



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON
4551 LLEWELLYN AVENUE, SUITE 5000
FORT GEORGE G. MEADE, MARYLAND 20755-5000

IMND-MEA-PWE

October 3, 2014

MEMORANDUM FOR Restoration Advisory Board Members

SUBJECT: Minutes for the September 18, 2014 Restoration Advisory Board Meeting

1. The Restoration Advisory Board (RAB) meeting was held on September 18th, 2014, at 7:00 p.m. at the Holiday Inn Express located at 7481 Ridge Road, Hanover, Maryland, 21076. The next RAB meeting will be **Thursday, November 20th, 7 p.m.**, at the Holiday Inn Express, 7481 Ridge Road, Hanover, Maryland, 21076.

2. The following RAB members were present:

Mr. Rusty Bristow, Community Member
Mr. John Burchette, U.S. Environmental Protection Agency
Mr. Mick Butler, Fort Meade Co-Chair
Mr. Wayne Dixon, Community Member
Mr. George Knight, Acting Fort Meade Restoration Manager
Mr. David Tibbetts, Community Co-Chair
Ms. Kerry Topovski, Anne Arundel County Health Dept.
Mr. Fred Tutman, Community Member

3. Members not present:

Ms. Kellyann Few, Community Member
Ms. Laura Ann Hutchinson, Provisional Community Member
Mr. Martin Madera, Community Member
Mr. Harry Neal, Community Member
Mr. Howard Nicholson, Community Member

4. Others present were:

Mr. Steve Cardon	Fort Meade BRAC (Calibre Systems)
Mr. Walt Chahanovich	Fort Meade, Office of SJA
Mr. John Cherry	ARCADIS
Mr. Brian Chew	Anne Arundel County Health Dept.
Ms. Sarah Gettier	URS
Ms. Elisabeth Green	Maryland Department of the Environment
Ms. Katrina Harris	Bridge Consulting Corp.
Mr. Jerry Kashatus	URS

Ms. Erin McKinley
Mr. Keith Shepherd
Ms. Denise Tegtmeier

Fort Meade Environmental Office (Osage of Virginia)
ARCADIS
Fort Meade Environmental Office (Osage of Virginia)

5. Announcements and Minutes:

a. Mr. Mick Butler welcomed everyone, and Mr. David Tibbetts called the meeting to order. Mr. Butler invited all present to introduce themselves and sign in.

b. Mr. Butler stated Ms. Few had advised she would be unable to attend. He expressed his appreciation for members who let him know when they cannot attend a meeting. Mr. Tibbetts advised Mr. Madera is on vacation and unable to attend.

c. Mr. Tibbetts made a motion to approve the July 17th, 2014 meeting minutes. The motion was seconded and unanimously adopted to approve the July 17st, 2014 minutes.

6. Old Business:

a. Mr. Butler asked everyone to confirm their contact information on the sheet at the registration table.

b. Mr. Butler encouraged anyone who knew of community members who might be interested in serving on the Board to invite them to attend a meeting.

7. Preliminary Assessment/Site Inspection Update:

a. Mr. Butler introduced Mr. Jerry Kashatus of URS, an Army contractor.

b. Mr. Kashatus stated he had given a presentation at the last meeting on the Southeast Sites included under a Preliminary Assessment/Site Inspection. He noted he had gone into some detail on the risk assessment process used to determine if a site could be closed out or if a site needed further action. Mr. Kashatus said he would be providing an update this evening on the Southwest Sites, after a brief overview of the whole Preliminary Assessment/Site Inspection currently underway at Fort Meade.

c. Mr. Kashatus explained a Preliminary Assessment is conducted by looking at information from a site, including historical reports, aerial photographs, charts, figures, and graphs, and assessing whether the information is sufficient to reach a decision that the site is clean enough to recommend no further action; if there is uncertainty and more information is needed, the site moves into the Site Inspection phase.

d. Mr. Kashatus displayed a graphic depicting the Superfund/Comprehensive Environmental Restoration, Compensation and Liability Act (CERCLA) process. He pointed out these sites were at the very initial stage of the CERCLA process as compared to many other sites the Board has been briefed on over the years which are further along in the CERCLA process.

