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FINAL PARTNERING TEAM MEETING MINUTES 2 AND 3 JUNE 2015 MCB CAMP LEJEUNE
NC
8/18/2015
CH2M HILL

Marine Corps Installations East – Marine Corps Base Camp Lejeune IR Partnering Team Meeting Minutes

MEETING DATES: June 2-3, 2015

LOCATION: MCIEAST-MCB CAMLEJ, NC

ATTENDEES:

Bryan Beck/NAVFAC	Kim Henderson/CH2M HILL
Dave Cleland/NAVFAC	Dan Hockett/CH2M HILL (Day 2)
Gena Townsend/EPA Region 4	Matt Louth/CH2M HILL
Beth Hartzell/NCDENR	Dylan Elks/Osage (Day 1)
Randy McElveen/NCDENR	Shaun Whitworth/Osage
Marti Morgan/NCDENR	Mark Pisarcik/Tetra Tech
Monica Fulkerson/CH2M HILL	James Macdonnell/Sepi

FROM: Kim Henderson/CH2M HILL

DATE: August 18, 2015

June 2, 2015

I. Introductions, Logistics, Check-In

II. Review Agenda/Ground Rules/Action Items/Meeting Minutes

The status of Action Items identified during the previous meeting and on-going Action Items are tracked in the attached spreadsheet.

Consensus – March 2015 meeting minutes are approved.

III. Base/Navy Time

Updates on the following were:

- **UXO-19 ROD** – The Base is currently reviewing the ROD and provided it to MCSC for review since it is the first Marine Corps MMRP ROD. Dave noted that Navy legal already reviewed the ROD so if there are changes, Navy legal may need to re-review. The ROD is planned for signature the end of this fiscal year.
- **ATSDR** – The Base has adopted the EPA Region 9 values and this is being evaluated at higher levels to determine the path forward for evaluating VI based on political concerns. At the last CAP meeting in May, Building 133 was discussed and concerns were raised about ongoing VI exposures and notifications. A VI study was conducted and investigated at SWMU 133 and PCE was detected in soil but there were no exceedances of VISLs.
- **Site 73 Air Sparge Equipment** – Osage sealed the distal ends of the well and the injection station, removed and recycled the equipment (with exception of the trailer) and fence, and before and after pictures were shown. Randy recommended signs be installed.

Action Charity – Look into installing signs at the distal ends of the Site 73 air sparge well and injection station to make people aware that it is a remediation well.

- **Navy Contract Vehicles** – Navy CLEAN is at capacity. Osage and Sepi have graduated from the 8A program and sole sourcing is no longer an option. The Navy is currently looking for five small disadvantaged contractors for sole sourcing work to. In the meantime, the Navy is operating with the contracts and

funding that are already in-place so any added work has the potential to impact current work (e.g., O&M). Starting next year, the Navy will also fund RCRA SWMUs and the Base will receive less funding for activity support.

IV. Site 82 Treatment Plant

Objective: Discuss treatment plant operation, options to determine the path forward, and the PCA effluent standard.

Overview: A presentation was reviewed by Dylan. The carbon matrix was replaced in October 2014 and following replacement, there were no VOC detections in the effluent. In December 2014, PCA and TCE were detected and initially the source was thought to be leaking valves that were replaced in April 2015. In April 2015, PCA was detected at the highest concentration in excess of the NCSWQS. SRW-1 and 2 are located within the highest concentration areas and are believed to be the contributors so SRW-1 was immediately reviewed over time. Diagnostic sampling was then conducted along the effluent pathway to isolate potential system failures and the plant was temporarily shut down. The data indicated diminished treatment capacity in both the air stripper and carbon matrix. There was no cross-contamination identified or any individual problem in the treatment process. Therefore, it was determined that the system is not operating at the optimal level and needs to be optimized. Currently, SRW-1 and 2 are offline and weekly testing is being conducted. PCA has not been detected.

Iron and calcium fouling has had a large impact on system efficacy by limiting functionality and the effective life span of the air stripper and carbon filter media. The air stripper data was reviewed and there is a decreasing trend on performance since 2011. The filter media is highly cemented and coated, creating channeling, and was last replaced in 2009. Overall, since 2011, the efficacy of PCA treatment has dropped an average of 3% per year.

The air stripper life span is four to five years and is in need of replacement or rehabilitation. The estimated cost for replacement is \$41,500 to \$50,000. For rehabilitation, a lab tested the material to determine an effective chemical for cleaning and successfully cleaned the tested piece. The estimated cost for rehabilitation is \$250,000.

