoration Program Goals and Schedule

Mr. Bray led the topic and projected a presentation. The objectives of the presentation were to provide an overview of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process, provide an update on the SJCA Environmental Restoration Program (ERP) sites and fiscal year (FY) 2019 goals, highlight FY 2018 successes, and solicit questions and comments from the RAB.

Mr. Bray provided a brief overview of the CERCLA process. Mr. Lindsay asked where in the process SJCA is in. Mr. Bray replied that for the three active sites at SJCA we are in long-term management for Site 4 and remedial action-operation for Sites 2 and 21.

Mr. Bray explained that ERP goals are established on a yearly basis by fiscal years, which begin on October 1 and end on September 30 of the following year. The goals serve as a budgeting tool for allocating funding and prioritizing sites to be investigated and remediated based on potential risk to human health and the environment. In addition, the goals help keep projects in the remediation process on schedule.

Figures were presented that depicted the 56 no further action ERP sites, and the 3 currently active ERP sites (Sites 2, 4, and 21) at SJCA. Mr. Long asked if there are any sites that have not started the CERCLA process. Mr. Bray explained the facility is in the Construction Complete phase, although a facility-wide investigation was being conducted for per- and polyfluoroalkyl substances (PFAS), which is an unregulated component of aqueous film-forming foam.

An update on Site 2 was provided. Site 2 is an unlined waste disposal area that operated from 1921 to 1942. Investigations conducted at the site identified concerns from waste; chlorinated solvents, one polycyclic aromatic hydrocarbon (PAH), and one pesticide in the shallow aquifer groundwater; chlorinated solvents and metals in the surface water; and PAHs, pesticides, polychlorinated biphenyls, and metals in the sediment and soil. The selected remedy to address the concerns consists of enhanced reductive dechlorination (ERD), a permeable reactive barrier contingency, monitored natural attenuation, a soil cover, land use controls (LUCs), and sediment excavation. ERD, monitored natural attenuation, and LUCs were put in place to remediate groundwater; with a contingency permeable reactive barrier included in the record of decision for the site. A soil cover and LUCs were implemented for soil and sediment at the site, and excavation and offsite disposal were implemented for the sediment located in St. Juliens Creek. Surface water was eliminated through installation of the soil cover. Construction of the remedial action was completed in 2012.

Site 2 is currently in the remedial action-operation phase. The remedial action-operation activities currently consist of bi-annual groundwater monitoring, additional as-needed emulsified vegetable oil injections (ERD remedy component), LUCs maintenance, and compensatory mitigation wetland monitoring. The first Five-Year Review (FYR) was completed for the site in May 2015, and concluded that the remedy is protective in the short-term, but identified the following three issues that needed to be addressed to ensure long-term protectiveness:

- The cleanup level of naphthalene in groundwater was not protective of potential future use. The cleanup level was revised in FY 2017.
- The emerging contaminants perchlorate and 1,4-dioxane were potentially present in groundwater but had not been evaluated. The issue was address in FY 2017, when the emerging contaminants investigation was completed.
- Groundwater data was not available during the FYR to determine if the remedy was properly functioning. The issue has since been addressed, as several rounds of groundwater data has been collected.

Mr. Lindsay asked what LUCs are in place for Site 2. Mr. Bray replied that there is a LUC for digging into the landfill cover and for use of the groundwater, and that the LUCs are tracked through the National Environmental Policy Act process, which includes use of a checklist to provide feedback on projects planned for a facility.

The FY 2019 goals for Site 2 are to:

- Conduct annual LUC inspection and reporting
- Finalize the Remedial Action-Operation Groundwater Monitoring Event 6 Report
- Finalize the Soil Cover Maintenance Report
- Draft the Round 3 Injections Work Plan and conduct the injections

An update on Site 4 was provided. Site 4 is a sanitary landfill that operated from 1970 to 1981. Soil and sediment contaminated with PAHs, polychlorinated biphenyls, and metals were identified at the site. The remedial action to address the contamination, consisting of a soil cover, excavation of drainage ditch sediment, and LUCs, was completed in 2005. Site 4 is currently in the response complete phase with ongoing LUCs maintenance and FYRs. The second FYR for Site 4 was completed in May 2015 and concluded that the remedy is protective.

The FY 2019 goals for Site 4 are to:

- Conduct annual LUC inspections and reporting
- Finalize the FYR Groundwater Sampling and Analysis Plan

Mr. Mann asked how often injections are conducted at the site or the data is reviewed. Mr. Bray responded no injections are being conducted but sampling will be conducted at the site as long as waste is left in-place. Ms. Brumbaugh stated that sampling as long as waste is in-place is different from what happens with most landfills that have 30 years post-closure care. Mr. Bray indicated the Navy, with concurrence from the United States Environmental Protection Agency (EPA) and Virginia Department of Environmental Quality (VDEQ), is planning on sampling during every FYR.

An update on Site 21 was provided. Site 21 is the primary industrial area of the facility, where buildings were historically used for maintenance, electrical shops, and munitions loading, and outdoor areas were used for equipment and chemical storage. The environmental concern at Site 21 is chlorinated volatile organic compounds in the shallow aquifer groundwater. In situ chemical reduction, ERD, and LUCs was the selected remedy to address the contamination at the site. In situ chemical reduction consists of injecting zero-valent iron that breaks down high concentrations of the contaminants. The zero-valent iron was injected in targeted areas and followed up with ERD injections. The remedial action construction was completed in 2011 and the site is currently in the remedial action-operation phase. The remedial action-operation activities consist of bi-annual groundwater, storm water, and vapor intrusion monitoring, and LUCs maintenance. Mr. Bray explained that vapor intrusion is when vapors in the subsurface migrate inside a building. A graph was projected showing concentrations of constituents of concern in the groundwater over time. The graph depicts concentrations ultimately decreasing. The first FYR for Site 21 was completed in May 2015, and concluded that the remedy is protective in the short-term and identified one issue that needed to be addressed to ensure long-term protectiveness: emerging contaminants perchlorate and 1,4-dioxane were potentially present in groundwater but had not been evaluated. The issue was addressed in FY 2017, when the emerging contaminants investigation was completed.

The FY 2019 goals for Site 21 are to:

- Conduct annual LUC Inspections and reporting
- Finalize the Remedial action-operation Groundwater and Storm Water Monitoring Event 14 Report
- Finalize the Remedial action-operation Vapor Intrusion Monitoring Event 14 Report

The facility-wide goals for SJCA for FY 2019 are to:

- Complete the FY 2020 through 2024 Site Management Plan update
- Prepare a PFAS Preliminary Assessment Report
- Update the Community Involvement Plan

Mr. Bray reviewed FY 2018 SJCA ERP successes. The Site 2 compensatory mitigation wetland monitoring work plan was finalized, and monitoring was conducted. The monitoring indicated the wetland was healthy and functioning as intended. A vapor intrusion investigation was completed at Site 21 Building 54, which was previously

unoccupied. The Site 2 soil cover seed mixture was revised to include vegetation that promotes butterfly populations as a result of a suggestion received by a RAB member during a site visit. Ms. Stuck asked if the wetland monitoring includes delineation of the wetland. Ms. Witte responded that a wetland delineation was conducted for the area prior to construction of the compensatory mitigation wetland to delineate the existing wetland area. She explained that the compensatory mitigation wetland that was constructed enhanced and expanded the existing wetland.

Mr. Bray asked if there were any additional questions or comments. No additional questions or comments were received.

Five-Year Review and Community Involvement Plan Update

Ms. Smith led the topic and projected a presentation. The objectives of the presentation were to explain the purpose and process of the FYR and Community Involvement Plan, review the path forward, and answer any questions.

Ms. Smith provided an overview of the FYR purpose. FYRs are required under CERCLA when remedial actions result in any hazardous substances, pollutants, or contaminants remaining at a site. The objective of the FYR is to determine if the selected remedy remains protective of human health and the environment. If it is determined that the remedy is no longer protective, the remedy may be modified.

FYRs review data and information to determine if there are any issues that currently prevent the remedy from being protective or from being protective in the future, recommend any follow-up actions needed, and determine protectiveness. Protectiveness is evaluated by reviewing requirements and reviewing the documents, findings, and conducting site inspections. The findings including the protectiveness determination for each site are documented in the FYR report.

