AMIM–FDP-E 12 OCTOBER 2022

MEMORANDUM FOR RECORD

SUBJECT: Fort Detrick Restoration Advisory Board (RAB) Meeting Summary,
12 October 2022

1. Summary Contents

Items addressed at the meeting are listed below, with corresponding section numbers indicated in the column on the right.

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Please note: PowerPoint presentations were utilized during the RAB meeting. A copy of the presentations is attached to these minutes and is incorporated into these minutes by this reference.

Text contained within brackets [ ] has been added for clarification purposes.

2. Attendees

Members Present:

Dr. Gary Pauly, Community RAB Member, Co-Chair (in-person)
Mr. Joseph Gortva, Army Co-Chair, Fort Detrick, Chief, DPW Environmental Division (in-person)
Mr. Barry Glotfelty, Frederick County Health Department (virtual)
Ms. Elisabeth Green, Maryland Department of the Environment (in-person)
Ms. Jenna O'Brien, US Environmental Protection Agency (in-person)
Ms. Jennifer Hahn, Community RAB Member (virtual)
Ms. Elizabeth Law, Community RAB Member (virtual)
Ms. Karen Harbaugh, Community RAB Member (in person)
Mr. Cliff Harbaugh, Community RAB Member (in person)

Others Present:

Mr. Ira May, Maryland Department of the Environment (virtual)
Ms. Brianne Witman, US Army Corps of Engineers (in-person)
Ms. Genna Huston Rohleder, US Army Corps of Engineers (in-person)
Mr. Mark Ditmore, US Army Environmental Command (virtual)
Mr. Ericson Kaufman, On-Site Contractor, Fort Detrick (in-person)
Mr. Bob Thomas, On-Site Contractor, Fort Detrick (virtual)
Mr. Gary Zolyak, Fort Meade Legal (virtual)
Mr. Erick Barnes, Fort Meade PAO (virtual)
Ms. Kelly Russell, Alderman, City of Frederick (virtual)
Mr. Chris Dorment, Rocky Gorge Development/Waverly View Property (in-person)
Ms. Angela Roberts, Frederick News Post
Ms. Stacie Smith, Consensus Building Institute (in-person)
Ms. Angela Ithier, US Environmental Protection Agency, Community Involvement (virtual)
Ms. Tracy Coleman, DPW-Engineering & Operations, City of Frederick (in person)
Mr. John Cherry, Arcadis (in-person)
Ms. Sarah Matteson, Arcadis (in-person)
Ms. Katie Nash, Alderwoman, City of Frederick (virtual)
Ms. Roberta Huber, Guest (virtual)
Mr. Ridgway Hall, Guest (virtual)
Ms. Jennifer Kunze, Clean Water Action (virtual)
Ms. Katrina Harris, Bridge Consulting Corp. (in-person)

Members Absent:

Ms. Jessica Gebase, Pending Community RAB Member

3. Meeting Opening/Remarks

Mr. Joseph Gortva, DoD Co-Chair, welcomed everyone to the hybrid (in-person and virtual) meeting. Mr. Gortva introduced Mr. Gary Pauly, Community Co-Chair, and invited any opening comments. Mr. Pauly thanked everyone for attending virtually and in-person. Mr. Gortva invited everyone to introduce themselves. Mr. Gortva reviewed the meeting agenda and ground rules for the hybrid meeting format.

4. Meeting Minutes/Action Items presented by Mr. Joseph Gortva, Fort Detrick

Mr. Gortva noted minutes from the June 2022 meeting had been distributed, and comments had been received from RAB community member, Jen Hahn, which are being reviewed. Mr. Gortva asked for any additional comments; no additional comments were offered at the meeting. Mr. Gortva asked that any comments be sent to him by the end of the week so final minutes could be issued and posted to the website.

Ms. Jen Hahn asked about the status of Ms. Jennifer Kunze's RAB membership application. Mr. Gortva advised he would like to hold an administrative meeting and had discussed such a meeting with Mr. Pauly, the Community Co-Chair. Mr. Gortva stated such a meeting would include discussion of some changes to the RAB Charter. Mr. Gortva advised he would suggest some meeting dates in the near future.