Carbon was last replaced in 2013 and 2014 and the efficacy quickly decreased. In 2014, virgin carbon was used and a longer life span was expected; however, in less than eight months, 2/3 of the loading capacity was reached. Carbon replacement will be needed in the near future. Virgin carbon costs approximately \$33,000 and reactivated carbon costs approximately \$14,000-\$18,000. Optimizing the air stripper could extend the life of the carbon.

In summary, because both the air stripper and carbon are impaired, VOC breakthrough has been observed in effluent. The options discussed included:

- **Sand filtration system** - Installation upstream of the air stripper to remove suspended solids, including iron and calcium which would cost approximately \$18,000-\$26,000.
- **Aeration of the settling tank** – Installation could be stand-alone or an enhancement to the sand filtration system for an effective pre-treatment which would cost approximately \$1,500-\$2,000.
- **Reactivation of former metals treatment system** - The Team discussed the old metal flocculation treatment system and whether that could be put back on-line. However, the system was designed to treat metals and they were not being detected in influent. Mark indicated that the sister system at NSN has metals treatment as well but it was to treat nuisance metals and then there is a sand filtration also prior to the air stripper. Dylan indicated that to put the metal treatment back on-line, it would need to be re-engineered and re-built, including the piping, pumps, and control logic. No current cost estimate.

The air stripper matrix should be replaced as soon as possible to increase the life span for the carbon that is planned for replacement in October 2015. Sand filtration and enhanced flocculation via aeration are also recommended. At Site 78, there is a similar set-up and it works well.

Gena indicated that we added additional wells since the system was installed and cleaning is needed but because there is more PCA to treat, cleaning may not solve the problem. The Team agreed that this is a maintenance activity that has been prolonged and is now needed.

The Team discussed whether PCA was not a COC in the ROD because it was not detected or it was not exceeded. It may not have been detected and is being delineated as part of the SRI activities.

The current PCA standard is the NCSWQS for human health based on fish consumption at 4 µg/L and if a daily effluent discharge limit was calculated, the standard could be more conservative. The Team previously discussed re-developing effluent standards as part of the Five-Year Review and it was included as a recommendation but they have not yet been calculated since it requires a post-ROD change and will result in re-evaluating all of the effluent standards.

New recovery wells are planned in the source areas identified in the SRI to be added this year so the system needs to be optimal prior to installation of the new wells. The air stripper is the priority and carbon replacement is planned in October 2015. The Team agreed that the sand filtration system should be installed concurrently and discussed potential impacts to the O&M capacity.

As part of the plan for the new recovery wells, an evaluation of the additional mass loading and influent volume will be conducted and recommendations will be submitted so that funding can be programmed.

Consensus – The Team agreed to replace the air stripper matrix and carbon, install a sand filtration system, and install aeration of the settling tank at the Site 82 treatment plant.

V. Sites 6/82, 88, and 96 Updates

Objective: Discuss Site 82 source area and treatment plant evaluations, review SRI schedule, and sign the UFP-SAP. Discuss any comments on the Site 88 TS Work Plan and review the schedule. Discuss any comments on the Site 96 RI UFP-SAP, sign the UFP-SAP, and review schedule.

Overview: A presentation was reviewed by Monica. For Site 82, a source area and treatment plant evaluation is planned to evaluate the effectiveness and capture zones of extraction wells in areas of elevated concentrations of COCs and assess treatment plant effectiveness to include additional mass/volume concentrations. The preliminary conceptual design is to install five six-inch extraction wells and conduct a capture zone evaluation. Monitoring wells will be installed adjacent to the new extraction wells and groundwater sampling will be conducted for VOCs prior to and post-startup. A Tech Memo Work Plan is planned to present source area evaluation design, evaluate mass and volume of influent, and assess treatment plant operation to account for current and additional influent. Conveyance lines are preliminarily planned to minimize going through the UXO-22 boundary. The site walk findings will be presented and discussed as part of the UXO-22 presentation tomorrow.

The UFP-SAP for the SRI at Sites 6 and 82 was finalized in April 2015 and the Team signed the signature page. MIP/DPT and well installation is planned in June 2015 followed by groundwater, pore water, ephemeral drainage feature evaluation and risk assessment in July 2015.

For Site 88, the Draft Tracer Study Work Plan was submitted to the Team in May 2015 and includes the UIC permit notification package. Gena has no comments on the work plan and it is pending Base, Navy, and NCDENR review. The soil mixing area soil sampling is planned in July 2015 and the Tracer Study is planned in July/August 2015.

Action Charity – Look into soil sampling following the water tower removal at Site 88 based on concerns for potential lead and PCB contamination from paint.