The three sites that will be included as part of the FYR are Site 2, Site 4, and Site 21. A public notice will be issued in the newspaper to notify the community that the FYR has been initiated.

Ms. Smith provided an overview of the Community Involvement Plan. The goal of the community involvement program is to advocate and strengthen early and meaningful community participation during the cleanup process. The community involvement program is implemented through the Community Involvement Plan. The plan presents the facility-specific strategy, specifies the community involvement activities, serves as a reference to the SJCA Partnering Team, and enables community members to understand the ways in which they can participate.

The Navy is preparing to start the FYR and Community Involvement Plan update. This will be the third FYR for SJCA and will be finalized in 2020, and will be the fifth update to the Community Involvement Plan.

Mr. Lindsay asked if the FYR Reports are made public. Ms. Smith responded that after the reports are finalized, they will be available online and in the information repository at Major Hillard Library.

Ms. Smith asked if there were any additional questions or comments. No additional questions or comments were received.

Roundtable/Question and Answer

Mr. Bray asked if there were any potential future agenda topics the RAB was interested in hearing about. Ms. Brumbaugh stated the topics the Navy has been presenting tend to cover everything that is relevant. Mr. Bray suggested a topic on PFAS. Mr. Bray asked if there were any additional questions or comments. No additional questions or comments were received.

Next Meeting

Mr. Bray indicated the next RAB meeting is scheduled for May 2019, and the meeting will consist of a site visit. He noted a public notice will be placed in the newspaper approximately one month prior to the site visit, as attendees will have to RSVP to attend.

Meeting Adjourned

Waste Disposal Process

November 14, 2018

AGENDA

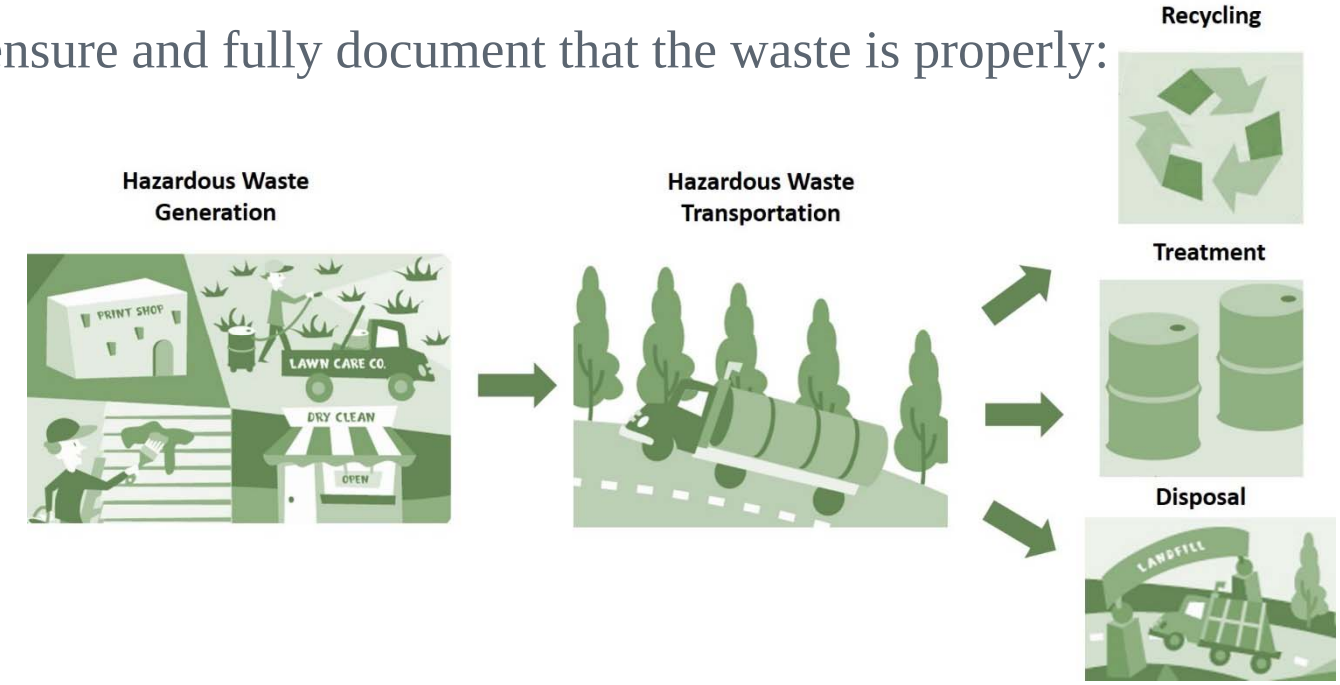
- Waste Generator
- Cradle to Grave Concept
- Hazardous Waste Types
- Temporary Waste Storage
- Waste Characterization
- Waste Profile
- Waste Manifest
- Transportation
- Landfill Construction

WASTE GENERATOR

- Large Quantity Generator
  - > more than 2,200 pounds every month
- Small Quantity Generator
  - > 220 pound – 2,200 pounds every month
- Generators notify state agency and the EPA of hazardous waste activities
- Generators are identified with a EPA ID Number

CRADLE TO GRAVE

- Regulated under RCRA
- All generators must determine if the waste is hazardous
- Generators must oversee the ultimate fate of the waste
- Generators must ensure and fully document that the waste is properly:
  - > Identified
  - > Managed
  - > Treated/recycled

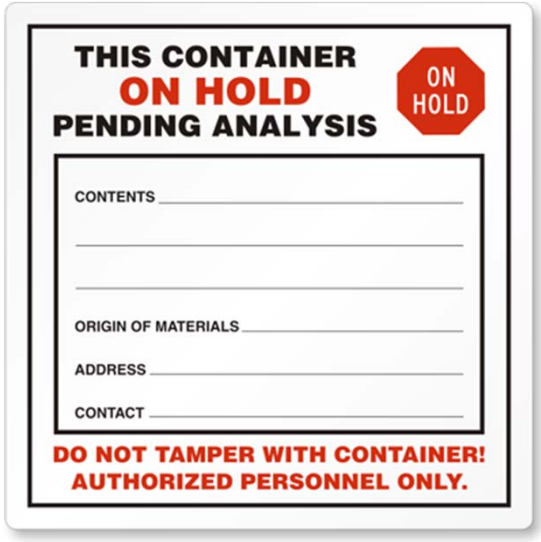


HAZARDOUS WASTE TYPES

- Listed:
  - > F-Listed:
    - – Non-specific source waste created from common manufacturing and industrial processes.
  - > K-Listed:
    - – source-specific wastes from a selection of specific industries ex. sludge or wastewater
  - > P-Listed / U-Listed:
    - – Commercial chemical products being discarded in their unused form.
- Characterized:
  - > Ignitibility, Corrosivity, Reactivity, Toxicity
- Universal
- Mixed
- E-Waste

