



# NAVAL AIR STATION JOINT RESERVE BASE (NAS JRB) WILLOW GROVE Restoration Advisory Board (RAB) Meeting Minutes

Meeting Date: December 2, 2020

Meeting Time: 6:00 p.m.

Meeting Place: WebEx Webinar

	<u>Name</u>	<u>Organization</u>
Panelist	Willington Lin (R)	Department of Navy (Navy) Base Realignment and Closure (BRAC) Program Management Office (PMO)
	Brian Helland (R)	Navy BRAC PMO
	Jennifer Good	Navy BRAC PMO
	Dave Barclift	Navy BRAC PMO
	Greg Preston	Navy BRAC PMO
	Jason Speicher	NAVFAC Atlantic
	Tricia Moore	Tetra Tech (Consultant to the Navy)
	Keith Freihofer	Air National Guard (ANG)
	Lee dePersia	ANG
	Matt Machusick	Leidos (Consultant to ANG)
	Timothy Runkle	Leidos
	Sarah Kloss (R)	Environmental Protection Agency (EPA) Region 3
	Deb Goldblum	EPA Region 3
	Rick Rogers	EPA Region 3
	Roger Reinhart	EPA Region 3
	Mark Leipert	EPA Region 3
	Kelly Rakus	EPA Region 3
	Leah Zedella	EPA Region 3
	Colin Wade (R)	Pennsylvania Department of Environmental Protection (PADEP) Southeast
	Thomas Magge	PADEP Southeast
	Susan Schrack Wood	Pennsylvania Department of Health (PADOH)
	Lora Werner	Agency for Toxic Substances and Disease Registry (ATSDR) Region 3
	Emily Adler	ATSDR
	Tara Wilson	Blum-Moore Reporting Services
Attendees	Joanne Stanton	Buxmont Coalition for Safe Water
	Kathleen Joyce	Congresswoman Dean's Office
	Rocco Mercuri	Gilmore and Associates
	Thomas Ames	Horsham Land Redevelopment Authority (HLRA)
	Larry Burns	HLRA

<u>Name</u>	<u>Organization</u>
Mike McGee	HLRA
Tina O'Rourke	Horsham Water and Sewer Authority
Theresa B.	Member of the public
Marc Kalman	Member of the public
C. Kohler	Member of the public
Joseph McGrath (R)	Member of the public and former employee
Carl Meixsell	Member of the public
Shellie	Member of the public
Kyle Schmeck	Montgomery County Health Department
Dawn DeFreitas	Navy BRAC PMO
Thuane Fielding	Navy BRAC PMO
Lawrence Lansdale	Navy BRAC PMO
Tim Cherry	PADEP Southeast
Rob Fogel	PADEP Southeast
Bonnie McClennen	PADEP Southeast
Correne Kristiansen	Pennsylvania Senator Collett's Office
Sue Herbert	Tetra Tech
Dan Goode	United States Geological Survey (USGS)
Lisa Senior	USGS
Timothy Hagey	Warminster Municipal Water Authority
Jim Rugh	Willow Grove Caretaker's Office
Martin Schy	Willow Grove Caretaker's Office
Unidentified caller 1	Member of the public
Unidentified caller 2	Member of the public
Unidentified caller 3	Member of the public
Unidentified caller 4	Member of the public
Unidentified caller 5	Member of the public
Unidentified caller 6	Member of the public

(R) Designates RAB Member

Willie Lin, the Navy's BRAC Environmental Coordinator and RAB Co-Chair, opened the virtual meeting by greeting the attendees. Mr. Lin explained that the Horsham Library's regular meeting location was unavailable due to the COVID-19 social distancing requirements. Mr. Lin noted that the meeting would include presentations from the Navy, ANG, USGS, EPA, and PADEP. RAB meeting notices were published in the newspaper on November 18 and November 25, 2020, posted to the Navy website, mailed to the mailing list, and an e-mail went out as well. For those unable to attend the meeting, an opportunity to download the presentations and have a copy sent by mail was provided.

Mr. Lin informed the attendees that questions could be submitted via WebEx during the meeting. Mr. Lin explained that questions would be answered at the end of the meeting by the presenters. Mr. Lin also noted that the ATSDR is available after the RAB meeting to discuss health concerns. Mr. Lin introduced RAB members and government representatives known to be present on the call. Mr. Lin added that participants in the meetings should be able to see all the attendees on Webex, based on community feedback from the previous meeting.