Action Monica – Coordinate with the Base on the soil sampling within the Site 88 parking lot and the Site 96 RI field activities, and coordinate with the Navy and the Base on the Site 88 tracer study.

For Site 96, the Draft RI UFP-SAP was submitted to the Team in May 2015, no comments were received, and the Team signed the signature page. The RI field activities are planned in July/August 2015.

VI. Site 69 IRACR and O&M

Objective: Present IRACR status and schedule, present O&M requirements and schedule, and present recent maintenance activities.

Overview: A presentation was reviewed by Mark. The IRACR is with the Navy and Base for review in May 2015 and is planned for submittal to the Team in June/July 2015.

O&M requirements include site inspections quarterly and after major storm events, bi-annual cap inspections, annual monitoring well inspections. The site and cap inspections will be conducted by the Base and the monitoring well inspections will be conducted by CH2M HILL. Maintenance activities include mowing and corrective action maintenance that will be conducted by Tetra Tech. Tetra Tech will also prepare an annual report with a summary of the inspections, deficiencies, corrective actions, and maintenance log.

The Team discussed whether the EPA and NCDENR should receive the annual reports and decided they should receive the finals electronically. The quarterly inspections will be conducted in October, January, April, and July with the bi-annual inspections in October and April and the annual inspection in June 2015. Mowing is planned in October, April, July, and August.

Recent maintenance activities were conducted in May 2015 and including mowing and vegetation clearing, fence repairs, installation of vehicle turn-arounds and access-ways, pothole repairs, some re-seeding and fertilizing.

VII. Site 89 Update

Objective: Review update on air sparge (AS) operations; April 2015 AS, soil gas, and surface water results; and schedule.

Overview: Presentations were reviewed by Shaun and Monica. The AS system operated from January 13 to April 20, 2015. The maximum flowrates in the horizontal AS wells got closer to design parameters; however, the vertical AS rates were low. The screens for the vertical AS are in a low conductivity formation, clogged, or a combination of both since they do not response to added pressure. The system was shut-down due to a power surge caused by weather. Groundwater samples were collected from the AS area the week of April 27 and the system was restarted on April 30. The groundwater results were generally consistent with previous and at MW80DWR there was a significant decrease of TCE.

The April 2015 soil gas monitoring at Building TC864 indicated that one location exceeded the Industrial SGSL but was below Base-specific SGSL. Previously, concurrent soil gas, indoor air, and outdoor air sampling was conducted after soil gas exceedances in August 2014 and there were no exceedances of VISLs in indoor or outdoor air. The building is used for storage and accessed infrequently and sporadically. Therefore, continued quarterly soil gas monitoring is planned.

Action Charity – Look into the occupation frequency at Building TC864 at Site 89.

The AS system was re-started on April 30 and flow rates increased gradually. Groundwater levels are monitored daily with minor flow rate adjustments (~10 SCFM) 2 to 3 times per week. To improve vertical AS flowrates, cleaning the microporespargers with acid solution is recommended to reduce or eliminate fouling. The manufacturer of the well screens will be contacted to ensure material compatibility. If the cleaning does not work, other options will be considered. The groundwater performance monitoring is planned to be realigned to match the O&M schedule annually (April 2016) or during system shutdowns.

In downgradient surface water, the results were above the NCSWQS for 1,1,2,2-PCA during the December 2014 and April 2015 events and there has been a reverse correlation between temperature and concentration. The Team discussed the need for signs in the area, the previous HHRA, and aerator capacity to determine if it could be operated at a higher rate in the colder weather.

Action Monica – Look into the surface water HHRA results and concentrations in comparison to current concentrations at Site 89.

Action Shaun – Look into the aerator capacity to determine if it could be operated at a higher rate in the colder weather at Site 89.

The next performance monitoring for the PRB, aerators, and MNA is planned in June 2015.

VIII. LTM

Objective: Review LTM approach, results, and scoping for next year; discuss options for reporting; and review the schedule for LTM and the pilot studies.

Overview: A presentation was reviewed by Monica. The LTM approach and current status, the conclusions and recommendations from the FY 2014 report, the results from FY 2015 results, and scoping for the FY 2016 UFP-SAP, with flexibility to cover future sampling, were reviewed for Sites 3, 6, 35, 36, 49, 69, 73, 82, 86, 89, and 93.

Action Monica – Add previous Site 35 surface water data and previous Site 73 vapor intrusion results to the FY14 LTM report. Confirm that COCs being recommended for removal are not degradation products before recommending removal.

Consensus – The Team agrees to discontinue BIOCHLOR modeling and surface water sampling as part of Site 36 LTM and instead compare the most downgradient surficial aquifer groundwater to 10xNCSWQS and if there are exceedances, surface water will be sampled.