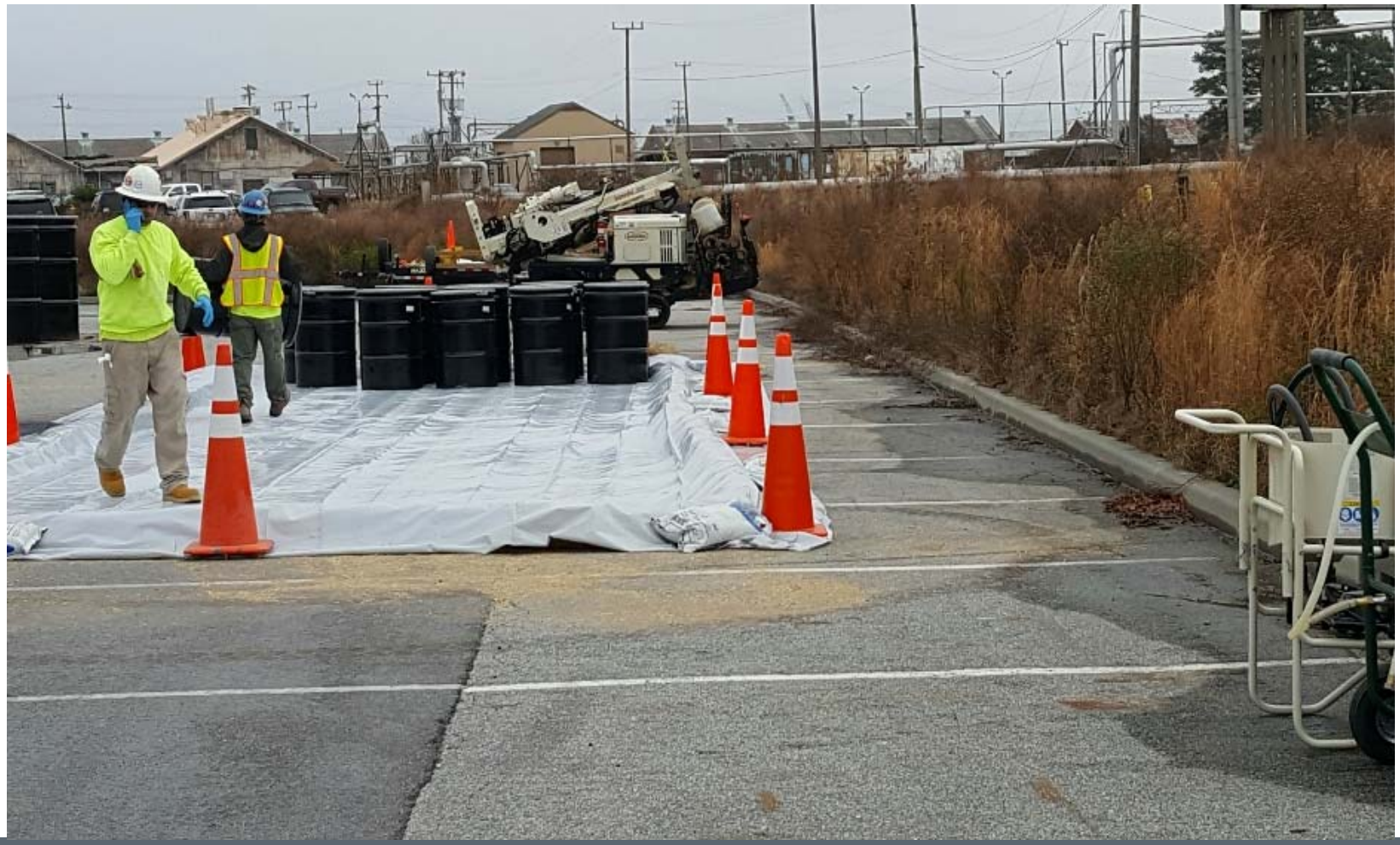
TEMPORARY WASTE STORAGE

- Material is segregated from site with:
  - > Delineated (signs, cones, barricades, etc)
  - > Physical Barriers (K-Rails, Straw Bales, Straw Wattles, etc)
  - > Plastic Sheeting (HDPE liner, Poly sheeting, etc)
- Hazardous Waste Accumulation Certifications and inspections
- Material Identification



TEMPORARY WASTE STORAGE

TEMPORARY WASTE STORAGE



WASTE CHARACTERIZATION

WASTE PROFILE

Profile Tracking # _____

WASTE PROFILE FORM

For assistance in completing this document or for additional information on EQ's service offerings, please visit our website at www.eqonline.com, or call 800-592-5489.

EQ – The Environmental Quality Company will choose the appropriate facility and method of waste management for your waste from the technologies offered at each EQ operation.

If you wish to direct this waste to a specific EQ facility(s) or treatment technology please indicate here:
Michigan

Waste Common Name: Waste soil contaminated with volatile organics

Section 1 – Generator & Customer Information

Generator EPA ID # VA5170000181
Generator NAVFAC MIDLANT
Facility Address Site 2 RA St. Julien's Creek Annex
City Chesapeake State VA Zip 23323
24-hour Emergency Response Number

Mailing Address 9742 Maryland Avenue
City Norfolk State VA Zip 23511
Generator Contact Krista Parra
Title Remedial Project Manager
Phone 757-341-0395 Fax
E-mail krista.parra@navy.mil

Internal Use Only: EQ Division
EQ Customer No.
Invoicing Company Clearfield MMG, Inc.
Address PO Box 1444
City Chesapeake State VA Zip 23327
Country US
Invoicing Contact June Fusco
Phone 757-549-8448 Fax 757-549-6668
Technical Contact Chuck Harrell
Phone 757-549-8448 Fax 757-549-6668
Cell Phone 757-620-7057
E-mail charrell@clearfieldmmg.com

Section 2 – Shipping & Packaging Information

2.1) Shipping Volume & Frequency:
a) Volume of Waste to be Shipped: ~12 CY
b) Frequency: ☒ One time ☐ Month ☐ Year ☐ Other:

2.2) DOT Information
a) Is this a U.S. Department of Transportation (USDOT) Hazardous Material? ☒ Yes ☐ No
b) If "Yes", indicate the proper shipping name per 49CFR 172.101 Hazardous Materials Table:
NA3077 Hazardous Waste Solid, N.O.S. (Trichloroethylene), 9, III

Section 3 – Special Properties

3.1) Color Brown
3.2) Odor ☐ None ☐ Ammonia ☐ Amines ☐ Mercaptans ☐ Sulfur ☐ Organic Acid ☐ Amines/Ammonia
☒ Other: Odor varies from earth to slight solvent
3.3) Consistency at 70°F: ☒ Solid ☐ Dust/Powder ☒ Debris ☐ Sludge ☐ Liquid ☐ Gas/Aerosol ☐ Varies
3.4) What is the pH? ☐ ≤2 ☐ 2.1-4.9 ☒ 5 – 10 ☐ 10.1 – 12.4 ☐ ≥12.5 ☐ N/A
3.5) What is the flash point? ☐ <90°F ☐ 90-139°F ☐ 140-199°F ☐ >200°F ☒ N/A

CSV-FM-001-COR © EQ-The Environmental Quality Company Page 1 of 4 12/12

3.6) Does this waste exhibit any of the following properties? **(check all that apply)**

☒ **None**	☐ Free Liquids	☐ Metal Fines	☐ Water Reactive	☐ Biohazard
☐ Shock Sensitive	☐ Oily Residue	☐ Dioxins	☐ Furans	☐ Aluminum
☐ Asbestos – non-friable	☐ Asbestos – friable	☐ Other Radioactive	☐ Air Reactive	☐ Isocyanates
☐ Biodegradable Sorbents	☐ Pyrophoric	☐ Reactive Sulfide	☐ Reactive Cyanide	☐ Explosives
☐ Temperature Controlled Organic Peroxide		☐ NORM	☐ TENORM	

☐ Temperature Controlled Organic Peroxide ☐ NORM ☐ TENORM

Section 4 – Composition and Generating Process

4.1) Provide a physical and chemical composition of the waste (e.g. soil, water, PPE, debris, etc.). List the percent ranges of the material, either estimated or known.

Soil	60 to 100 %	to	%	
Debris (PPE)	0 to 40 %		to	%
	to %		to	%

4.2) Provide a description of the generating process. *Remediation & IDW Sites: please provide a site history.*
Remedial action construction activities at Site 2 consisting of placing a cover of clean fill material over Site 2, redirection of storm water system, installing monitoring wells, and installing injection wells. Site 2 is a former waste disposal area at the intersection of St. Juliens Road and Craddock Street on St. Juliens Creek Annex. Please see Attachment 1 for COCs.

4.3) Are there any known previous handling or treatment issues involving this waste? ☐ Yes* ☒ No
*If yes, describe:

Section 5 – Hazardous Wastes

As determined by 40 CFR, Part 261 and State Rules: **Please list applicable waste code(s):**

5.1) Is this waste exempted from RCRA? ☐ Yes, please provide exemption: ☒ No

5.2) Is this an EPA RCRA listed hazardous waste (F, K, P or U)? ☐ Yes: ☒ No
a) For F006–F009, F012, does this come from a generator that conducts a cyanide plating process? ☐ Yes ☒ No

5.3) Is this an EPA RCRA characteristic hazardous waste (D001-D043)? ☒ Yes:D040 ☐ No

5.4) Do any State Specific Hazardous Waste Codes apply? ☐ Yes: ☒ No

If you answered 'no' to 5.2, 5.3 and 5.4, please proceed to Section 6.

