

Air Force Installation & Mission Support Center



Proposed Plan

Van Etten Lake at Ken Ratliff Memorial Park Interim Remedial Action

31 Aug 2021
AFCEC/CIB



Former Wurtsmith AFB Virtual Meeting Guidelines



- Please mute your microphone unless you are speaking
- Please do not interrupt while others are speaking
- Please hold all questions until the presentation is complete
- There will be a question and answer session after the presentation
- Formal comments and questions will be taken after the Q&A session. Answers will not be given during the public meeting.
- A court reporter will be generating an official transcript of the entire meeting and will capture oral comments provided during the public comment portion of the meeting



Van Etten Lake at Ken Ratliff Memorial Park IRA

■ Agenda

- Introductions
- Interim remedial action (IRA) Background
- Proposed Plan Important Dates
- Proposed Plan
- Summary of Alternatives
- Preferred Alternative
- Question & Answers with the Air Force
- Formal Public Comments



Van Etten Lake at Ken Ratliff Memorial Park IRA

■ Why an interim remedial action (IRA)?

- To reduce the volume of PFOS and PFOA-impacted groundwater entering Van Etten Lake at Ken Ratliff Memorial Park
- The preferred alternative will build on the success of the Central Treatment System (CTS) while continuing to determine the nature and extent of the groundwater plume
- This is an interim action, being conducted before the remedial investigation (RI) and feasibility study (FS) have been completed



Van Etten Lake at Ken Ratliff Memorial Park IRA

■ IRA Process





Van Etten Lake at Ken Ratliff Memorial Park PP Important Dates

- **The Proposed Plan is available for review at:**

- <https://ar.afcec-cloud.af.mil>

- **Robert J. Parks Public Library**

6010 Skeel Avenue

Oscoda, Michigan 48750

Phone (989) 739-9581

Hours: Mon – Tues 9 am to 5 pm,

Wed – Thurs 9 am to 7 pm,

Fri – Sat 9 am to 2 pm,

Closed Sunday

- **The 30-day public comment period is August 4 through September 3, 2021**



Van Etten Lake at Ken Ratliff Memorial Park Proposed Plan

Important Dates

■ Proposed Plan Comments

- The Air Force will accept written comments on the Proposed Plan during the Public Comment Period: **Aug 4 – Sept 3, 2021.**
- Comment letters must be postmarked by September 3, 2021, and should be submitted to:
 - Dr. Catharine Varley
BRAC Environmental Coordinator
Air Force Civil Engineer Center
2261 Hughes Avenue, Suite 155
JBSA Lackland, TX 78236
- Comments may be submitted via email to: catharine.varley.1@us.af.mil



Van Etten Lake at Ken Ratliff Memorial Park Proposed Plan

■ The Proposed Plan

- Presents background information and rationale for the IRA.
- Explains the remedial alternatives considered by the Air Force.
- Presents the Air Force preferred alternative.
- Explains how the public can participate in the decision-making process.



Van Etten Lake at Ken Ratliff Memorial Park Proposed Plan

■ Background

- Located in the central and eastern portions of the former base
- The Base Operation Apron (AFFF Area 1) served as an aircraft apron where aircraft refueling, maintenance, and cleaning activities were conducted
- Three fire stations were located at the Base Operation Apron, and fire trucks were washed both inside and outside of the buildings
- Weekly AFFF calibration was reportedly conducted at the northeastern edge of the apron



Van Etten Lake at Ken Ratliff Memorial Park Proposed Plan

■ Background

- Site SS071 (AFFF Area 15) is a septic field associated with Building 5045 that housed a jet engine test cell
- An unconfirmed release of jet fuel to the septic field was reported in 1993
- AFFF containing PFAS could have been used when the jet fuel was released to minimize fire dangers
- PFOS and PFOA concentrations in groundwater at the Base Operations Apron and SS071 exceed EGLE Rule 299.44 Table 1 generic cleanup criteria