5. Community Involvement for Conflict Prevention Program presented by Ms. Stacie Smith, CBI

Ms. Stacie Smith stated Consensus Building Institute (CBI) was engaged by EPA through its Conflict Prevention and Resolution Center to conduct community interviews, prepare a situation assessment, and make recommendations for improvements in community engagement, RAB processes, and internal coordination.

Ms. Smith advised CBI engaged with 22 people in August and September 2022 including community RAB members, community members and meeting attendees, Federal and State agency staff and contractors, and four city and county government staff. She stated many of those interviewed expressed trust in the technical aspects of the clean-up, and a few noted quick responses to concerns raised about their property. She listed a number of areas of concern including vapor intrusion in current and anticipated homes, uncertainty about groundwater plumes, effects of groundwater contaminants beyond PCE and TCE, base security and a previously proposed extension road through Area B. She noted there was broad consensus that the RAB is and should be the primary avenue for stakeholder engagement; many felt the RAB was serving the purpose of providing information to those interested. Ms. Smith stated some of those interviewed felt there should be additional community outreach to the broader Frederick community and reviewed some of the suggested ways information could be disseminated.

Ms. Smith reviewed some potential areas for improvement of RAB meetings.

Ms. Smith reviewed the next steps for the program which including CBI sharing the draft situation assessment summary with interviewees for revisions, producing the final assessment

and presenting at the January RAB meeting. She noted CBI would also be working on recommendations for interagency collaboration.

Ms. Smith advised anyone who has not provided input yet were welcome to contact Ms. Abby Fullem at afullem@cbi.org.

6. Area B Off-Post Ground Water Investigation at the Waverley View Property Update
presented by Brianne Witman, Army Corps of Engineers

Ms. Brianne Witman reviewed some background on the project which had been presented at the last meeting. She noted the location of the Waverley View property is adjacent to Fort Detrick Area B and is where single-family home development is planned. She stated groundwater samples collected from certain monitoring wells installed in 2013 and 2014 at Waverley View had detections of volatile organic compounds above and below EPA regional screening levels. She advised that in response to the detections, the Army is now completing an investigation to assess potential risk from vapor intrusion to future human receptors at the Waverley View property.

Ms. Witman showed a map of all the monitoring wells, both existing wells and wells installed in 2021 [17 monitoring wells SW-1 through SW-17] and 2022 [16 monitoring wells SW-18 through SW33]. She noted two of the earlier [deep bedrock] wells, as well as all the temporary shallow wells, have been closed.

Ms. Witman discussed the most recent groundwater sampling event results from May/June 2022 [SW-1 through SW-33]. She reviewed the volatile organic compounds detected and their location. She stated trichloroethene (TCE) was detected in a number of wells above the screening criteria of 0.94 parts per billion (ppb) at concentrations ranging from 1.5 ppb to 54 ppb. Ms. Whitman displayed a map showing the well locations; she pointed out the location of the wells with TCE detections. She added that the 16 wells most recently installed [SW-18 through SW-33] did not have TCE detections above the screening criteria. Mr. Gortva said the initial wells [SW-1 through SW-17] which had detections were installed in 2021 so more wells were added further out on the property to see how far the TCE would be detected. Mr. Gortva advised there would be two more rounds of sampling to ensure the contamination had not spread to the second row of wells mostly recently installed.

Ms. Hahn asked for confirmation that the new wells shown in blue on the map [SW-18 through SW-33] have not shown concentrations above 5 ppb. Mr. Gortva confirmed Ms. Hahn's statement and added that none of the new wells had any detections of TCE; some had chloroform detections.

Ms. Witman said chloroform was detected in a number of wells above the screening criteria of 1.39 ppb at concentrations ranging from 1.4 ppb to 24 ppb.

Ms. Witman listed a number of wells without detections which were not included in the table which only shows detections above the screening criteria.

