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17 November 2005

Ms. Kimberlee Keckler
Remedial Project Manager
U.S. Environmental Protection Agency
1 Congress Street
Suite 1100 (HBT)
Boston, Massachusetts 02114-2023

Mr. Mark Lewis
Connecticut Department of Environmental Protection
Eastern District Remediation Program - Planning & Standards Division
Bureau of Water Management
79 Elm Street
Hartford, CT 06106-5127

Re: Contract No. N62472-02-D-0810; Task Order No. 002

Subject: *Response to Comments on Annual Landfill Inspection Reports (Goss Cove, DRMO & Area A) and Goss Cove Culvert Inspection Video, Naval Submarine Base, New London, Groton, Connecticut.*

Dear Ms. Keckler and Mr. Lewis:

ECC is pleased to submit responses to EPA's 17 January 2006 comments on landfill inspection reports for the above referenced sites. Additionally we have included a DVD of the Goss Cove culvert inspection which was unavailable at the time that the Draft Final Inspection Reports were issued.

The Responses to Comments are attached in hard copy and can be emailed at your request. One copy of the inspection DVD has been provided to EPA and one copy to CTDEP. Additional copies are being distributed as noted below.

Comments on the responses and on the inspection video are requested at your earliest convenience. Feel free to contact Mr. Mark Evans of Engineering Field Activity Northeast at 610-595-0567 (ext. 162) or me at 508-229-2270 (ext. 117) if you have any questions.

Sincerely,

Robert J. Tess, P.E.
ECC Project Manager

CC: Mr. Mark Evans, EFANE (1 DVD)
Mr. Richard Conant, NSB-NLON (1 DVD)
Ms. Jennifer Hayes Stump, Gannett Fleming (1 DVD)
Mr. Corey A Rich, TtNUS (1 DVD)
File

**NAVY RESPONSE TO EPA COMMENTS
2005 ANNUAL LANDFILL INSPECTION REPORTS
NAVAL SUBMARINE BASE NEW LONDON**

Page Comment

Area A Landfill Inspection Report

- p. 3 The last sentence of the second paragraph under inspection activities refers to October 11, 2005 as the date the inspection checklist was completed and the photographs taken. Actually, the Area A Landfill was inspected on October 12, 2005, the day after the Goss Cove and DRMO Landfills were inspected. The checklist itself is correctly dated October 12, 2005.

~~Comment noted. Will edit accordingly.~~

Under the Institutional Controls section, please edit the text to acknowledge that institutional controls also include site activity restrictions. At the Area A Landfill site activity restrictions are also a primary institutional control because of the frequent use of the site by Navy contractors. Specifically, SOPA (ADMIN) New London Instruction 5090.18 is a policy document that restricts the use of the CERCLA landfill sites at the Naval Submarine Base New London and should be cited in this section. This instruction is a primary means of protecting the integrity of the landfill cap and needs to be recognized as such. However, it is apparent that the Navy is not adequately enforcing this SOPA at the Area A Landfill. A recommendation should be made in this inspection report to enforce the existing SOPA Instruction 5090.18 by requiring training with sign off for all users of the Area A Landfill and registration of any vehicles stored at the Area A Landfill. This would provide the control necessary to enforce the SOPA.

~~Comment noted. Edits will be made to indicate that institutional controls also include site activity restrictions and making the recommendation that improvements be made to enforcing SOPA Instruction 5090.18.~~

- p. 4 Please confirm if the security fencing actually restricts access to the Area A Landfill around the entire perimeter; although, it may not directly abut the landfill along the northern perimeter it may abut the Area A wetland which abuts the landfill on the north. Therefore, if all access to the Area A Landfill is restricted by fencing, the text should be edited to accurately clarify this point.

~~Comment noted. Will edit accordingly.~~

In the Signage section, the text should mention that signage indicating restricted access to the Area A Landfill is posted at each access gate.