At Site 69, an updated determination of applicability will be prepared for a certain timeframe based on the chemical agent results and groundwater flow rate.

Consensus – The Team agrees to the general approach for LTM at Sites 3, 6, 35, 36, 49, 69, 73, 82, 86, 89, and 93 for the UFP-SAP.

Based on the LTM schedule resulting in a lag for producing LTM reports annually, the Team discussed options for streamlining and to provide information that is more current and relevant at the time of submittal. Quarterly reporting, quarterly submittals and annual reporting, electronic reporting, and other options were discussed.

The Team discussed streamlining the UFP-SAP process by adding flexibility into the “FY16” UFP-SAP to apply to future years and the possibility for the lab to be under a master services agreement for future years or by including the UFP-SAP requirements in the previous year’s report. For reporting, delays are based on lab and data validation standard turn-around-times and Navy/Base reviews prior to Team’s reviews. The Team discussed options for sampling all the annual sites in one quarter of FY15 and reporting them as completed and site-specific reports. The Team agreed to site-specific LTM reports within six months of sample collection and combining the FY15 and FY16 reports.

Action Monica – Develop LTM and reporting schedule for review at the next meeting.

The Draft FY13 Annual Report was submitted to the Team in May 2015. The Draft FY14 Report is planned for submittal to the Navy/Base in July 2015 and to the Team in September 2015. The FY15 Q3 LTM event is being conducted next week.

The pilot study injection and monitoring wells were installed at Sites 3, 36, and 93 and baseline sampling was conducted in May 2015. The injections at Sites 3 and 36 are planned in June 2015 and the bioreactor installation at Site 93 is planned in July 2015. Quarterly monitoring will begin in October 2015.

I. Five-Year Review

Objective: Respond to any comments, review draft milestones tracking sheet and finalize milestone dates, and discuss schedule.

Overview: A presentation was reviewed by Kim. The draft report was submitted to the Team in April 2015. Beth has reviewed and has no comments. Gena has reviewed and provided comments and responses were provided at the meeting. The sentence regarding the Site 89 PRB (upgradient vs. downgradient) should be revisited for clarification).

Action Kim and Gena – Meet to discuss and resolve the Site 24 Five-Year Review comment.

Action Dave and Kim/Matt – Meet to review and revise the Five-Year Review milestones and send to the Team.

Review is pending from Dave, Charity, EPA legal, and Randy. A formal RTC will be provided once all comments are received and the report will be finalized and signed by August 2015.

II. Vapor Intrusion Update

Objective: Discuss the planned at Building HP-57, review recent IRP VIMS O&M data, and review the schedule.

Overview: A presentation was reviewed by Matt. At Building HP-57, where previous TCE detections have occurred, additional sampling is planned in summer 2015 to further investigate individual barracks rooms with a combination of HAPSITE and SUMMA Canisters and indoor air sampling in Building 67. Additionally to conduct a pilot study for sewer mitigation/ventilation at connection with Building HP57 and incorporate the plan for full implementation near former Building 25 source area into the Site 88 FS. Follow-up indoor air screening/sampling of Buildings HP55, 58, and 59 (commercial buildings previously sampled) are also planned.

The quarterly VIMS O&M conducted at 5 buildings at IRP Sites 78 and 88 through Round 12 indicate that the vacuum and flow measurements indicate the VIMS generally operating as designed. A high water table was observed and indicated:

- Building 1005 - Systems 9, 11, and 13 connected to SVE system to prevent water from entering blowers
- Building 1115 - saturated conditions resulted in positive differential pressure; however, VIMS vacuum and flowrate indicated consistent operation
- Building 902 - SG11 probe compromised and will be abandoned and re-installed, air is being drawn through concrete slab joints and they will be sealed with caulk, and water entrainment in select vacuum nodes will continue to be monitored for water accumulation and the vacuum reduced if needed

The Round 11 VIMS Tech Memo and Round 12 Checklists were submitted to the Team in May 2015. Round 13 O&M is scheduled in June 2015 and includes quarterly inspections and indoor/exhaust sampling. The updated O&M Manual to include changes to Building 1005 system is planned for submittal to the Navy/Base in June 2015 and to the Team in August 2015.

A VIMS Management Plan and VI Evaluation Status Report have been drafted for the Base to provide a summary of VIMS installed/buildings evaluated, available drawings, and future activities/schedule. They combine IRP, RCRA, UST, and due diligence sites.

June 3, 2015

III. Check-In

IV. Partnering Exercise

Monica led a team-building exercise.