e. Mr. Kashatus noted more than 100 sites were examined during the Preliminary Assessment/Site Inspection process. He explained the sites were divided geographically to make them more manageable. He stated the golf course sites were given priority because of pending construction and have been closed out. He explained the other sites were divided into the North, Southeast, Southwest, and South of Route 32. Mr. Kashatus displayed a map showing how the sites were divided into geographic areas.

f. Mr. Kashatus next discussed the Southwest sites. He advised 26 areas of interest were identified, and 10 sites were determined to need no further action during the Preliminary Assessment phase. Mr. Kashatus said field work for the remaining 16 sites was completed during the Site Inspection phase. He noted laboratory data had been received and validated and risk-based screening had been performed on the results. Mr. Kashatus said the draft report for the Southeast Areas of Interest had been reviewed by the regulators, and the regulators' comments are in the process of being addressed.

g. Mr. Kashatus displayed a list of the 16 Southeast Areas of Interest and a map showing the sites' location. He noted they included buildings, former motor pools and one sited identified as Fill-1988.

h. Mr. Kashatus advised that at the conclusion of the Site Inspection, no further action was recommended for 9 of the 16 sites because the chemical data shows the risks are below the threshold values discussed at the last meeting. He noted that at this time it was only a recommendation, not a final decision. Mr. Kashatus said he would be discussing tonight 7 sites that went through the Site Inspection process and will require some further work before a decision can be made.

i. Mr. Kashatus next reviewed the risk assessment process for the Site Inspections, noting the Board had been briefed on the process in the past. He explained the process is simpler than the risk assessments done during a Remedial Investigation; therefore, the criteria were very stringent. He stated that once all the chemical data was received from the laboratory, the maximum (not an average) detected concentration for each chemical compound is compared with the Regional Screening Levels (RSLs) produced by EPA for soil, groundwater and air, which includes more than 700 chemical compounds. Mr. Kashatus said chemicals become chemicals of potential concern if the maximum detected concentration is greater than the Regional Screening Levels. He said all the risk are added together and compared to the site-specific thresholds of 5×10^{-5} for total cancer risk and 0.5 for total non-cancer hazard. Mr. Kashatus explained if the number is less than the threshold, no further action is needed. Mr. Kashatus said the sites he would be discussing tonight had results greater than the threshold numbers.

j. Mr. Kashatus explained for each of the sites he would be showing a figure of the site with historic and recent sampling results, information on why the site is an area of interest, and the calculated cancer and non-cancer risk (usually groundwater). He noted groundwater was sampled for both total (sample analyzed as collected) and dissolved metals (sample filtered to remove fine particles to analyze just for particles dissolved in the water itself). He explained that risk is calculated both with total metals and then with dissolved metals as oftentimes the numbers for dissolved metals are lower as they do not include metals from the soil matrix that have entered the groundwater. Mr. Kashatus said he would also present the chemical compounds identified for each site that contribute the most to the elevated risk levels.

k. Mr. Kashatus first discussed Building 4587. He pointed out the sampling data and noted only a few were collected during the PA/SI. He explained Building 4587 was identified as a potential site because it was a former vehicle repair shop and motor pool. Mr. Kashatus said groundwater results, with total metals, showed a cancer risk of 1.2×10^{-4} which is above the 5×10^{-5} threshold so further action is needed. He advised the non-cancer number is 1.1 which is above the .5 threshold. He said the groundwater results, with dissolved metals, is about the same. He explained at this site the risk driver is benzene (a component of gasoline and oils) so the same number is used in both calculations. He stated benzene was detected in one sample at 32 parts per billion compared to a maximum contaminant level of 5 parts per billion.