Ms. Witman next discussed the vapor intrusion risk. She stated the groundwater sampling data was entered in EPA's vapor intrusion screening level calculator, and the results indicate there are nine wells (SW-2, SW-3, SW-4, SW-10, SW-11, SW-12, SW-15, SW-16 and SW-17) where there may be unacceptable risk from vapor intrusion to future residents if there are no mitigation measures put in place. She noted SW-12 has been added to the list since the data shared at the last meeting. She explained the data is showing the potential risk is localized on the property on the north-eastern part and not where the newer wells were installed. Ms. Witman advised lab data from the sampling of these wells in August is pending and will be shared at the next meeting. She noted the Army will collect two additional rounds of groundwater samples in December 2022 and March 2023, update the vapor intrusion screening level model projections, and use the data to ensure protection of human health as the Waverley View property is developed.

Mr. Gortva added that the data from all the rounds of sampling will be used to look at the potential risk and potential actions that might need to be taken to ensure the public is protected. He advised Fort Detrick continues to work with the developer to ensure the construction of future homes will be done in a manner that will provide the necessary protection for residents. Mr. Gortva referenced a presentation made by EPA several meetings ago which explained that homes are built near groundwater with volatile organic compounds, and there are effective mitigation measures that can be put in place.

Mr. Gary Pauly asked if the homes would be built on a common slab. Mr. Chris Dorment, Rocky Gorge Development, responded that the townhouses would be built on individual slabs of five to eight homes. He advised there would also be 180 condominiums where there would be six to 12 units per buildings.

Ms. Hahn thanked Mr. Dorment for attending the meetings and communicating with the community; she said it is very much appreciated by the community. Ms. Hahn asked if Mr. Dorment would be willing to share at a future RAB meeting what disclosure to potential homeowners would look like from a developer perspective. Mr. Dorment said he would be glad to discuss at a future meeting. He noted development of the area under discussion (area shown by red dots on the map shared by Ms. Witman) is about six to seven years in the future. He advised there is a disclosure requirement in contracts of sale under Maryland law.

Ms. Jenna O'Brien asked for clarification of what the red dots on the map are showing. Mr. Gortva responded that the red dots show where the vapor intrusion modeling showed a potential risk from TCE.

Ms. Hahn requested maps included in presentations in the future be single page maps with legends that explain the color coding.

7. **Quarterly Groundwater and Surface Water Monitoring at Area B** presented by John Cherry, Arcadis

Mr. John Cherry stated he would be discussing the quarterly groundwater gauging and sampling at Area B which is just one of the many environmental activities ongoing at Fort Detrick. He displayed a map showing the 15 groundwater monitoring well locations through the middle of

Area B and the one downgradient surface water sample location at Robinson Pond Box Spring. He noted the quarterly sampling program has been in place for many years to track concentrations over time, and the Seres-Arcadis Joint Venture team is on the second year of a five-year contract to sample through September 2025. Mr. Cherry noted the wells had been selected based on their past concentration levels and location (some in the source area, some mid-plume and some downgradient) to provide information on any changing trends. He stated that the samples are analyzed for volatile organic compounds. Mr. Gortva added that this program had been referred to as the sentinel well program as it was designed to include monitoring points that the Army and regulators felt were important to monitor the groundwater at Area B and assess changes over time.

Mr. Cherry advised he would be discussing about half of the wells in the monitoring program. Mr. Cherry explained the charts he would be showing for each well, pointing out the trend charts had two scales, one for TCE on the left and one for PCE on the right.

Mr. Cherry reviewed the trends at BWM67C, a source area point located near the Western Disposal Area, shown by a red circle on the map. He stated this well had concentration of trichloroethylene (TCE) of 9,300 ppb in December 2016 which was why it was selected to be in the monitoring program. He said TCE concentrations have fluctuated over the last 10 years at this well, with the highest historical concentration being 15,000 ppb in April 2012; since 2014 there has been a generally declining trend.

Mr. Cherry next discussed well BMW56D, also near the Western Disposal Area. He noted TCE concentrations have fluctuated at this well (more than average), ranging from 4,200 ppb in December 2017 to 15 ppb in July 2018. He stated PCE concentrations have fluctuated between 5.5 ppb and 191 ppb since 2014. Mr. Cherry said it is possible the fluctuations may be attributed to a combination of seasonal and short-duration precipitation events (significant rainfall events in 2018) and their timing relative to sample collection.