5.5) EPA Source Code: EPA Form Code:

5.6) Waste Code Determination Is Based On: ☒ Generator Knowledge ☒ Analysis ☐ MSDS
Analysis and/or MSDS may be required for review and approval for hazardous and non-hazardous waste streams.

5.7) Does this waste exceed Land Disposal Restriction levels? ☒ Yes ☐ No

a) Is this stream a wastewater (WW) or non-wastewater (NWW)? ☐ WW ☒ NWW
b) If this waste stream is greater than 50% soil, does it meet the alternative soil treatment standards of 40CFR 268.49? ☒ Yes ☐ No
c) Does this waste contain greater than 50% debris, by volume? (Debris is greater than 2.5 inches in size.) ☐ Yes ☒ No
d) If the debris is larger than 3 ft x 3 ft x 3 ft, please provide the approximate dimensions and weight:

5.8) If this is a characteristic hazardous waste, does it contain Underlying Hazardous Constituents? ☒ Yes* ☐ No

*If Yes, please list: Vinyl Chloride 0.0092 mg/l
For a complete list of UHC constituents, please refer to 40 CFR 268.48

WASTE MANIFESTS

- Disposal
  - > Permanently containing hazardous wastes in a landfill or SWMU
  - > Facilities are designed to protect groundwater and surface water
- Treatment
  - > Alter the character or composition of hazardous wastes (Incineration or oxidation).
  - > Reduces Waste, can create recyclable byproducts
- Storage

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	VA5170000181	1	1-855-302-6565	000808495WAS

5. Generator's Name and Mailing Address
NAVFAC MIDLANT
9324 VIRGINIA AVENUE LP-24 ,NORFOLK, VA 23511
Generator's Phone: (757) 549-8448

Generator's Site Address (if different than mailing address)
Site 2 St. Juliens Creek Annex
CHESAPEAKE ,VA 23323
CHUCK HARRELL (757) 549-8448

6. Transporter 1 Company Name
CLEARFIELD MMG
U.S. EPA ID Number: VAR000525089

7. Transporter 2 Company Name
ECOFLO, INC
U.S. EPA ID Number: NCD980842132

8. Designated Facility Name and Site Address
ECOFLO, INC
2750 PATTERSON STREET GREENSBORO ,NC 27407
Facility's Phone: 336 855-7925
U.S. EPA ID Number: NCD980842132

GENERATOR

8a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1 RQ,NA3082,HAZARDOUS WASTE, LIQUID, N.O.S.,(TRICHLOROETHYLENE),9,III, (D040),ERG#171 322AAK-007	022	DM	4,200	P	D029	D040	D043
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1) 1108-11972
(22x55OM)
WO# 184081

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: PATRICK SEAN MCCLATCHEY
Signature:
Month: 03 Day: 21 Year: 17

INTL

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TER

17. Transporter Acknowledgment of Receipt of Materials

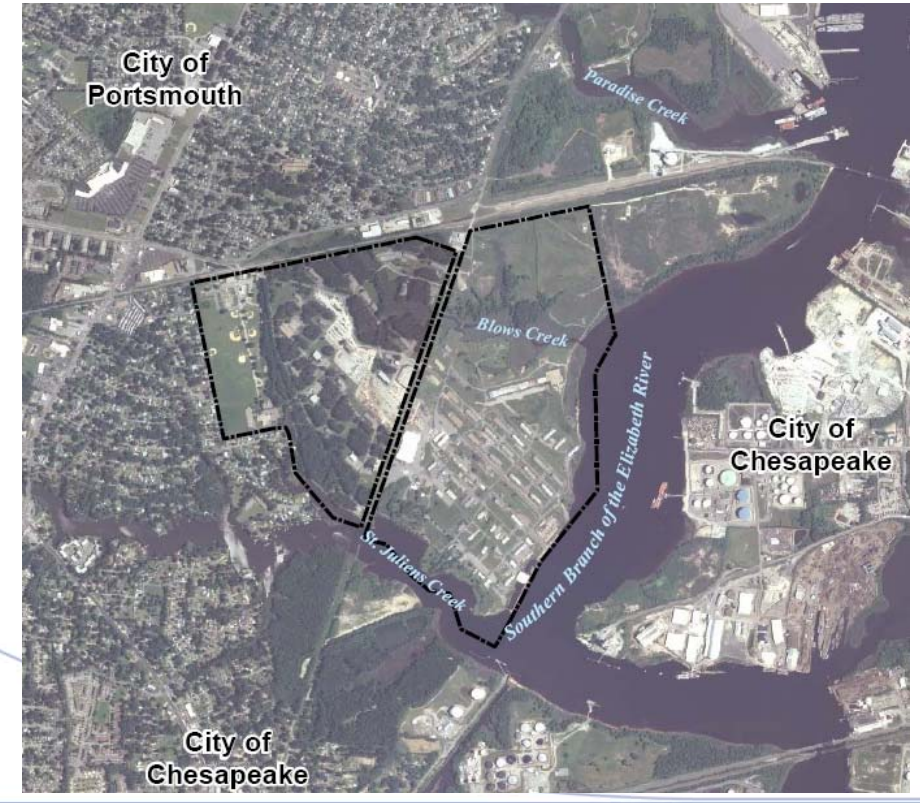
TRANSPORTATION

QUESTIONS

Madison Witte
Madison.Witte@aptim.com
757 640 6965

Expect the Extraordinary.