l. Mr. Kashatus next discussed Building 4680, a former gas station and vehicle repair shop, another site where there could be petroleum products present. He advised there had been many samples collected in the past as it had been a Maryland Department of the Environment site at one time because of underground tanks and a fuel station. Mr. Kashatus said the cancer and non-cancer risk numbers for total metals and dissolved metals are pretty much the same because metals are not the main risk driver at this site; benzene, naphthalene, ethylbenzene, xylenes (compounds contained in petroleum products) are driving the risk. He explained there are three sites where the State has the lead role for overseeing cleanup because of the presence of petroleum products. He said if this site was to become a State-lead site and petroleum products addressed through the State program and eliminated from the CERCLA risk analysis, the number would decrease but still be above the threshold numbers. He said this option would be further discussed for this site. Mr. Kashatus explained a Screening Site Inspection could be conducted which is less cumbersome than a Remedial Investigation. Ms. Green asked for confirmation that the numbers are based on someone actually drinking the groundwater, and no one is currently drinking the groundwater; Mr. Kashatus confirmed Ms. Green's statement. Mr. Butler asked if the site had already been closed under the State's Oil Control Program, and Mr. Kashatus responded it had been closed and noted there was no free product at the site which is a criteria for the Oil Control Program to address the site.

m. Mr. Kashatus reviewed the results for Building 8485. He stated numerous samples had been collected at this site. He advised the site had been used for vehicle maintenance and had a wash rack, and thus petroleum products were again a risk driver. He said the primary compound is naphthalene.

n. Mr. Kashatus discussed the results for Building 8486 and stated it was next to Building 8485 and used for similar purposes. He advised the sampling results were also similar with naphthalene driving the risk.

o. Mr. Kashatus said the next site he would discuss, Buildings 8549/8550/8551, was formerly a motor pool but also a biomedical maintenance facility. He said media of concern at this site is soil, as well as groundwater. Mr. Kashatus said chromium is the main risk driver for the cancer risk and petroleum products for the non-cancer risk. Mr. Butler asked if there was any more information found on what the biomedical maintenance facility did, and Mr. Kashatus responded there was not much detail in the site background documents. Mr. Wayne Dixon asked if there were any plans to check for low-level radiologicals, and Mr. Kashatus said he would see if he could find more information about the biomedical maintenance facility's activities and report that information at the next meeting.

p. Mr. Kashatus reviewed the investigation results for Motor Pool-1/Wash Rack-4, a former motor pool. He said soil is driving the risk at this site, with PAHs driving the cancer risk. Mr. Kashatus said one sample also had an elevated lead detection; further analysis found lead is not a issue at this site. Mr. Tibbetts asked if Mr. Kashatus could provide more descriptive information about a wash rack. Mr. Kashatus said a wash rack could be about the size of the meeting room and has several hoses/water connections; some are used just to wash personal vehicles and larger ones would be used to wash commercial vehicles.

q. Mr. Kashatus next discussed Motor Pool-5, a former motor pool. He said contaminants in groundwater are driving the risk at this site, with arsenic driving the cancer risk and arsenic and iron driving the non-cancer risk. He noted because detections at this site are very close to the threshold criteria, a Supplemental Site Inspection and a Risk Assessment may be done in place of a full Remedial Investigation.

r. Mr. Kashatus said the next step in the process for these sites is to respond to comments on the draft report from the regulators. He stated the final recommendation for each of the sites will be a no further action determination, a Supplemental Site Inspection, or a Remedial Investigation.

s. Mr. Kashatus summarized the overall PA/SI status by noting the draft report on the Southeast sites is being reviewed by the regulators, the Golf Course sites are complete, and the Army is addressing comments from the regulators on the other sites. Mr. Kashatus said he will be updating the Board on the North areas of interest at the next meeting.

8. Update on the Closed Sanitary Landfill:

a. Mr. Butler introduced Mr. Keith Shepherd of ARCADIS to give an update on the Closed Sanitary Landfill investigation.

b. Mr. Shepherd reviewed the topics he would be covering in his presentation--the history of the site, field investigations to date, summary of the findings, risk assessment results, summary of the feasibility study, proposed plan recommendation, and the project schedule.

c. Mr. Shepherd displayed a map of Fort Meade and noted the location of the Closed Sanitary Landfill in the far southeast corner.

d. Mr. Shepherd stated the site was used as the installation landfill from 1958 to 1996 and received mixed residential, commercial, and non-hazardous industrial waste. He noted all the cells were closed under the Maryland Department of the Environment solid waste requirements through the Resource Conservation and Recovery Act program. Mr. Shepherd displayed a list of when each cell was closed. He noted Cell 3 was not capped and is not being addressed as part of this project, but additional work will be conducted in 2015.