Mr. Cherry reviewed the trends for well BMW58D located near the Western Disposal Area. He noted the concentrations at this well are much lower and show a slight decreasing trend over the last several years; concentrations over the last 10 quarterly sampling events have generally been below 100 ppb. He advised PCE concentrations have remained stable and consistently below the maximum contaminant level of 5 ppb, except for one sample collected in July 2018 when the concentration was 5.3 ppb.

Mr. Cherry next reviewed the trends for well BMW59D located near the Western Disposal Area. He advised TCE concentrations continue to exhibit a decreasing trend, with the highest concentration of 20 ppb detected in 2014 and the lowest concentration of 5.9 ppb detected in March 2022. He stated PCE concentrations have remained consistently below the maximum contaminant level of 5 ppb since 2014, with the five most recent concentrations being reported as non-detect (less than 0.75 ppb).

Mr. Cherry discussed the trends for well BMW24D which is a downgradient point near the source area, near the capped area. He advised TCE concentrations have generally remained stable, fluctuating between 3.6 ppb and 15.4 ppb since 2014. He noted PCE concentrations have

been higher than TCE in this well from 2014 to 2022 and have fluctuated from 530 ppb in October 2017 to 25 ppb in December 2020. He stated there was an unusually elevated PCE concentration in June 2017 of 1,900 ppb; in a confirmatory sample in August 2017, the PCE concentration was 260 ppb.

Mr. Cherry reviewed the trends for well BMW53F, a point downgradient of the source area, in the middle of the plume. He stated TCE concentrations have been in the range of 24 ppb to 33 ppb since 2014. He said the PCE concentrations have remained stable at less than 1 ppb.

Mr. Cherry next discussed the trends at BMW77, a monitoring point in the northern portion of Area B, near the Active Sanitary Landfill. He advised TCE concentrations have fluctuated between 3.2 ppb and 11 ppb, and PCE concentrations have fluctuated between 9.5 ppb and 32 ppb. Mr. Gortva and Mr. Cherry discussed the additional work that will be done in this area to look at the higher PCE concentrations. Mr. Cherry noted the work plan is under review.

Ms. Hahn stated the location where the City is planning to build a storage facility is near the area of BMW77, and she was glad to hear additional wells are planned as there seems to be a lack of wells in that section of Area B. She requested there be a discussion at the next meeting to review the process of determining the suitability of the area from an environmental standpoint prior to allowing the project and looking at what wells the City and Army will be installing. Mr. Gortva said a presentation could be put together, but the 10 acres the City is looking at is in between the groups of landfills and is an area where there are no landfills or sources. Mr. Gortva stated the wells around the area do not show there is any significant groundwater contamination. He said what the City is proposing is an outdoor storage area which will not be impacted by the groundwater or the potential for vapor intrusion as there is no construction of buildings. Mr. Gortva advised what is being proposed will not impact the groundwater plume nor will the plume influence the project. Ms. Tracy Coleman confirmed the facility would be for construction materials that can be stored outside such as piping and gravel.

Mr. Cherry reviewed trends at Robinson Spring, an off-post pond/spring location where groundwater from Area B discharges. He stated TCE concentrations have fluctuated between 2.2 ppb and 8.7 ppb and exhibit an overall decreasing trend. He noted the TCE concentrations have remained below the ecological freshwater benchmark of 21 ppb. He advised the PCE concentrations have remained in the range of non-detect to 0.6 ppb which is below the maximum contaminant level, the regional screening level, and the ecological freshwater benchmark of 111 ppb. Mr. Cherry reminded the Board that some pilot studies had been done to test aeration of the pond which could be considered as a remedy in the future.

Ms. Hahn stated it had been mentioned at a previous meeting that wells were going to be installed or further investigation was going to be conducted off-post at the end of the plume near Robinson Spring; she asked if this work had occurred. Mr. Cherry said the additional Remedial Investigation work Ms. Hahn referred to is being conducted by Aptim/Arcadis and was briefed at the last meeting. He advised this work does include the drilling near BMW77, as well as work in the seeps and springs around Carroll Creek to better define ecological risk. Mr. Cherry said the work plan is under regulatory review. Ms. Hahn said she brought up the question as she wanted to confirm all the Remedial Investigation work has not been completed. She stated there is

construction or planned construction on Montevue Lane so additional data would help confirm the safety of the building occupants. Mr. Gortva responded that additional [remedial investigation] work is not planned for the Montevue property. Based on data already collected for that area, it was determined additional investigations were not required when the scope of follow-on work was discussed with the regulators (EPA and Maryland Department of the Environment).