St. Juliens Creek Annex Fiscal Year 2019 Goals

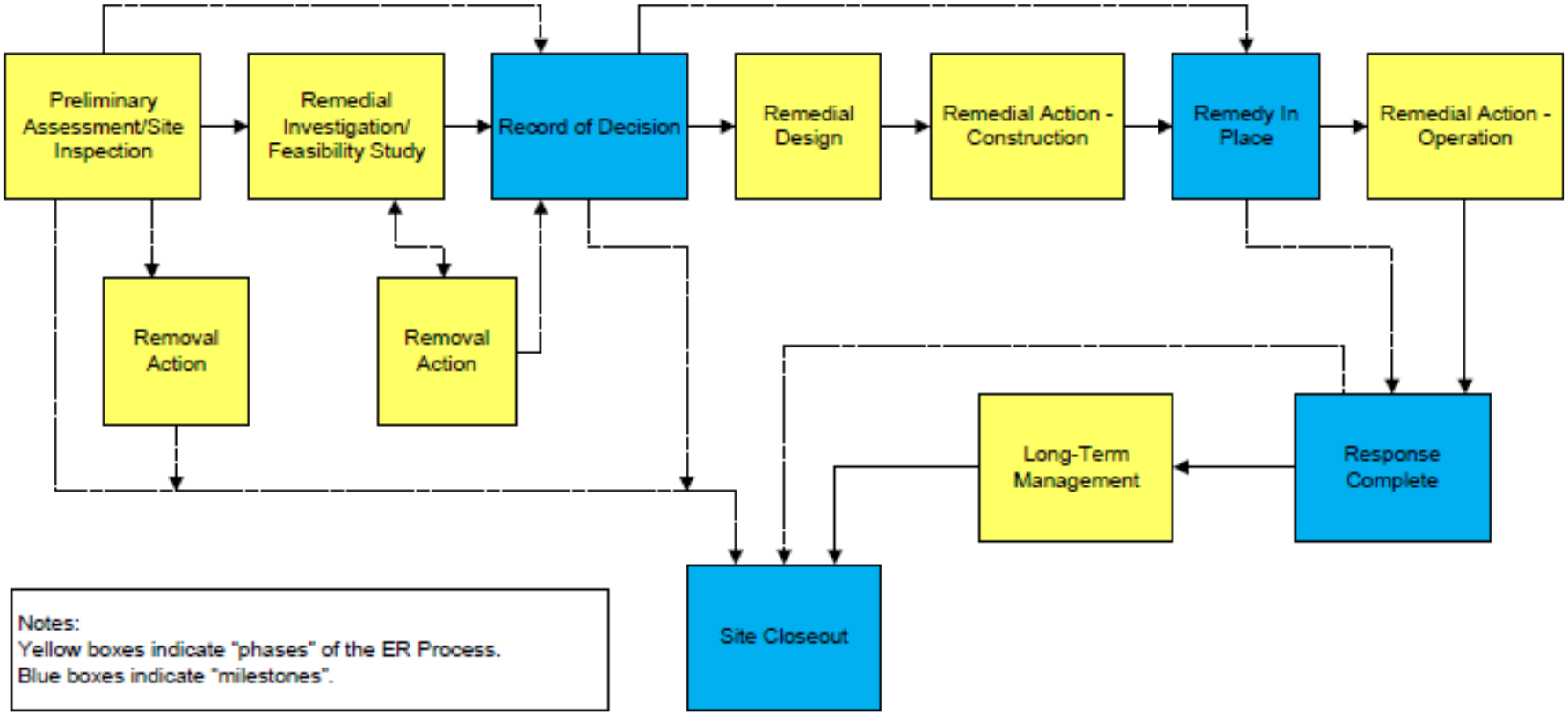


St. Juliens Creek Annex
RAB Meeting
November 14, 2018

Purpose

- Provide an overview of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process
- Provide an update on the St. Juliens Creek Annex (SJCA) Environmental Restoration Program (ERP) sites and Fiscal Year (FY) 2019 Goals
- Highlight FY 2018 Successes
- Solicit questions or comments