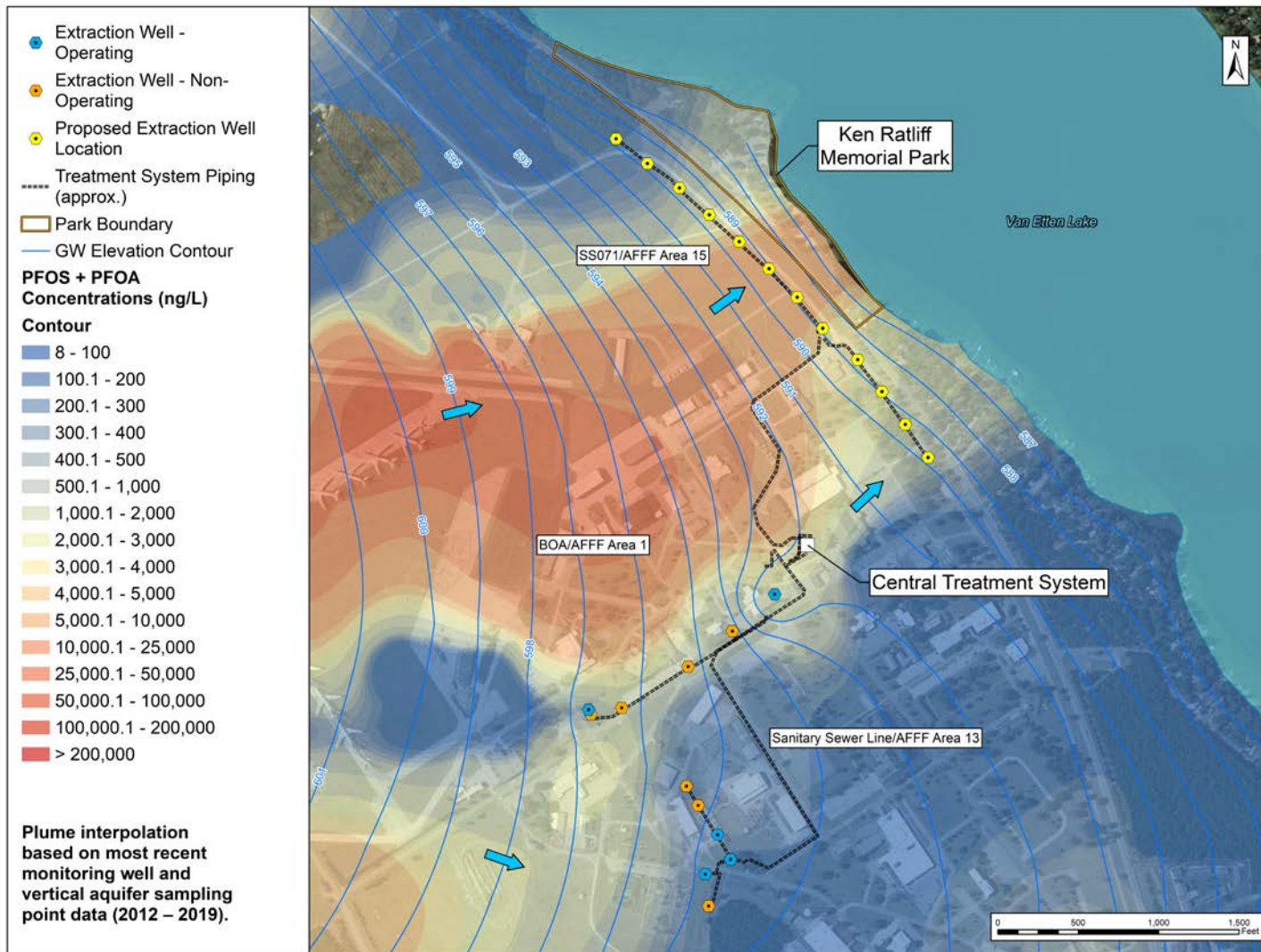


Van Etten Lake at Ken Ratliff Memorial Park Proposed Plan



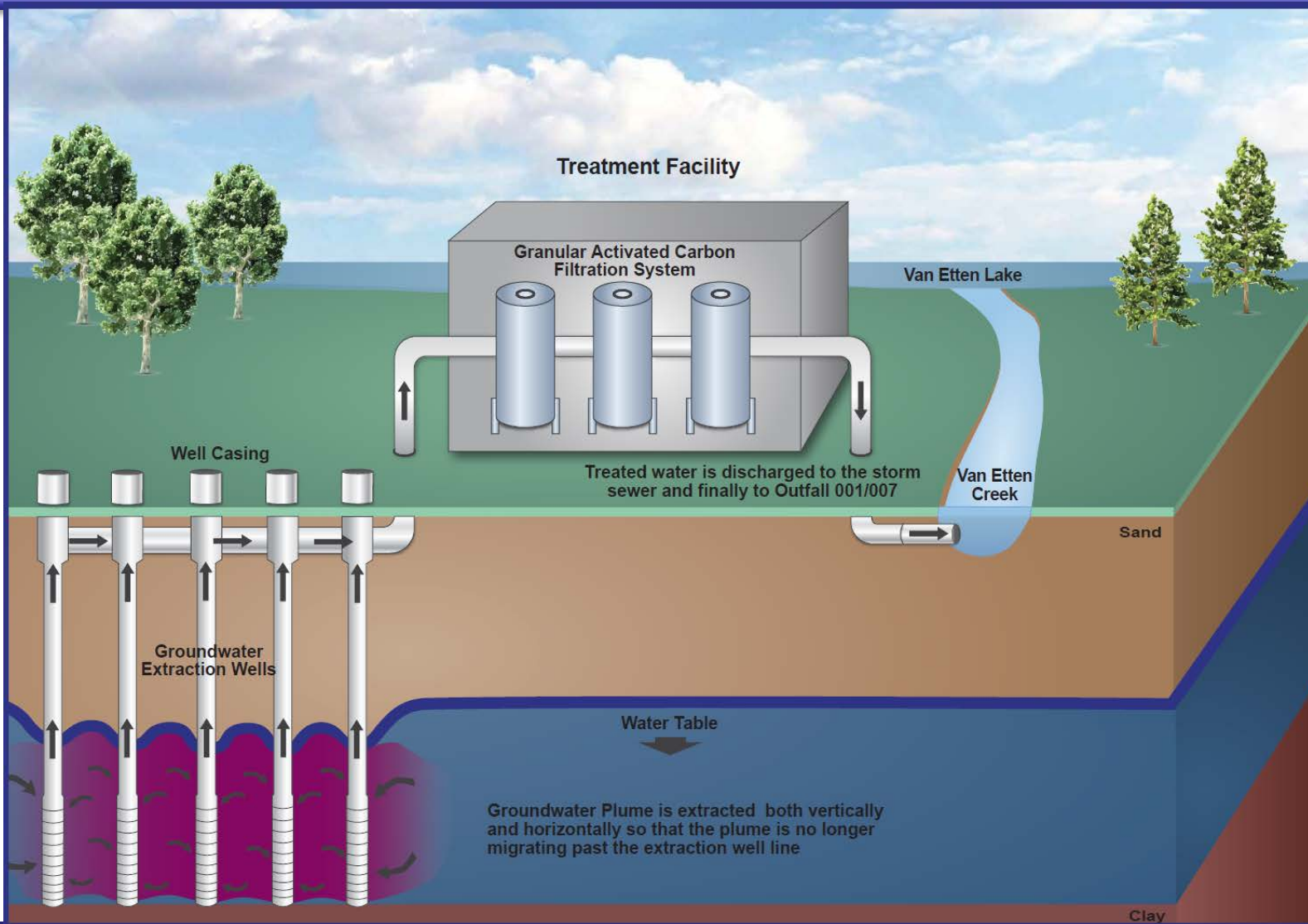


Van Etten Lake at Ken Ratliff Memorial Park Proposed Plan





Conceptual Hydraulic Control System





Van Etten Lake at Ken Ratliff Memorial Park Proposed Plan

■ Background

■ Existing CTS Pump and Treat System

- The existing CTS is a granular activated carbon (GAC) treatment system that was constructed to comply with the maximum discharge limits for PFOS and PFOA in groundwater pumped from the Arrow Street Pump and Treat System and Benzene Pump and Treat System well fields
- The existing CTS became operational on 31 August 2018
- Groundwater is pumped from five extraction wells at approximately 200-250 gallons per minute (gpm)
- Extracted groundwater is treated by GAC adsorption before being discharged to the storm sewer and finally to Outfall 001/007



Van Etten Lake at Ken Ratliff Memorial Park Proposed Plan

- **The Interim Remedial Action Objective (RAO)**
 - Hydraulically control the migration of PFOS and PFOA contaminated groundwater into Van Etten Lake at Ken Ratliff Memorial Park by extracting contaminated groundwater and treating it at the expanded CTS.
- **The Interim Remedial Action Alternatives Evaluated for the IRA Included:**
 1. No Action
 2. Hydraulic Control Using Pump and Treat with Ion Exchange (IX) Resin
 3. Hydraulic Control Using Pump and Treat with GAC



Van Etten Lake at Ken Ratliff Memorial Park Proposed Plan

■ Interim Remedial Action Alternatives

■ No Action (evaluation required by National Oil and Hazardous Substances Pollution Contingency Plan [NCP])

- The baseline against which all other alternatives are compared
- No actions are taken, including monitoring
- Estimated cost is \$0.00