8. PFAS Introduction presented by Jenna O'Brien, U.S. Environmental Protection Agency

Ms. Jenna O'Brien explained that PFAS are per- and polyfluoroalkyl substances, with two of the main substances being perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). She added that they are known as chemicals of emerging concern so information is changing frequently and rapidly. She noted PFAS are man-made compounds, environmentally persistent, and are substances which bioaccumulate.

Ms. O'Brien stated that PFAS are widely found in the environment in products such as aqueous film-forming foam (AFFF) used by the military to extinguish flammable liquid fires. Mr. Gortva added that AFFF is also used by many non-military firefighters. She said PFAS are also used in the manufacture of consumer products such as non-stick cookware, cleaning products, cosmetics, paints and varnishes, and water resistant clothing. She said PFAS are found just about everywhere.

Ms. O'Brien advised EPA's approach to addressing PFAS can be found on EPA's website and consists of three central directives: research, restrict, and remediate (the focus at military bases). She also discussed EPA's proposed plan to designate PFOS and PFOA as hazardous substances under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), noting the public comment period on this proposal ends November 2022. Ms. O'Brien stated updated guidance on destroying and disposing of PFAS is expected in the fall of 2023. She added that the State of Maryland already had regulations in place regarding the disposal of PFAS.

Ms. O'Brien discussed the activities underway by EPA's Office of Research and Development which include development and validation methods to detect and measure PFAS, advancing the science to assess human health and environmental risks from PFAS, and evaluating and developing technologies for reducing PFAS in the environment.

Ms. O'Brien reviewed key actions underway with EPA's Office of Water including nationwide monitoring for PFAS in drinking water, establishing a national primary drinking water regulation for PFOA and PFOS, along with other actions focused on updated toxicity assessments, health advisories effluent limitations, NPDES permitting, water quality criteria, and analytical methods. Ms. O'Brien said maximum contaminant levels (MCLs) are being developed for drinking water.

Ms. O'Brien stated EPA is engaging directly with affected communities to hear how PFAS contamination is impacting them and encouraged anyone with questions to contact Fort Detrick directly, as well as EPA and Maryland Department of the Environment.

Ms. Betty Law asked about the potential for air contamination from disposal sites or other mediums by which people would be adversely affected. Ms. O'Brien responded that ingestion is one potential pathway, and research is still being developed on other potential pathways. She suggested a resource is the ATSDR website which is listed at the end of her presentation slides. Ms. Green added that MDE has issued its first fish advisory for Piscataway Creek near Joint Base Andrews, specifically due to PFAS contamination. Ms. Law asked if there is a list on EPA's website of products that should be avoided. Ms. O'Brien said she is not sure if there is a specific list of products, but EPA has tried to limit the production and sale of products with PFAS and PFOA and this information is on EPA's website.

Ms. O'Brien advised Fort Detrick has met the requirements under the National Defense Authorization Act to take an initial look for PFAS and found no direct exposure to PFAS on Fort Detrick. She stated additional data will be collected at Fort Detrick Area B to characterize the full nature and extent of PFAS contamination when appropriate analytical methods and regulations are in place.

Ms. O'Brien provided links to additional resources and contact information for herself and Angela Ithier who is EPA's Community Involvement Coordinator.

Ms. Law asked if PFAS could be released to the air if debris containing PFAS is burned. Ms. O'Brien said she was not sure but will look into this question. Mr. Gortva stated much of the information is new science, but it has been determined that there is PFAS in rain. He said in some locations the concentrations in the rain are above thresholds that EPA has for health advisories, and a possible way it is getting into the rain is from burning. He explained that since these chemicals are very stable, they do not break down during burning.