e. Mr. Shepherd displayed an aerial photograph of the landfill and stated Cell 1 is the largest cell, followed by Cell 2, and then Cell 3. Mr. Tibbetts asked about the ASP site on the photograph. Mr. Shepherd explained it is the Ammunition Supply Point, concrete bunkers where ammunition was stored at one time.

f. Mr. Shepherd stated that under the Maryland Department of the Environment solid waste permit requirements, semi-annual groundwater and surface water monitoring has been conducted at the site since 1994. He noted the current monitoring program includes 16 wells in the Upper Patapsco Aquifer, and 10 deep wells in the Lower Patapsco Aquifer. He said the shallow wells are sampled twice a year, and the deep Lower Patapsco wells are sampled annually. Mr. Shepherd advised there is also ongoing methane monitoring, and concentrations have been minimal.

g. Mr. Shepherd said the Remedial Investigation fieldwork conducted under CERCLA was done between 2001 and 2005. He explained it included collecting groundwater samples on and off-post to evaluate the impact of the waste materials in the landfill and other historical site activities. Mr. Shepherd said surface water and sediment samples were also collected to assess the impacts of runoff from the landfill areas. He stated surface soil samples were collected to support the preparation of the human health risk assessment to assess potential direct contact exposure.

h. Mr. Shepherd summarized the soil data, noting soil has been minimally impacted and is not a risk driver at this site. He advised two polychlorinated biphenyls (PCBs) were detected at one location above screening criteria; the location was a trench in Cell 3. He stated arsenic was detected sporadically across the site above the industrial screening concentration of 8.6 mg/kg, although arsenic is a naturally occurring element in this area.

i. Mr. Shepherd advised surface water and sediment data collected across the site did not have concentrations above the screening criteria.

j. Mr. Shepherd discussed the groundwater data, noting the investigation included installing monitoring wells and sampling both on-post and off-post. He stated long-term monitoring of the groundwater has been occurring semi-annually since 1994 and is ongoing. He noted review of this extensive data set showed that arsenic, benzene and nitrate are the only compounds consistently detected above associated drinking water standards. He added there are sporadic detections of other metals above drinking water standards, and these detections were assessed as part of the risk assessment.

k. Mr. Shepherd displayed graphics showing benzene and arsenic detections in groundwater since 2013. He said the benzene detections are slightly more isolated to MW-19, while the arsenic is detected in wells extending about 1,000 feet along the boundary. He advised in response to a request from the Maryland Department of the Environment, additional work was done in 2013 and 2014 to assess if benzene and arsenic detections extended off-post in the Odenton area. He continued explaining that as part of that investigation, one additional monitoring well was installed on-post adjacent to MW-19, and 6 geoprobe borings were advanced off-post in the County right-of-ways; groundwater was then collected at discrete intervals for benzene and arsenic. Mr. Shepherd displayed an aerial photograph showing the off-post borings and the additional on-post monitoring well.

l. Mr. Shepherd summarized the results of the additional groundwater investigation, noting benzene was not detected off-post above its drinking water standard with 1.8 parts per billion being the maximum detection. He said arsenic was detected above its drinking water standard in three samples from two borings locations. Mr. Shepherd displayed an aerial photograph with the investigation results. He stated benzene and arsenic are present above drinking water standards at the property line, and some arsenic detections are present off-post. He said sporadic and scattered detections of metals are driving risk and have been documented by the long-term semi-annual monitoring. Mr. Shepherd said groundwater is the only medium driving unacceptable risk, and that risk is only under a future on-post residential scenario.

m. Mr. Shepherd said a Feasibility Study was developed to evaluate options to address the low-level scattered metals exceedances across the site and also benzene/arsenic issues at the Fort Meade boundary. He explained land-use controls were included in all alternatives presented in the Feasibility Study; the on-post controls would be implemented through the Army's Master Land-Use Plan, and the Army is in discussions with the County on mechanisms to control future groundwater use off-post. Mr. Shepherd said there are currently no users of the groundwater in that off-post area; a map provided by the County showed everyone is on public water. He noted specific remedies were also evaluated to stop further migration of compounds off-post.

n. Mr. Tibbetts asked about the potential for the compounds to get into the Little Patuxent River or other surface water bodies. Mr. John Cherry of ARCADIS responded there is no creek or stream in the immediate area so there is a limited potential. Mr. Shepherd added that surface water sampling at the site has not found any exceedances. Mr. Tibbetts requested additional information be provided at the next meeting.