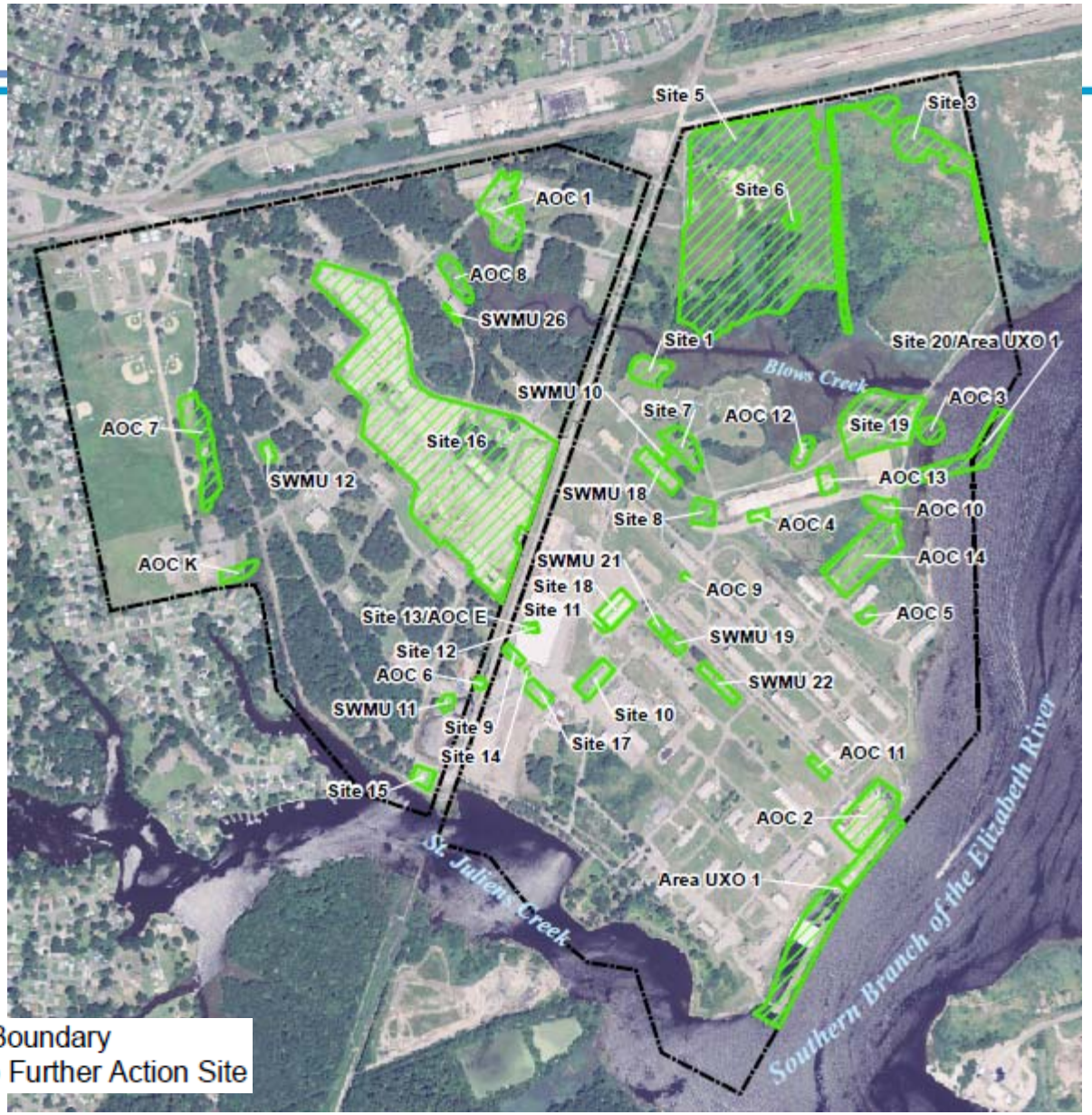
CERCLA Process



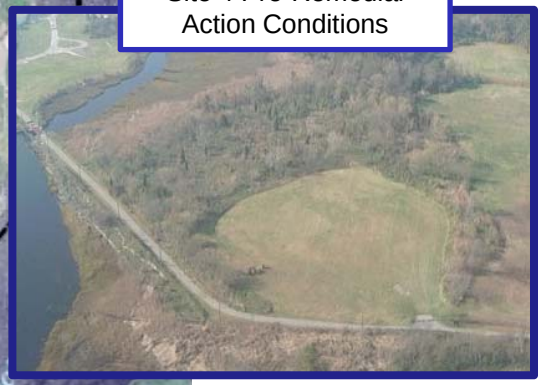
St. Juliens Creek Annex Goals

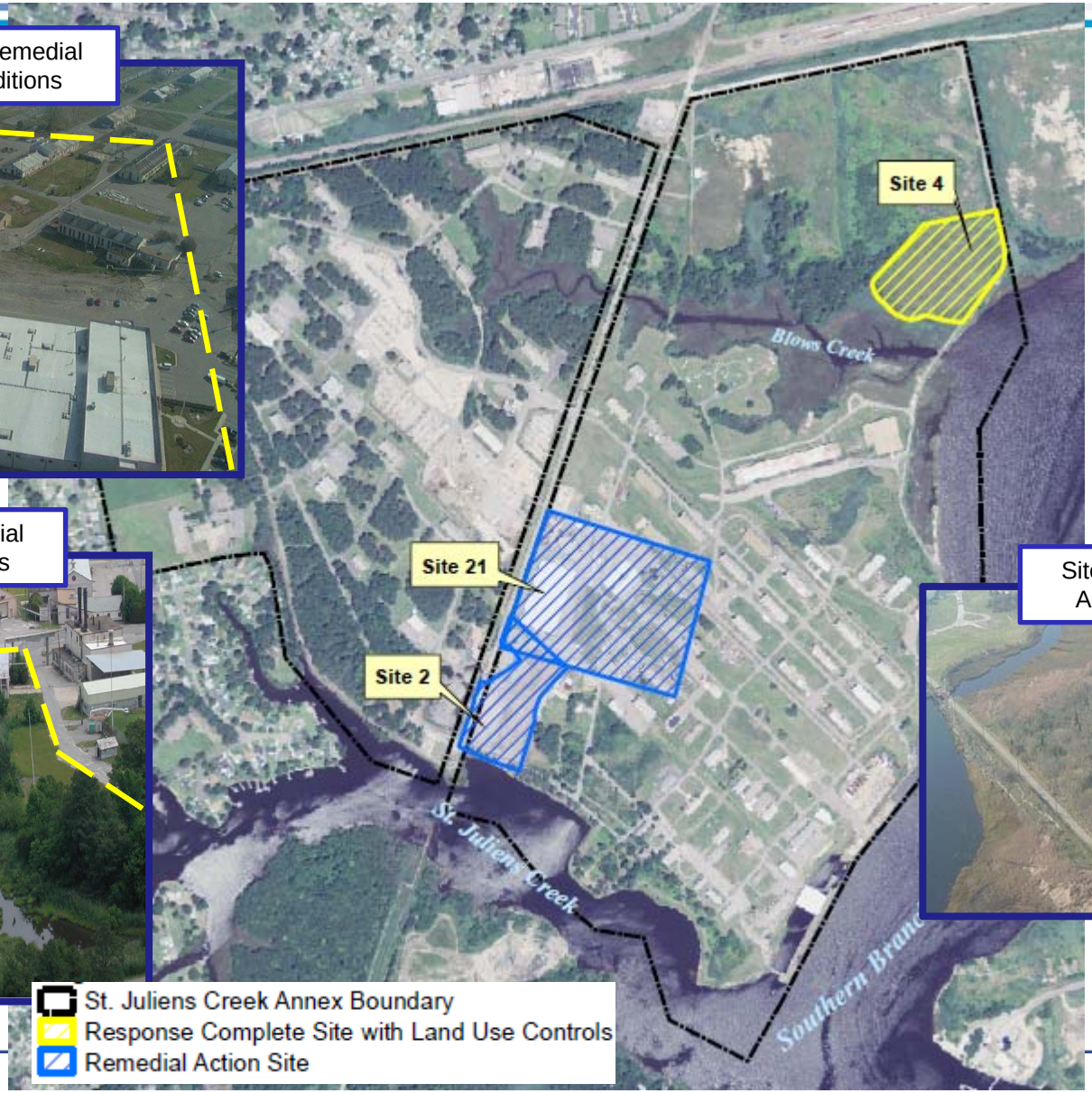
- Established yearly by Fiscal Year (FY)
  - FY 2019 began October 1, 2018 and ends September 30, 2019
- Serves as a budgeting tool for allocating funding
- Prioritizes sites to be investigated and remediated based on potential risk to human health and the environment
- Keeps remediation projects on schedule

56 No Further Action Sites!



3 Sites Currently Active





Site 2: Waste Disposal Area B

- Background:
  - –Unlined waste disposal area operated from 1921 to 1942

Media	Environmental Concern	Record of Decision Selected Remedial Action
Shallow aquifer groundwater	Chlorinated solvents, one polychlorinated biphenyl (PCB), one pesticide	Primary: Enhanced reductive dechlorination, monitored natural attenuation, and land use controls Contingency: Permeable reactive barrier
Surface water	Chlorinated solvents and metals	Cover (eliminates site surface water)
Soil	Waste, polycyclic aromatic hydrocarbons (PAHs), pesticides, PCBs, and metals	Cover and land use controls
Sediment (within site)	PAHs, pesticides, PCBs, and metals	Cover and land use controls
Sediment (within St. Juliens Creek at culvert outfall)	PAHs, pesticides, PCBs, and metals	Excavation and off-site disposal

  - –Remedial Action–Construction phase completed in 2014

Site 2: Waste Disposal Area B

- Status: Remedial Action-Operation Phase
  - –Remedial Action-Operation activities:
    - Bi-annual groundwater monitoring
    - Additional emulsified vegetable oil injections
    - Land use controls maintenance
    - Compensatory mitigation wetland monitoring
  - –Five-Year Reviews
    - First review completed May 2015
      - –Concluded the remedy is protective in the short-term and identified the following issues that needed to be addressed to ensure long-term protectiveness:
        - » Cleanup level for naphthalene in groundwater was not protective of potential future use. **(addressed in FY17)**
        - » Emerging contaminants perchlorate & 1,4-dioxane potentially present in groundwater but not evaluated. **(addressed in FY17)**
        - » Groundwater data was not yet available to determine if the remedy was functioning **(addressed in FY17)**

Remedial Action-Operation groundwater monitoring

Compensatory mitigation wetland

Site 2: Waste Disposal Area B

- FY 2019 Goals:
  - Annual Land Use Controls Inspection
  - Annual Land Use Controls Inspection Report
  - Remedial Action-Operation Groundwater Monitoring Event 6 Report
  - Final Site 2 Soil Cover Maintenance Report
  - Draft Round 3 Injections Work Plan
  - Conduct Round 3 Injections

Site 4: Landfill D

- Background
  - Sanitary landfill operated from 1970 to 1981

Media	Environmental Concern	Record of Decision Selected Remedial Action
Soil	Waste, PAHs, PCBs, and metals	Cover & land use controls
Sediment (drainage ditch)	Metal (mercury)	Excavation and off-site disposal

  - Remedial Action completed in 2005

Site 4: Landfill D

- Status: Response Complete Phase
  - Land use controls maintenance
  - Five-Year Reviews
    - Second review completed May 2015
      - Concluded the remedy is protective
- FY 2019 Goals:
  - Annual Land Use Controls Inspection
  - Annual Land Use Controls Inspection Report
  - Five-Year Review Groundwater Sampling and Analysis Plan

Site 21: Industrial Area

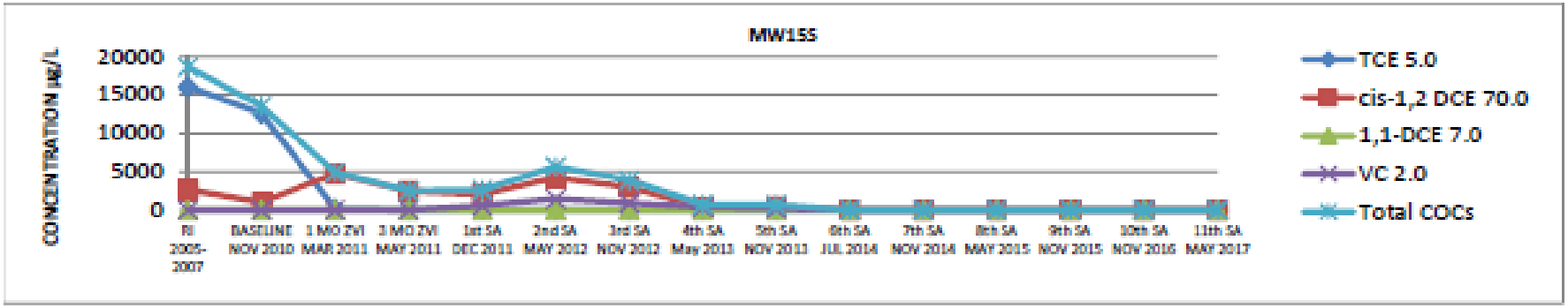
- Background:
  - –Industrial area
    - Buildings historically used as maintenance and electrical shops and munitions loading facilities; and outdoor areas used for equipment and chemical storage
    - Fuel service station (no longer present)

Media	Environmental Concern	Record of Decision Selected Remedy
Shallow aquifer groundwater	Chlorinated solvents	In situ chemical reduction, enhanced reductive dechlorination, land use controls

    - Remedial Action-Construction completed in 2011

Site 21: Industrial Area

- Status: RA-Operation Phase
  - RA-Operation activities consisting of:
    - Bi-annual groundwater, storm water, and vapor intrusion monitoring
    - Land use controls maintenance
    - Additional emulsified vegetable oil injections