9. PFAS Site Inspection and Remedial Investigation presented by John Cherry, Arcadis

Mr. Cherry stated PFAS has been detected at Fort Detrick at low concentrations. He discussed the Army's nationwide Preliminary Assessments and Site Inspections program. He noted these studies were undertaken voluntarily at 108 installations nationwide with a focus to assess the inventory of potential releases while being protective of drinking water receptors. He explained that based on the results of these investigations, Fort Detrick and other Army installations are proceeding with additional Remedial Investigation activities to further evaluate PFAS impacts.

Mr. Cherry summarized the results from the Preliminary Assessment conducted at Fort Detrick. He explained data was evaluated to determine which areas meet the criteria for categorization as Areas of Potential Concern; as a result of the evaluation four Areas of Potential Concern were identified.

Mr. Cherry noted when investigations first began, EPA's health advisory level was 40 parts per trillion, and only one site at Fort Detrick exceeded this number. He said EPA recently released regional screening levels of four and six parts per trillion.

Mr. Cherry advised two AFFF release areas were identified in Area B where each had a single release of AFFF was identified as part of a certification exercise conducted sometime between

2008 and 2015. He stated less than one-gallon total of diluted AFFF was sprayed at each area. Mr. Cherry noted two fire stations in Area A were also included as fire stations are almost always evaluated for potential releases.

Mr. Cherry discussed the Site Inspection activities for the Area B sites, which included soil, groundwater and surface water sampling at Robinson Box Spring. He reviewed the sampling results and noted well BMW-11 and Robinson Box Spring did not have any detections exceeding regional screening levels, and there were no soil exceedances. Mr. Cherry advised both Area B sites are moving forward for further investigation.

Mr. Cherry discussed the Site Inspection activities at the Area A Fire Stations which included groundwater, surface soil, and surface water sampling. He advised the groundwater results slightly exceeded the regional screening level of 4 ppt, and there were no soil exceedances. Mr. Cherry said a sample from Spearmint Spring, an off-post location, showed a PFOS detection of 7.5 ppt compared to the screening level of 4 ppt. He stated both fire station sites will forward for further investigation.

Mr. Cherry summarized upcoming Remedial Investigation activities which will include additional soil, groundwater, and spring sampling. He stated due to the uncertainty around the presence of PFAS in herbicides that were disposed of in the Area B landfills, baseline groundwater sampling for PFAS is planned in these areas. He advised a work plan is under development for these activities.

Ms. Jennifer Kunze said there is research going on about pesticides and herbicides containing PFAS and asked for more information about the plan for sampling around the herbicide test sites. Mr. Cherry responded that the sampling around the landfills will occur in May 2023 for groundwater. He said the herbicide test areas in Area A will require development of a work plan for an appropriate way to conduct sampling soil and potentially groundwater. Mr. Cherry said the work conducted to date looking at the herbicides used has not identified specific ones known to contain PFAS which is encouraging, but it is possible there were other used or tested. Mr. Gortva added that the PFAS investigations are being centrally managed by the Army Environmental Command and not locally by Fort Detrick.

Ms. Angela Ithier mentioned an EPA public webinar on PFAS and drinking water regulations is being held on November 2. Ms. Ithier agreed to forward the link to Ms. Katrina Harris who will forward to the Board members. [https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas]

10. RAB Member Open Discussion and General Community Comments

Mr. Gortva invited open discussion from the RAB members and the general community.

Mr. Pauly requested an electronic copy of the current RAB Operating Procedures.

11. Future Meeting Dates

Mr. Gortva said proposed future meeting dates are January 4, April 5, July 12, and October 4, 2023. Mr. Gortva said all the dates are tentative and invited anyone who had conflicts to let him know.

Mr. Gortva invited Board member to let him know about any other topics of interest for future meetings. He said if there are presentations the RAB members would like to see from EPA or MDE, the requests will be passed along to them.

The meeting adjourned at approximately 8:36 p.m.

Reviewed by: Joseph Gortva

Approved 2/27/2023

Enclosures:

Presentations (Power Point Slides)

DISTRIBUTION:
Each RAB Member (w/enclosure)
Each Meeting Attendee (w/o enclosure)