Van Etten Lake at Ken Ratliff Memorial Park Proposed Plan

■ Interim Remedial Action Alternatives

■ Hydraulic Control Using Pump and Treat with Ion Exchange Resin

- Provides hydraulic control by installing 12 new extraction wells
- Uses ion exchange resin to treat extracted groundwater
- The ion exchange treatment system would be sized to treat 500 gpm
- The ion exchange treatment system would be installed in the existing CTS building
- The CTS building footprint would be expanded to accommodate additional treatment components such as a filter press to dewater solids and reduce solid waste for off-site disposal
- Existing GAC system would continue to operate
- **Estimated total 30-year cost including operation and maintenance is \$15,464,104**



Van Etten Lake at Ken Ratliff Memorial Park Proposed Plan

■ Interim Remedial Action Alternatives

■ Hydraulic Control Using Pump and Treat with GAC

- Provides hydraulic control by installing 12 new extraction wells
- Uses GAC to treat extracted groundwater
- The GAC treatment system would be sized to treat 500 gpm
- The GAC treatment system would be installed in the existing CTS building
- The CTS building footprint would be expanded to accommodate additional treatment components such as a filter press to reduce solids volume
- Existing GAC system would continue to operate
- **Estimated 30-year cost including operation and maintenance is \$13,115,296**



Van Etten Lake at Ken Ratliff Memorial Park Proposed Plan

- **Interim Remedial Action Alternatives were Evaluated Against Nine NCP Criteria**
 1. Overall protectiveness of human health and the environment
 2. Compliance with ARARs
 3. Long-term effectiveness
 4. Reduction of toxicity, mobility, or volume through treatment
 5. Short-term effectiveness
 6. Implementability
 7. Cost
 8. Support agency acceptance
 9. Community acceptance



Van Etten Lake at Ken Ratliff Memorial Park Proposed Plan

■ Interim Remedial Action Alternative Analysis

Remedial Alternative	1. No Action	2. Pump and Treat with Ion Exchange Resin	3. Pump and Treat with GAC	Notes
1. Protective of human health & the environment	No	Yes	Yes	#2 and #3 would hydraulically control migration of PFOS and PFOA into Van Etten Lake at Ken Ratliff Memorial Park
2. Complies with ARARs	N/A	Yes	Yes	#2 and #3 would meet SRD discharge limits
3. Long-term effectiveness	No	Yes	Yes	#2 and #3 are effective in the long-term with routine O&M of system components
4. Reduction of toxicity, mobility, or volume through treatment	No	Yes	Yes	#2 and #3 would reduce mobility via hydraulic control and adsorption and ion exchange
5. Short-term effectiveness	No	Yes	Yes	#2 and #3 would not adversely affect workers or nearby residents, impacts to the environment would be mitigated
6. Implementability	Yes	Yes	Yes	All alternatives are implementable
7. Cost	\$0.00	\$15,464,104	\$13,115,296	
8. Support agency acceptance	No	Yes	Yes	EGLE has reviewed the proposed plan and supports the preferred alternative.
9. Community acceptance	TBD	TBD	TBD	Will be based on comments received during the comment period

SRD = Substantive Requirements Document

O&M = operation and maintenance

N/A = not applicable

TBD = to be determined



Van Etten Lake at Ken Ratliff Memorial Park Proposed Plan

- **The Air Force preferred **interim remedial action** is **Alternative 3 hydraulic control using pump and treat with GAC****
- meets the interim RAO of reducing the migration of PFOS and PFOA into Van Etten Lake at Ken Ratliff Memorial Park,
- is protective of human health and the environment,
- complies with ARARs,
- is effective in both the short- and long-term,
- reduces mobility through treatment
- is implementable, and
- is more cost-effective than Alternative 2



Van Etten Lake at Ken Ratliff Memorial Park Proposed Plan

■ The key elements of the interim remedial action include

- Installing 12 new groundwater extraction wells
- Constructing a well control building for routine sampling and operation of the extraction well field
- Installing a piping system for the conveyance of untreated groundwater to the CTS
- Expanding capacity by 100% by installing a new three-vessel GAC treatment system to treat the extracted groundwater
- Installing equalization, effluent, and settling tanks
- Expanding the CTS building to house filter press equipment
- Installing a filter press, mixing tanks, and other filter equipment to process settled solids and sludge
- Discharging treated effluent to the existing storm sewer



Van Etten Lake at Ken Ratliff Memorial Park Interim ROD

- **A written summary of significant comments and new relevant information submitted during the public comment period and the Air Force response will be in the responsiveness summary included in the Interim Record of Decision (ROD)**
- **The Interim ROD will be developed following the Proposed Plan public comment period**



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Questions & Air Force Responses

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Formal Public Comment

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