A brief overview of the features of WebEx were presented to the attendees to explain the commenting process during the presentations.

Brain Helland commenced the Navy presentation with an update on the cleanup sites, including landfill Sites 3 and 12, and Site 5. Mr. Helland provided background on Sites 3 and 12, stating that they were former landfills used by the Public Works Department. The Site 3 Proposed Remedial Action Plan (PRAP) was for soil with no action required for groundwater. And the Site 12 PRAP was for soil only. Additional sampling will be performed to determine if a groundwater remedy is needed at Site 12. The public comment period and the date of the planned virtual public meeting were advertised in the local paper and announced during the September RAB meeting. The proposed plans were presented in a virtual public meeting on September 23, 2020 due to COVID-19 restrictions. The initial 45-day public comment period was extended to November 25, 2020 and is now closed. The Navy will consolidate comments and prepare a draft record of decision for regulatory review. The final decision document is expected in March.

Mr. Helland discussed the remediation for Site 5 groundwater. The anaerobic bioremediation system continues to operate at Site 5, and performance monitoring is being conducted in accordance with the approved plan. In November 2020, both quarterly monitoring and injection of amendments were completed. Sampling results continue to show a breakdown of VOCs is occurring. The addition of amendments will now be conducted twice per year instead of annually as was done before to improve performance. The latest annual report is being drafted.

Mr. Lin began the presentation for the next agenda item, per- and polyfluoroalkyl substances (PFAS). Mr. Lin provided a summary of the Navy's funding support for the Horsham Water and Sewer Authority, and then summarized the Navy's private well sampling activities. Mr. Lin explained that private drinking water sampling was temporarily suspended in March 2020 due to COVID-19 restrictions and that testing resumed in June 2020. Since June 2020, 165 private wells were sampled with no results being above the lifetime health advisory levels. Mr. Lin stated samples are being collected from outside spigots and faucets due to COVID-19 restrictions.

Tricia Moore discussed the Remedial Investigation (RI) for PFAS. A draft report was submitted in November 2016 summarizing the data collected and identifying data gaps and strategies to collect additional needed data. Additional data was collected and presented in the draft Phase I RI report submitted to the regulators in December 2018. The regulators provided comments in April and May of 2019. The final report was issued in October 2019 and identified several data gaps that will be addressed in Phase II.

Ms. Moore explained the Phase II PFAS investigation that is now in preparation. The investigation includes but is not limited to periodic surface water and sediment monitoring, evaluation of groundwater extraction and treatment systems using pilot test information, installation of additional monitoring wells and soil sampling in source areas, limited evaluation of PFAS treatment technologies, sampling of off-base monitoring wells and further investigation of on-base stormwater systems. The first round of sampling of surface water and sediment was performed in July 2019, and quarterly sampling has continued. Results from the last four events have been posted to the BRAC PMO website. The September 2020 sampling was performed in conjunction with the USGS, and the local water purveyors were invited to participate. Additionally, the Navy has funded the USGS to install additional stream gages to assess mass loading. Future monitoring will be coordinated with the ANG, and the next round of sampling is scheduled for late December.

Ms. Moore discussed the pilot test for groundwater treatment in the aircraft maintenance facility area around Hangar 680, where the highest PFAS levels were identified. On March 2, 2020, the system was placed online. More than 6.6 million gallons of water have been treated, and effluent results have met all the discharge requirements issued by the PADEP. An extension of the PADEP discharge permit equivalency was granted on August 5, 2020. An additional ten extraction/monitoring wells were installed in April 2020. These wells were sampled in August, and the data results were provided to the EPA and PADEP for their review.

Ms. Moore discussed the Site 5 pilot test for PFAS treatment. The wells and treatment cannot interfere with the existing in-situ bio-stimulation treatment system for VOCs. Lessons learned from the Hangar 680 pilot test will be applied. On September 15, 2020, the application for temporary discharge was submitted to the Pennsylvania DEP for review. The draft permit equivalency was provided on November 16, 2020 and is being reviewed by the Navy. The final work plan for the extraction well installation was approved in October 2020. Fifteen extraction/monitoring points were installed between October and November of 2020. This includes the two extraction wells that will be used for the Site 5 pilot test. A plan to sample these 15 wells is currently under development. Procurement of the pilot test is underway. The electrical power is being provided. The pilot test is expected to commence operations in the Spring of 2021.