V. Site 78 Path Forward

Objective: Summarize the Site 78/HPFF technical meeting, discuss objectives and approach for evaluating alternative technologies, and discuss path forward and schedule.

Overview: A presentation was reviewed by Monica. At the April 2015 meeting with Rhea and Catlin, the Team discussed the current status and remediation strategy for HPFF to support planning the path forward for Site 78 and reviewed the extent of CVOCs and BTEX. The outcome was to conduct additional VOC delineation under CERCLA to delineate to NCGWQS since the UST program delineates to less conservative GCLs. Three wells in the UCH and 1 well in the MCH aquifers were proposed. Charity raised concerns that we are sampling for petroleum-related constituents where CVOCs are not co-mingled and should fall under the CERCLA petroleum exclusion. The

Team discussed that without the delineation we don't know that there are not CVOCs but if there is only BTEX then it will be addressed under UST.

An alternative treatment evaluation is being conducted. The approach is to re-evaluate RAOs, identify all potential alternate technologies, estimate timeframes and costs associated with each alternate technology, evaluate technologies using decision tree matrix, select preferred technology, and identify data gaps that require resolution for design. This approach has been carried through for the northwest woods area and the results were reviewed. Pump and treat (P&T) via horizontal well to a target treatment level, air sparging (AS) for five years, and MNA to NCGWQS were evaluated. Based on the decision tree analysis and risk profile evaluation that compares the probability of success and the costs, AS < P&T < MNA. For AS, there is high uncertainty in the decision making zone between 58 – 78%, representing a \$1.1MM uncertainty that should be further evaluated. For P&T, there is also a high uncertainty in the decision making zone between 75 – 100%, representing a \$2.4MM uncertainty that should be further evaluated. Also for P&T, while costing marginally more than AS in the decision making zone, it appears to have more cost certainty.

The previous RAOs from the 1994 ROD were to:

- To prevent current or future exposure to the contaminated groundwater and contaminated soils
- To remediate groundwater contamination for future potential use of the aquifer
- To treat or remove contaminated soil from designated areas of concern

Potential RAOs are to:

- Restore groundwater quality to meet NCDENR and federal primary drinking water standards based on the classification of the aquifer as a potential source of drinking water [Class GA or Class GSA] under 15A NCAC 02L.0201
- Prevent exposure to COCs in groundwater and vapor intrusion from COCs in groundwater until such time as groundwater concentrations or vapor mitigation measures allow for UU/UE

The Team will need to consider cost, remediation timeframe, public perception, implementability, and receptors for each area.

Data gap resolution such as aquifer testing, tracer testing, and/or soil sampling could be conducted to either refine the technologies prior to selection or as part of the design. The next steps are to repeat the alternate technology evaluate for the remaining target treatment areas. At the next meeting, consensus on RAOs, alternate technology selection, and data gap resolution for each area is planned. The Team discussed evaluating the site as a whole and how the remediation systems will tie together.

The Draft Treatability Study Report is planned for submittal to the Navy and Base in July 2015 and to the Team in September 2015.

VI. UXO-23 NTCRA

Objective: Discuss the RAWP for the UXO-23 NTCRA Soil Removal and Disposal Phase II, RTCs, and review schedule.

Overview: A presentation was reviewed by James. The Draft RAWP was completed and distributed to the Team for review, comments were received and are being addressed and the Final will be distributed this month.

The text will be amended to reflect EPA's comments on wording changes. NCDENR's comments were related to the calculations for stormwater control for the "Temporary Sediment Trap". The ESCP will be updated to include the volume to show that there will be enough storage in the sediment traps for no discharge. Charity indicated that the Base construction inspector will also need to review.

Base EMD had comments regarding the truck route use Piney Green gate, access to Base scales, which will be revised in the Final RAWP. A pre-construction meeting with the ROICC is planned for next Monday and coordination with RCRS will also be conducted. The plan is for 10 tractor trailers with 2 loads/day. Compaction is planned with an 84" vibratory roller. The Team discussed that for compaction to allow for passenger vehicles and maintenance is all that is needed.

Action Charity – Send James the 3R training video.

Action Kim – Set up a call next week with Charity, Tom, James, Dave, and Bryan to discuss ESS requirements for the UXO-23 NTCRA.

Mobilization is scheduled to begin in June 2015 with excavation, transport, and disposal from June to August 2015. Backfilling and site restoration will be conducted in August/September 2015 and the project closeout report is planned for December 2015.

VII. Sites UXO-23 and UXO-24 Field Schedules

Objective: Sign the UXO-23 UFP-SAP, discuss any comment on the UXO-24 UFP-SAP, and review schedules.