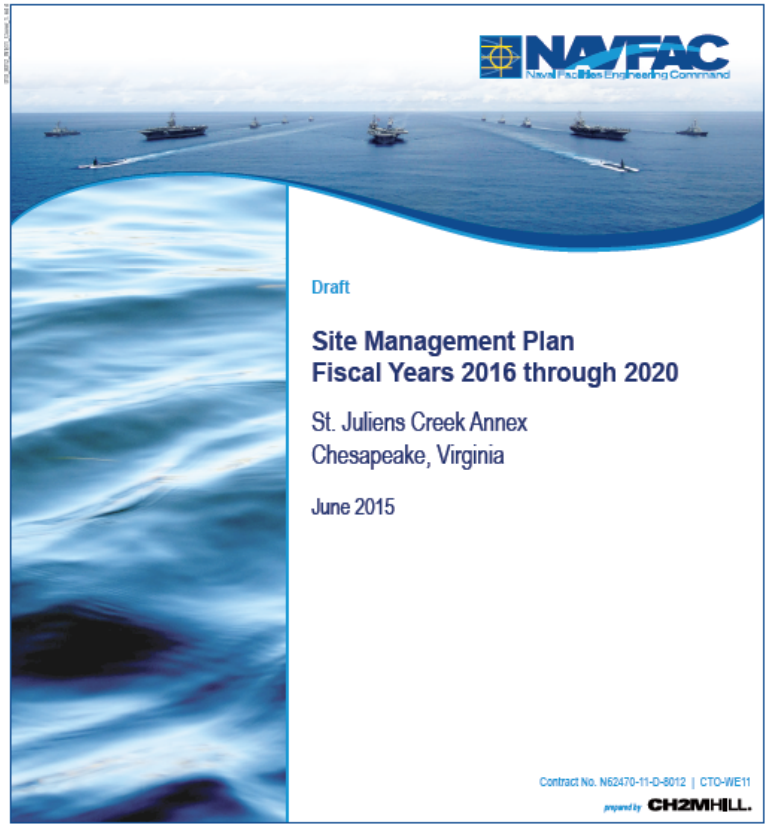
  - Five-Year Reviews
    - First review completed May 2015;
      - Concluded the remedy is protective in the short-term and identified the following issue needed to be addressed to ensure long-term protectiveness:
        - » Emerging contaminants perchlorate & 1,4-dioxane potentially present in groundwater but not evaluated. **(addressed in FY17)**

Site 21: Industrial Area

- FY 2019 Goals:
  - Annual Land Use Controls Inspection
  - Annual Land Use Controls Inspection Report
  - Remedial Action-Operation Groundwater and Storm Water Monitoring Event 14 Report
  - Remedial Action-Operation Vapor Intrusion Monitoring Event 14 Report

Facility-wide FY 2019 Goals

- Draft FY2020 through FY2024 Site Management Plan Update
- Final Per- and Polyfluoroalkyl Substances (PFAS) Preliminary Assessment Report
- Final Community Involvement Plan



FY 2018 Successes

- **Site 2 Compensatory Wetlands Monitoring**
  - –Finalized Work Plan
  - –Conducted the FY18 Monitoring event; results indicated the wetland was healthy and functioning as intended
- **Site 21 Vapor Intrusion**
  - –Completed and finalized the report documenting the investigation at Building 54, which was a previously unoccupied building that was added to the monitoring program as a result in a change of use for the building (from unoccupied to occupied)
- **RAB:**
  - –Good attendance (new attendees at Site Visit in May)
  - –Revised the Site 2 soil cover seed mixture to include vegetation that promotes butterfly populations (specifically the monarch butterfly) based on a community suggestion

Questions/Comments?

St. Juliens Creek Annex
Third Five-Year Review and
Community Involvement Plan Update

St. Juliens Creek Annex RAB Meeting

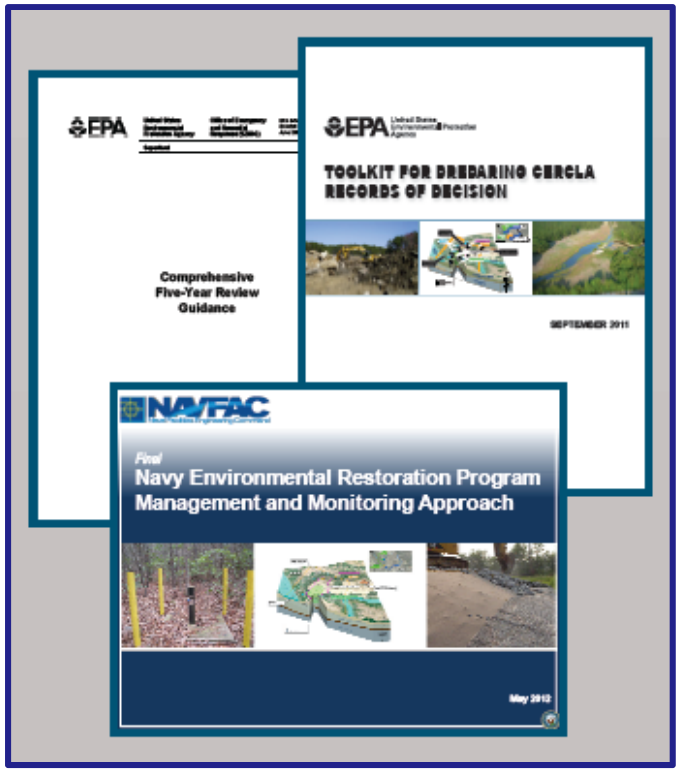
November 14, 2018

Objectives

- Explain the purpose and process of the Five-Year Review
- Explain the purpose and process of the Community Involvement Plan
- Review path forward
- Answer questions

Five-Year Review Purpose

- **Required under the Comprehensive Environmental Response Compensation Liability Act (CERCLA) when remedial actions result in any hazardous substances, pollutants, or contaminants remaining at a site**
  - –Example: The remedy for a site is construction of a soil cover over a landfill
  - –First Five-Year Review is required five years after the first remedial action is initiated at a facility
    - First Five-Year Review for St. Juliens Creek Annex was completed in 2010 (following initiation of the remedial action at Site 4)
- **Objective is to determine if the selected remedy remains protective of human health and the environment**
  - –If it is determined that the remedy is no longer protective, the remedy may be modified



Five-Year Review Purpose

- **Five-Year Reviews should identify the following for each site reviewed:**
  - –Any issues that currently prevent the remedy from being protective or may do so in the future
  - –Recommendations and follow-up actions to address any issues identified
  - –Determination of protectiveness of human health and the environment, from one of the following options:
    - Protective
    - Will be protective once the remedy is complete
    - Protective in the short-term; however, in order for the remedy to be protective in the long-term, follow-up actions need to be taken
    - Not protective, unless the following action(s) are taken in order to ensure protectiveness
    - Protectiveness cannot be determined until additional information is obtained