Additionally, a work plan for PlumeStop design verification tests at the Northern Ponding Area was submitted to the EPA and PADEP in January 2020. The purpose of this study is to evaluate the feasibility of PlumeStop as a permeable reactive barrier, which is also known as a PRB, to determine whether it would be effective along the Keith Valley Road property line. PlumeStop is an in-situ, which means in-ground technology, composed of very fine particles of activated carbon suspended in water using a unique, organic polymer dispersion chemistry. The polymer is also food grade. The test is planned for a phased approach. Phase 1 will evaluate the overburdened groundwater and soil, and the second phase would be PlumeStop injection test. Phase 1 occurred in late March 2020. The data is currently being evaluated before Phase 2 begins.

Ms. Moore provided an update on the off-base groundwater investigation and evaluation of existing off base monitoring and production wells. HWSA has offered access to 15 existing observation and supply wells. Work was initiated in August 2020, and included geophysical logging and packer testing. Borehole geophysical logging has been conducted at six well locations to date. Packer testing has been performed at one well location. PADEP has also offered access to nine existing monitoring wells, and it is planned to sample those wells in early 2021. Additionally, a draft sampling and analysis plan for on-base soil was submitted for regulatory review in November 2020. The draft SAP for on-base groundwater sampling is anticipated in early 2021.

Mr. Helland discussed the status of the stormwater system evaluation. Over four miles of stormwater lines have been evaluated, and a final tech memo with specific repair recommendations was submitted in July 2020. A subcontractor has been selected to perform joint repairs and was recently on site preparing to mobilize. Separate efforts have also been completed to plug a pipe discharging groundwater to Outfall 2 and to repair collapsed sections of the line leading to Outfall 8.

Mr. Lin finished by giving an action summary of the current progress that had just been discussed. Then Jackie Boltz gave a brief overview of how the question and answer interface worked within WebEx for all the attendees before the floor was opened to questions regarding the Navy's presentation.

Mr. Lin read a question from Tom Ames regarding the groundwater remediation goals set in the Site 5 Record of Decision. Mr. Helland responded that we are five years into the fifteen-year program there to address the VOCs in the groundwater. Tetra Tech is to include an evaluation in the next annual report.

Mr. Lin relayed another question from Mr. Ames about the newly installed wells at Site 5. Ms. Moore answered that the installation of the Site 5 extraction/monitoring points was a separate action from the pilot test. As soon as the EPA and PADEP give approval, it will be possible to start building the Site 5 pilot test.

Mr. Lin conveyed an additional question from Mr. Ames about the schedule for completion of the PFAS Phase 2 RI. Mr. Helland replied that it is an iterative process. There are a number of moving parts, including the various risk assessments, ecological risk assessment, and offsite groundwater. There is no overall schedule for the Phase 2 RI. It will be proceeding over the next couple of years. Dave Barclift added that the RI is will not stop the pilot test and an interim groundwater pump and treat from proceeding.

Mr. Lin relayed a question from Joseph McGrath concerning the Hangar 680 treatment readings. Ms. Moore answered that the influent levels of combined PFOS and PFOA in the shallow extraction well range from approximately 18,000 to approximately 55,000 parts per trillion (ppt). The intermediate extraction well levels range from approximately 8,000 to 47,000 ppt. And the combined influent from both the shallow extraction well and the intermediate extraction well are approximately 9,000 to almost 47,000. The effluent results are below the discharge limit of PFOS and PFOA, according to the PADEP permit equivalency. The discharge limits are less than 70 ppt.

Mr. Lin addressed a comment from Correne Kristiansen of Senator Collett's office concerning the timeline for finalizing a remediation plan for Site 3 and 12 given the concerns raised by local redevelopment groups in addition to the possibility of a maximum contaminant level (MCL) and adding PFAS to CERCLA. Mr. Lin replied that this would be taken into consideration. Mr. Barclift added that the remedies for Sites 3 and 12 are soil remedies. Based on the data available, neither landfill is seen to be a source of PFAS. Groundwater is still to be sampled at one of the landfills, but not due to PFAS. Being in the CERCLA process, this remedy will be reevaluated as part of the five-year review process. If there are any other concerns, they will be caught by that process.