Overview: A presentation was reviewed by Dan Hockett/CH2M HILL. Updates for each site were as follows:

- **UXO-23** – EPA and NCDENR had no comments on the RI Addendum UFP-SAP and signed the signature page. The mound and container areas sampling is planned in June/July 2015 and the theoretical shot fall zone groundwater sampling will be completed after the NTCRA.
- **UXO-24/Site 37** – The ESI UFP-SAP for waste delineation and characterization was submitted to the Team in May 2015 and is pending review. Patti's name will be removed from the document. An ESS DR for the grassy area to west of UXO-24 was submitted to the Base in May 2015; however, Charity heard from MCSC that it is not needed. The ESS Amendment 1 was submitted to MCSC in May 2015. Mobilization for non-intrusive activities can be conducted, including vegetation clearance and DGM can be initiated. Pending ESS approval, the remaining field investigation is planned in July/August 2015. Charity indicated that the Base will implement LUCs based on the waste disposed and potential for munitions.

VIII. Sites UXO-22 ESI

Objective: Provide an update on the DRMO activities, review battery test pit findings, present site walk results, and discuss the path forward and schedule for the ESI Report.

Overview: A presentation was reviewed by Dan Hockett/CH2M HILL. In the DRMO area, large metal debris removal, surface clearance, and soil sifting was completed in March 2015 to reduce risks to site workers and potential trespassers. No MEC and over 6,000 MPPEH items were identified.

A phased battery investigation was conducted to address exposed batteries as continuing source to ephemeral drainage and was completed in March 2015. Other debris such as communication wire; pressure vessels that were insulation covered and tested negative for asbestos; a black unknown substance that was tested and the results indicated elevated TPH, SVOCs, and lead; and 270 MPPEH items were identified. Soil samples (1 to 4 ft bgs) were collected from the base and sidewalls of the disposal area and analyzed for metals. There were exceedances of background plus one or more screening criteria. No unacceptable human health risk was identified. Potential ecological risk was identified due to mercury and zinc but the samples are now covered with 2 ft of backfill.

The site walk was conducted in wooded areas of OU2 in March 2015 and widespread discarded debris was identified including MPPEH, scrap metal, drums/tanks, batteries, etc. Mounded areas that are possible disposal areas were also identified.

The ESI report will include previous DGM and intrusive investigation results, DRMO area findings, and test pit and site walk findings. The conclusion is that there is widespread disposal in the surface and subsurface but that the explosive hazard is low. The recommendations are that the site be transferred from the MMRP to IRP and add the UXO LUC to OU2. Additionally, further evaluation of the drainage and potential transport to Wallace Creek is being conducted as part of the OU 2 SRI. The Draft ESI Report is planned for submittal to the Navy/Base in July 2015 and to the Team in September 2015.

The Team discussed sampling based on the site walk and whether it may help to identify other potential sources. Charity requested a surface clearance for the potentially hazardous debris including munitions debris. Randy

showed photos of the pit of munitions debris. The Team discussed options for mitigating risk including surface clearance or fencing off the areas.

IX. UXO-06 FS

Objective: Review FS content and provide schedule update.

Overview: A presentation was reviewed by Matt. The RAO is to reduce or prevent the potential for direct physical contact with MEC/MPPEH. The RAO applies to the Cantonment Area B, Wooded, and Limited Use Areas.

Alternatives include no action, LUCs, Surface and Subsurface Removal (DGM and MEC Clearance) and LUCs, and Surface and Subsurface Removal (via Soil Screening) and LUCs. The Team discussed the Industrial/Non-Industrial LUC to include language regarding a requirement for restriction or approval for any site development and the presentation was revised real-time. Charity requested that the wooded area boundary to the west be extended to the adjacent western roadway (outside the area that was investigated) but indicated that she also wants to look into eliminating wooded areas where only flares were found and plans to revisit the RI data. Additionally, the assumption for Base EOD disposal of MEC needs to be revisited since Base EOD will only provide emergency response.

Based on discussion at the last meeting, access control options for the Wooded and Limited Use Areas were developed and reviewed with respect to fencing and signage options. The Team agreed that Options 4 and 5 for fencing along high traffic areas but with open targeted access points (no gates) with signs at the access points; and signs only (with greater spacing ~1,000 ft).

The Draft FS is planned for submittal to the Navy/Base in June 2015 and to the Team in August 2015. At the next meeting the Team can choose the preferred alternative for the Proposed Plan. UXO construction support for the force main MILCON investigation in the Cantonment Area in July 2015.