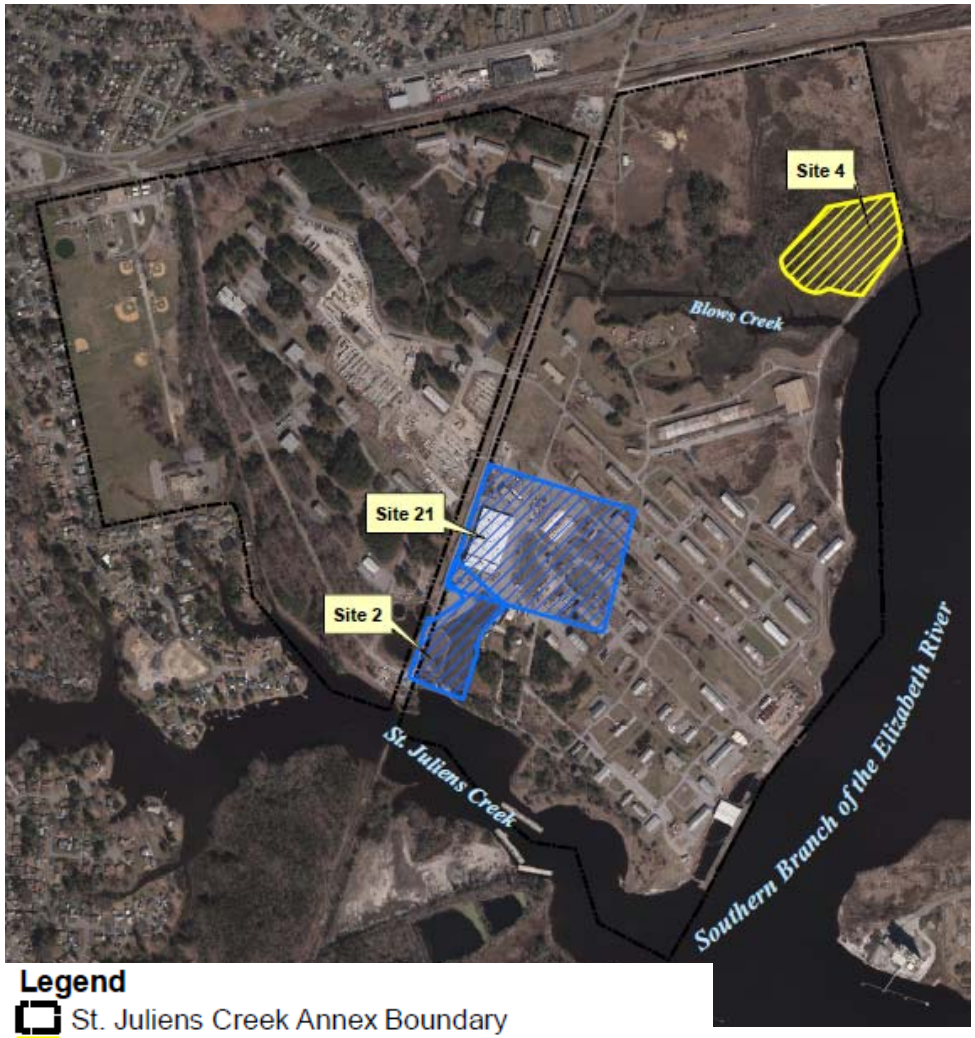
Five-Year Review Process

- Identify sites where remedial actions resulted in waste remaining in place
- Evaluate protectiveness of human health and the environment
  - –Review requirements in Decision Documents (e.g., Record of Decisions)
  - –Review post remedy documents and findings
  - –Conduct site inspections
- Involve community
  - –Place notice in local newspaper
  - –Notify RAB at meetings
- Develop report
  - –Present protectiveness evaluation
  - –Present potential issues, recommendations, and follow-up actions
  - –Summarize protectiveness determinations

Five-Year Review Process

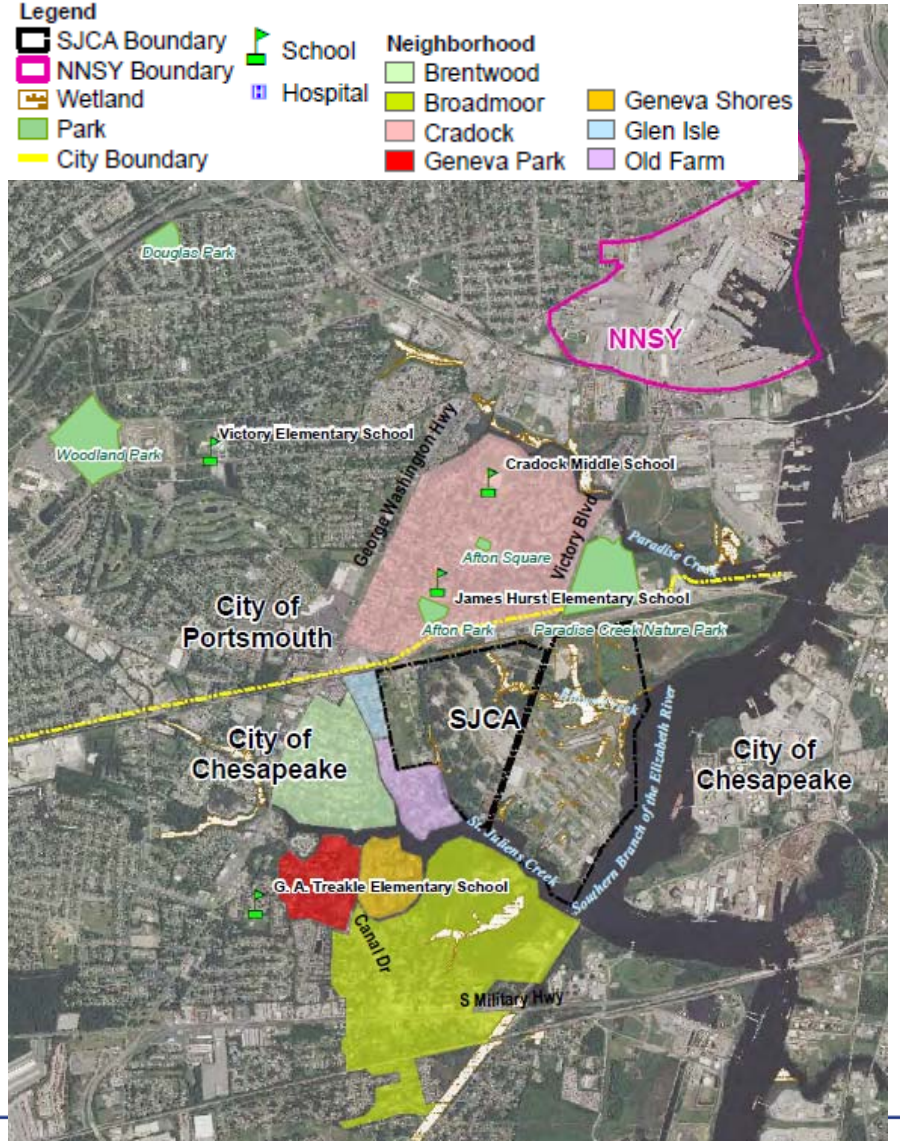
Identification of Sites Requiring Review

- Site 2 – Waste Disposal Area B
  - –Action ROD, remedial action ongoing to address contaminants remaining on site; left waste in place
  - –**Five-Year Review required**
- Site 4 – Landfill D
  - –Action ROD, remedial action completed; left waste in place
  - –**Five-Year Review required**
- Site 21 – Industrial Area
  - –Action ROD, remedial action ongoing to address contaminants remaining on site
  - –**Five-Year Review required**



Community Involvement Plan Purpose

- **Goal of the community involvement program = Advocate and strengthen early and meaningful community participation during Superfund cleanups**
- **Community involvement program is implemented through the Community Involvement Plan**



Community Involvement Plan Purpose

- **Community Involvement Plan**
  - –Presents the facility-specific strategy to enable meaningful community involvement throughout the Superfund cleanup process
  - –Specifies the community involvement activities that will be taken to address community needs, concerns, and expectations
  - –Serves as a useful reference that the SJCA Partnering Team turns to during the Superfund process for advice on appropriate activities for community involvement
  - –Enables community members to understand the ways in which they can participate in decision making throughout the cleanup process

Community Involvement Plan Process

- **Update the Community Involvement Plan**
  - The Community Involvement Plan will be updated to identify community concerns and detail community involvement activities that will be conducted to encourage continued public participation in the ERP at SJCA
    - The plan will be made available in the information repository, Administrative Record, and on the SJCA ERP public Web site
  - In accordance with Superfund, an update of the Community Involvement Plan will be considered:
    - After a ROD is signed
    - If significant community concerns are discovered that pertain to the Remedial Design and construction phase
    - As appropriate when there is a major change in the ERP at SJCA
    - Otherwise, the plan will be updated every 5 years, or until SJCA is de-listed from the National Priorities List.

Overview of Path Forward

- **The Navy is preparing to start the Five-Year Review and Community Involvement Plan Updates**
  - –Public notices will be placed in the newspaper when the Five-Year Review is initiated
- **Five-Year Review**
  - –The first Five-Year Review was completed in 2010, following initiation of the remedial action at Site 4
  - –The second Five-Year Review was finalized in 2015
  - –This will be the Third Five-Year Review, and will be finalized in 2020
- **Community Involvement Plan Update**
  - –The Community Relations Plan (now called Community Involvement Plan) was first completed in 2000
  - –Updates were completed in 2005, 2010, and 2015
  - –This will be the fifth update

Overview of Path Forward

- **After the Five-Year Review and Community Involvement Plan are finalized, they will be available for review at:**
  - –St. Juliens Creek Annex Information Repository in Major Hillard Library
  - –St. Juliens Creek Annex Environmental Restoration Program public web site: http://go.usa.gov/Dyn4

- **Questions regarding the Five-Year Review or Community Involvement Plan can be addressed to:**

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Questions/Comments?