o. Mr. Shepherd discussed the four alternatives presented in the Feasibility Study for groundwater. He stated the first alternative is No Action which is required by law to be evaluated as a baseline for comparison to the other alternatives. He advised the second alternative is Monitored Natural Attenuation with Land Use Controls, essentially monitoring the well network. Mr. Shepherd explained the third alternative is Aquifer Air Sparging with Land Use Controls. He stated this alternative involves a series of air sparging wells installed across the 1,000 foot area along the property boundary. He noted the third alternative has higher capital costs than alternative two, but with the bulk of the costs being the long-term operation and maintenance costs. Mr. Shepherd said the fourth alternative is a Permeable Reactive Barrier with Land Use Controls which would be installed in the same 1,000 foot area. He added that zero valent iron would be used across the entire span, with the 250-foot area impacted by the benzene being treated with granular activated carbon. Mr. Shepherd noted alternative four also has high capital costs than alternative three but lower long-term operation and maintenance costs.

p. Mr. Shepherd displayed a diagram of the air sparging remedy. He explained there is a blower in the central area that would feed air into the wells which would volatilize organic contaminants (benzene) and precipitate out inorganic contaminants (metals).

q. Mr. Shepherd displayed a diagram of the permeable reactive barrier. He explained the groundwater plume would follow the natural flow gradient and as it flows through the barrier or wall, the groundwater would be treated and clean water would be moving off-post.

r. Mr. Shepherd said the alternative recommended in the Proposed Plan is alternative three, Aquifer Air Sparging with Land Use Controls. He noted this alternative is protective of human health and the environment by eliminating potential exposure and incorporates active remediation to reduce toxicity, mobility and volume of contaminants as preferred by Maryland Department of the Environment. Mr. Shepherd advised alternative three is equally effective as alternative four and could be done for a lower cost. He added that the long-term monitoring of the landfill would continue. Mr. Tibbetts asked if there were any disadvantages to alternative three as compared to the other alternatives, and Mr. Shepherd said he was not aware of any disadvantages. Ms. Kerry Topovoski asked if the arsenic goes into the soil after it is precipitated out of the groundwater, and Mr. Cherry responded the arsenic is no longer mobile in the sub-surface soil. Ms. Green added that oxidized arsenic is less soluble so it forms a mineral precipitate.

s. Mr. Shepherd displayed a conceptual layout of the air sparging remedy. He pointed out the green dots as the locations for the 28 air sparge wells which would be installed at 40-foot intervals down to the Upper Patapsco Aquifer, approximately 40 feet deep with four-foot screens. He advised the blue dots would be performance monitoring wells that would be installed on either side of the air sparge curtain to test the effectiveness of the system.

t. Mr. Shepherd advised the Feasibility Study is currently under Army review and will be submitted to stakeholders later in September. He added the Proposed Plan is also under Army review and is anticipated to be released for public comment in the late fall; he stated there would be a public meeting during the public comment period. Mr. Shepherd said the Record of

Decision and implementing the remedy would occur in 2015 to 2016. Mr. Butler asked if there was a projected duration for the treatment, and Mr. Shepherd responded 30 years is the timeframe. Mr. Butler noted that corridor was identified for future development of a elevated Baltimore to Washington transit system, however, it would be elevated so it would go right over the air sparging system.

u. Mr. Shepherd displayed a graphic showing the hydrogeologic setting of the Closed Sanitary Landfill. He pointed out the Operable Unit 4 area where the Lower Patapsco Aquifer is present at the ground surface, and then heading in a southeasterly direction, the Middle Patapsco Clay layer outcrops on a portion of Operable Unit 4. He continued explaining that heading further southeast towards the Closed Sanitary Landfill, the Upper Patapsco Aquifer is at the ground surface.