Charity recommended an ESS DR for the area where no further action is planned in the Cantonment Area (Areas A and C) for MCSC review and concurrence.

X. UXO-19 ROD

The Team reviewed the schedule for the ROD. Once Base comments are received, the Draft ROD will be submitted to the Team for review. The plan is for the ROD to be signed this FY.

XI. SDZ EE/CA

Objective: Provide update on recent activities; review updated EE/CA alternatives, methodologies, and comparative analysis; and discuss path forward.

Overview: A presentation was reviewed by Charity. Recent activities include warning sign installation in November 2014, a website updated in December 2014, and a meeting with Base stakeholders and MCSC for concurrence on the recommended EE/CA alternative. The alternatives include:

- Alternative 1 – No Action
- Alternative 2 – LUCs
- Alternative 3 – Remaining Anomaly Investigation and LUCs
- Alternative 4 – Underwater DGM, Anomaly Investigation, and LUCs
- Alternative 5 – Terrestrial and Underwater DGM, and Anomaly Investigation

Alternative 3 was the recommended alternative based on overall protectiveness of human health and the environment is high (compared to just LUCs), a lower degree of difficulty (i.e., more feasible), and effectiveness at reducing overall risk (lower cost with same long-term restrictions versus Alternative 4). The LUCs and long-term management associated with Alternative 3 are to maintain existing warning signs, conduct visual inspections of accessible areas periodically, a public communication plan, and to modify the CFR to include reduced MRS area for “unknown element of risk”.

The Team discussed the difference between conducting Alternatives 3 vs. 4, Alternative 3 removes known anomalies whereas Alternative 4 includes re-DGM underwater, but there is an overall low explosive hazard either way and LUCs would still be required. Gena recommended revising the alternative titles to Anomaly Source Removal instead of Anomaly Source Investigation.

The next steps are for Charity to send the EE/CA to the EPA and State for review and acknowledgement or concurrence letters will be requested. Following review and concurrence, the Base will propose the alternative to the CG and coordinate with the ACOE on the CFR modification that is planned not to restrict but to provide notification of the unknown risk due to potential for explosive hazards.

XII. UXO-28 and UXO-29 Planning

Objective: Provide site background and history, present PA/SI sampling approach and gain consensus for the UFP-SAPs, and review schedule.

Overview: Presentations were reviewed by Matt by site as follows:

- **UXO-28** – The Wallace Creek Phase 1 MRS is a 58-acre site within the Wallace Creek MILCON area that overlaps the theoretical shotfall zone of UXO-23. It was identified based on MEC/MPPEH found during MILCON and the NTCRA and the site boundary is based on findings and historical aerial photo reviews, identified as areas of previous land disturbance with a 300 ft buffer. The PA/SI is planned to evaluate the nature and presence of MEC/MPPEH and the potential for MC contamination, evaluate whether conditions pose potential risks to human health and the environment, and determine the path forward for UXO-28. The proposed approach is a focused investigation of areas previously not investigated/disturbed such as areas that have not been cleared for MILCON and areas that are not part of the NTCRA. Field activities include vegetation clearance and utility locating, DGM in transects and intrusive anomaly investigation of 1 acre or 3% of the areas not previously investigated (32 acres), and environmental sampling for munitions constituents. Surface soil sampling is planned in 10 decision units of approximately 3 acres each using the incremental sampling method. Subsurface soil and groundwater sampling at five locations is planned based on surface soil sampling results and/or locations of MEC/MPPEH. Charity asked about the depth for equipment detection which is 18 ft bgs and if we were just looking for 81 mm, it would be 2 ft bgs. The Team discussed the % coverage for DGM and intrusive investigation and that 45% of the site has already been investigated. Charity noted that part of the objective is to delineate a boundary outside of the area investigated. Bryan questioned whether NFA could be achieved if nothing is found since there have already been MEC/MPPEH identified, if not, this PA/SI could be conducted as the next phase (ESI or Phase 1 RI). The Team will base the next steps on the findings of the investigation.
- **UXO-29** – The New River Runway Expansion Area is a 182-acre site that was identified during initial MILCON activities for runway expansion based on discovery of 2.36-inch practice bazooka rounds. There are three known historic ranges that operated from 1946-1977. The PA/SI is planned to evaluate the nature and presence of MEC/MPPEH and the potential for MC contamination and to evaluate whether conditions pose potential risks to human health and the environment. Initial activities include a historical records review and site walk/reconnaissance to further evaluate and update the site boundary as needed, and an ESS Amendment based on the updated boundary. Charity noted that the AAR will be submitted to close out the current ESS so that a completely new ESS will be needed. Field activities include vegetation clearance and utility locating, DGM in transects and intrusive anomaly investigation over approximately 9 acres (5% of 182 acres) in accessible locations, and environmental sampling for munitions constituents. The total/acreage will be dependent on the accessibility of areas based on site reconnaissance and visual sampling plan approach. Up to 100 surface soil samples, 50 subsurface soil samples, and 5 groundwater samples are scoped and locations will be based on the initial activities.