Mr. Lin relayed a question from Joanne Stanton regarding the water being discharged at the outfalls and the PADEP discharge requirements. Ms. Moore replied the allowable limits for combined PFOA and PFOS is 70 ppt. Additional compounds that have discharge requirements include: tetrachloroethene (PCE) limit is 0.69 parts per billion (ppb), trichloroethylene (TCE) limit is 2.5 ppb; carbon tetrachloride limit is 0.23 ppb; 1,2 dichloroethane limit is 0.38 ppb; total phenol limit is 5 ppb; bis (2-ethylhexyl) phthalate limit is 1.2 ppb, phenanthrene limit is 1 ppb, and total lead limit is 3.2 ppb.

Mr. Barclift added that the take-home message of the pilot test is that high concentrations of PFOS and PFOA are going into the treatment plant and when the water leaves the plant, the concentrations are very low near non-detect for PFOS and PFOA. This system has been running for about eight months, and we have not seen a breakthrough of PFOS and PFOA through the plant.

Ms. Moore continued that when groundwater is extracted from the extraction wells, it is piped into the series of bag filter filtration systems to remove any sediment. It then goes into two granular activated carbon (GAC) vessels. These vessels are just now seeing a breakthrough. The primary system of interest now is the ion exchange units that have not seen breakthrough.

With no further questions for the Navy, Mr. Lin introduced Keith Freihofer to commence with the ANG presentation.

Mr. Freihofer gave a brief update on changes that have occurred since the last RAB meeting. Phase 1 field investigations involving surface water and soil sampling, well installations, and groundwater sampling have been initiated. Regulatory approval of work plan for regional surface water sampling has been accomplished. The draft National Pollutant Discharge Elimination System (NPDES) industrial stormwater permit is still under review. The water treatment system continues to operate at 180 gallons per minute, and the 500 gallon per minute surface water treatment system is under construction.

Mr. Freihofer introduced Tim Runkle from Leidos to discuss the RI that they had been contracted to perform. Mr. Runkle explained that the RI would be conducted to determine the nature and extent of the contamination and the potential threat to human health and the environment. Leidos will be collecting soil, sediment, surface water, and groundwater on the Horsham Air Guard Station and offsite. A Baseline Risk Assessment will also be completed. There will be four quarters of groundwater sampling, twelve quarters of surface water sampling, and an annual stream gauging event.

Mr. Runkle discussed the progress of the RI as of the time of the RAB meeting. Leidos conducted surface water and sediment sampling along the Park Creek tributary. Drilling activities for multiport wells has continued to help characterize PFAS contamination in the subsurface. A graphic showing the locations of surface water and sediment sampling was displayed to the attendees. Additionally, a figure showing the newly installed wells was shown and discussed.

Mr. Runkle then gave an overview of the planned activities for the next three months of the RI. Leidos will be completing the installation of multiport wells on-site. A tech memo will be prepared in the future using the findings from these activities to help guide the next steps for Phase 2. Mr. Runkle turned the presentation back over to Lee DePersia.

Mr. DePersia provided an overview of perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) in the surface water on the Horsham Air Guard Station. The ANG has taken action to reduce PFOS and PFOA's release by implementing the treatment system discussed earlier in the meeting. There has been a temporary treatment system that is currently in operation at the stormwater basin. This system captures and treats 100 percent of the base flow, which is groundwater that infiltrates during non-rain events. That flow amounts to about 60 to 80 gallons per minute (gpm).

This system is in the process of being replaced by a permanent treatment plant with a treatment capacity of 500 gpm. The new plant consists of a sand filter, zeolite light filter, GAC, and ion exchange (IX) resin. Construction on the new plant began in October of 2020, it is scheduled to be completed in the Summer of 2021. Warminster Township is coordinating and managing that project. A graphic showing the plans for the new system was presented to the audience.