9. Update on Manor View Methane Gas Monitoring:

a. Mr. Butler asked Mr. Shepherd to next give an update on the Manor View Methane Gas Monitoring.

b. Mr. Shepherd displayed an aerial photograph showing the sampling results. He advised a sampling of all 43 locations was done in March 2014, and no methane was detected above the lower explosive limit. He said a second round of sampling was done in August 2014 of 17 locations, and there was one lower explosive limit exceedance of 9.1 percent at VMP-26.

c. Mr. Dixon asked about the plans for the vacated nearby homes. Mr. Butler responded that there have been discussions with Corvias about the potential for re-occupancy of the homes, and they are looking at options such as installing sub-slab vapor removal systems coupled with the monitors in the homes. He estimated it would probably be at least a year before such construction would occur. Ms. Topovski stated the homes had been vacant for nine years, and while the results are fairly steady and showing detections below low explosive limits, the most conservative protective measures are being applied. She asked if the conservative measures are because there are some concerns about exposure risk. Mr. Butler said there was not enough information to define what the risk was until the methane-generating waste had been removed; there is now a comfort level that there is not going to be any large methane plumes generated and the data continues to be collected to confirm. He stated there continues to be sporadic, periodic low-level detections of methane which is believed to be generated by the organic material (such as trees and shrubs) at the site. Mr. Butler said the homes have remained vacant as the Army did not want to move military families in and then have to move them out if the levels changed.

8. Update on the Nevada Avenue Investigation:

a. Mr. Butler introduced Ms. Denise Tegtmeyer of Osage of Virginia to give an update on the Nevada Avenue investigation.

b. Ms. Tegtmeyer advised she would be giving an update on the monthly sampling results. She displayed a table and chart showing monitoring results from the last 12 months

through August 2014. She advised September samples had been collected, but the results were not yet available. She stated the results showed levels below maximum contaminant levels. Ms. Tegtmeier displayed a map showing the well locations. Ms. Green asked if the higher detections were related to the drilling of the new monitoring wells, and Ms. Tegtmeier responded there were temporary spikes during the sampling of the new monitoring wells.

c. Ms. Tegtmeier said the next steps in the project are working with the regulators to resolve comments on the groundwater investigation report in the next few weeks and issue a final report. She noted the Army will continue monitoring of those homes on Nevada Avenue through March 2015, with the potential to extend these services under a new contract after that point. She advised a new bottled water contract had been put in place with options that would extend it for an additional two years beyond the current one-year performance period.

d. Ms. Topovski asked what steps the Army is going to take to continue to try and rule out the Army being a source of the detections on Nevada Avenue. Ms. Tegtmeier responded that issue is part of addressing comments on the groundwater investigation report as comments from the regulators asked how the Army could determine the installation is not the source. She said data from numerous wells upgradient on Army property and hydrogeology information is being compiled to provide additional information as to why the Army believes it is not the source. Mr. Tibbetts said he did not see a definitive Army source for the contaminants. Ms. Tegtmeier said the purpose of the investigation was to determine if the Army was the source, not who is the source; she stated if the Army was determined not to be the source, it would be up to the regulators to further investigate. Ms. Green said the matter would be handed over to Maryland Department of the Environment's Controlled Hazardous Substances Division, and they would decide whether to pick up the investigation.

11. Open Discussion/New Business:

a. Mr. Butler noted Mr. George Knight had emailed to everyone a proposed update of the Board's charter. Mr. Butler asked the Board for suggestions on how best to review the proposed changes and finalize the charter. Mr. Knight suggested since the Board has only had a few days to look at the proposed changes, time be set aside on the next meeting agenda to discuss the updates. He also suggested Board members e-mail him with any comments before the next meeting. The Board concurred with Mr. Knight's suggestions. Mr. Tibbetts suggested the section on a retention election or term limits be re-considered as it takes a fair amount of time for a member to become familiar with the issues and scope of the environmental restoration program.

b. Mr. Tibbetts asked the Army and regulators if they were satisfied with the input provided through the Board meetings or would they like to see more written comments. Mr. Butler said the Army assumes that if no written comments are received, the community members are satisfied with the actions proposed by the Army.

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c. Mr. Butler invited Board members to contact him with any suggestions for topics for the next meeting. Mr. Tibbetts reminded Mr. Butler the next meeting would include the election of a community co-chair.

d. The meeting was adjourned at 8:44 p.m.

MICHAEL P. BUTLER
Chief, Environmental Division

CF:
RAB MEMBERS
FGGM GARRISON COMMANDER
PUBLIC AFFAIRS OFFICE