Consensus - For the UFP-SAP, the Team agrees with the presented and discussed UXO-28 and UXO-29 PA/SI sampling approach.

The Draft UFP-SAPs are planned for submittal in August/September 2015.

XIII. CIP Report

Objective: Review report format and content, discuss recommendations and community involvement action plan, and provide schedule update.

Overview: A presentation was reviewed by Kim. The format is in a streamlined graphic format (with appendices) that is more geared towards the public. The report content and draft recommendations were reviewed. The Team discussed the preliminary recommendations and a few discussion points were:

- The Navy will not be able to travel to meetings if they are broadcasted via webcast.
- The RAB is specific to the ERP; therefore, speakers from other Base environmental groups would not meet the purpose of the RAB; however, open houses, etc could be held to include other Base environmental groups.
- Public notices following ROD signatures are a CERCLA-required activity.
Action Gena - Send Kim an example copy of a ROD public notice.
- The DOD Technical Assistance for Public Participation (TAPP) and EPA Technical Assistance for Grant (TAG) information were discussed and rather than waiting for the RAB to request, the Team could offer information/presentations.
- Posting PPs, CIP, SMP on the RAB website, or providing links to the documents will be conducted.
- Charity will address the RAB recommendations during RAB Business at the next RAB. She plans to offer to conduct meetings in different locations and will request recommendations.

The Draft CIP was submitted to the Navy/Base in May 2015. Charity will review the preliminary recommendations for the Team to determine how to handle those that may not be needed/addressed. Pending review the Draft CIP is planned for submittal to the Team in July 2015.

XIV. FY15 Goal Update

The Team reviewed the goals and discussed the current status of each goal presented in a separate table.

XV. Parking Lot

There were no items remaining in the parking lot after the meeting.

XVI. Next Partnering Meeting

Start: August 18, 2015

End: August 19, 2015

Facilitator: Matt

Host: Keith

Chair: Charity

Timekeeper: Beth

Location: Knoxville, TN

Start: December 2, 2015

End: December 3, 2015

Facilitator: TBD

Host: TBD

Chair: TBD

Timekeeper: TBD

Location: Richmond, VA

The next RAB dates are scheduled for August 26, 2015 and November 18, 2015. Topics for August include Navy funding, LTM PS, Site 88 TS, and UXO-22 findings. Topics for November include the FYR.

Charity noted that the FYR for REVA will be submitted to EPA/NCDENR this year.

Agenda Items for the next (August 2015) Partnering Meeting

Agenda Topic	Required Time
Standing Agenda Items:	
Check-in	30 minutes
Review agenda	15 minutes

Agenda Items for the next (August 2015) Partnering Meeting

Agenda Topic	Required Time
Review action items, approve minutes from prior partnering meeting; read ground rules	30 minutes
Partnering exercise	30 minutes
Base/Navy time	1 hour
Review FY15 goals	30 minutes
Parking lot	15 minutes
Agenda items for next partnering meeting, team assessment, +/- review, checkout	30 minutes
Lunch	3 hours
Breaks	1 hour
Time for Standing Agenda Items:	8 hours
Technical Agenda Items:	
Sites 6 and 82 SRI Field Update and P&T Update	30 minutes
Site 69 (IRACR and O&M Update)	30 minutes
Site 78 (Decision Trees)	1 hour
Site 88 (Field Update, Data Review, RAB Topic)	30 minutes
Site 89 (AS system update)	30 minutes
Site 96 RI Field Update	30 minutes
LTM (Data Update, Reporting Schedule, RAB Topic)	1 hour
VI Update (VIMS and HP57)	30 minutes
CIP (RTCs, CERCLA requirements)	30 minutes
UXO-06 and UXO-19 (RTCs?)	30 minutes
UXO-22 (Path Forward)	30 minutes
UXO-23 (Phase II NTCRA)	30 minutes
UXO-24 (Field Update)	30 minutes
UXO-28 and UXO-29 PA/SI	30 minutes
Off-Base SDZ (Path Forward)	30 minutes
Updated Partnering Guide	30 minutes
Time for Technical Agenda Items:	9 hours
TOTAL TIME	17 hours¹

¹ The agenda will be drafted prior to the meeting and the required times and topics may be adjusted based on current site status.