Mr. Freihofer then discussed PFOS and PFOA results in drinking water. There was an agreement with Warrington Township to install carbon filtration on five of their supply wells and extend water mains for connections. Warrington Township has sold its water system to the North Wales Water Authority. The ANG has transferred the agreement and will continue the installation. Private well locations with detections above 70 ppt are being connected to the public supply. Mr. Freihofer presented a slide showing the number of private wells sampled with the number above the 70 ppt health advisory level and the number of connections completed.

Mr. Freihofer presented the actions that are planned for the following three months from the RAB meeting. Installation and sampling of multiport wells will occur. A tech memo will be prepared for the Phase 1 results. Access to offsite monitoring wells will need to be obtained prior to conducting activities at these locations. Upgrades to the retention basin will be ongoing, and the quarterly sampling of private wells will continue. Mr. Freihofer then concluded the ANG presentation.

Ms. Boltz reminded the attendees to utilize the question and answer box in the WebEx during the meeting. The floor was opened to questions.

Mr. Freihofer read a question from Joseph McGrath about the exposure to employees for detection dates. Mr. Freihofer responded that Horsham Air Guard Station has been using bottled water for drinking since October 2014 when sampling determined the drinking water on the Base exceeded

the EPA Provisional Health Advisory for PFOS/PFOA. Former employees with concerns about exposure should contact ATSDR or their local health department for assistance.

With no more questions regarding the ANG presentation, Ms. Kloss commenced the EPA's discussion. Ms. Kloss explained that she would give an overview of the progress made during 2020 and a quick overview of the first five rounds of surface water sampling.

Ms. Kloss expanded upon the ANG short-term actions in 2020. The stormwater capacity has increased to around 228 gpm by going from one treatment trailer to three treatment trailers. They also continued monitoring homes between 40 and 70 ppt as COVID-19 safety protocols have allowed. Bottled water is being provided where the health advisory was exceeded.

On the remedial investigation side, the ANG finalized their work plan for the first phase of the remedial investigation. They carried out most of the work, which included installing seven shallow groundwater wells and sampled all the soil, sediment, surface water data on-site and unnamed tributary to Park Creek. Details of installing on-site multiport wells are being worked on, and they initiated the negotiation of off-site monitoring wells. The work plan for surface water sampling was finalized, and Leidos shadowed the Navy event in September which will allow them to do some of the sampling at the next event.

Ms. Kloss detailed the Navy short-term actions. This year, the Navy resampled most wells within the area that are not regularly monitored. They continued quarterly sampling for homes between 40 and 70 ppt. The Navy provided bottled water to homes greater than 70 ppt. The pilot groundwater extraction at Hangar 680 continued, and wells for a second pilot in the fire training area were installed. The overburden near the northern ponding area was evaluated for potential installation of a permeable reactive barrier to treat shallow groundwater.

The remedial investigation progress this year included quarterly regional surface water monitoring; a plan for sampling offsite wells, and sampling and profiling one of the HWSA wells. The Navy also submitted a work plan for on-site soil sampling, which is in the final review.

Ms. Kloss concluded the EPA discussion by presenting multiple figures displaying the PFAS concentrations from the first five rounds of surface water sampling. Following a brief refresher on how to submit questions in WebEx by Ms. Boltz, the floor was opened for questions.

Rick Rogers answered a question that had been asked by Mr. Ames involving the need for short-term action by HWSA ANG in limiting the flow of PFAS contamination in groundwater off the property. Mr. Rogers replied that the EPA have been working with partners in the CERCLA program as well as the ANG to get some more immediate, temporary types of groundwater remediation mitigation to try to help control the spread of the plume of contaminated groundwater off the property.

Ms. Kloss read a question from an unidentified attendee regarding the creek flow influence on PFAS concentrations. Ms. Kloss responded that depending on the flow, you may have stormwater inputs, or you may have more groundwater inputs. Generally, levels in the groundwater are going to be higher than what is in the stormwater. In that way, they do influence the PFOS concentrations.



Ms. Kloss read a question from an unidentified attendee concerning the number of residents who are on bottled water. Mr. Freihofer replied that for the ANG properties there are 14. Ms. Moore answered that currently 55 properties in the Navy program are being supplied water; however, some properties have been recently connected to public water, and that will drop the number down to 46 soon.

There were no other questions. Mr. Lin announced the next RAB meeting will be held on March 10, 2021 and adjourned the RAB meeting. After a short break, Lora Werner of the ATSDR led a health discussion with community members.