~~Comment noted. Will edit accordingly.~~

The discussion in the first sentence of the second paragraph within the Landscaping Features section seems to imply that a portion of the cap is comprised of a grass cap. That is not apparently correct. Grass vegetation covers the steep slope immediately south of the landfill cap but does not apparently cover the capped waste. Please review and correct as appropriate.

~~Comment noted. Will edit accordingly.~~

- p. 6 The text should be edited to clarify that the reference to cracks surrounding the concrete pad actually refer to the joint between the concrete pad and the asphalt pavement that has separated providing access for runoff and also is fostering vegetative growth that will further damage the asphalt cap. The joint needs to be cleaned and properly sealed.

~~Comment noted. Will edit accordingly.~~

- p. 7 It is not correct to state that no deficiencies were observed regarding the integrity of the drainage channels. As noted in the subsequent discussion in this section, the integrity of portions of the channels has been compromised by the growth of phragmites through the asphalt. Furthermore, the function of portions of the channels has been compromised by the growth of the phragmites, the build up of sediment, and the accumulation of debris in the channels. The text needs to be edited to eliminate statements that are contradicted by subsequent discussions in the document. Also, while the Navy has devoted some resources to the maintenance of these channels, clearly the effort has not been adequate to properly maintain the structural and functional integrity of these channels. The recommendation for quarterly maintenance of these channels is endorsed by EPA at least until the integrity of the channels has been restored.

~~Comment noted. Will edit accordingly.~~

- p. 8 EPA understands that while access to the landfill is restricted; the site is frequented by a number of Navy contractors who store equipment at the site. The security of the monitoring wells may be best preserved by locking the wells.

~~Comment noted. Will edit to recommend that locks be placed on all wells currently being used in the LTM program. This recommendation will be added to the Action Items List as well.~~

- p. 9 The discussion of the channel deficiencies in the first bullet of the Housekeeping and Maintenance section does not adequately describe the poor condition of portions of the channels. For example, Channel C has so much sediment accumulation that significant amounts of water become trapped at the head of the channel. This channel is not functioning as it was designed to do and solutions need to be proposed including replacement of this rip rap channel with an asphalt channel having a rip rap discharge apron.

~~Comment noted. Text has been edited to indicate EPA comments noted above. Action Item list will be amended to recommend more substantial repairs to Channel C. Note that Navy has already contracted with ECC to make these repairs. Replacement of the rip-rap with asphalt as recommended by EPA would result in sediment deposition directly into the wetlands adjacent to Area A. Therefore Navy will instead remove and replace the existing rip-rap, screening out built up sediment during the process. Now that more attention is being paid to vegetation and sediment maintenance the current sediment problem in Channel C is not expected to redevelop.~~

The last sentence in the Housekeeping and Maintenance section states that access to the site is relatively unrestricted to all users of the base. This statement contradicts the statement in the Groundwater Monitoring Wells section that access is restricted and therefore well locks are not necessary. The unsupervised use of the site indicates the potential need for well locks for security.

~~Comment noted. Will edit accordingly.~~

Figure 1 1 The date of the inspection for the Area A Landfill was October 12, 2005, not October 11, 2005.

Comment noted. Will edit accordingly.

Area A Landfill October 12, 2005 Inspection Checklist

p. 1 Cap Areas, item 2j should indicate damage from use exists as there are indentations and gouges in the pavement from equipment stored on the pavement.

Comment noted. Will edit accordingly.

p. 2 Side Slope Rip Rap Cap Area, item 3a should indicate that the northern catch basin was overgrown with vegetation that needs to be removed. Item 3b should indicate that continual maintenance is required to cut/remove vegetation that grows through the rip rap.

Overgrown vegetation was not noted at this particular location that would reduce the capacity of the drainage system. Vegetation maintenance is being performed as part of the annual O&M activities required by the O&M Manual. Additional verbiage has been added to the text of the report discussing the recent increase in efforts toward vegetation maintenance and the need to continue this level of effort while repairing damage already caused by vegetation.

Drainage Channel A, item 5b should indicate that areas of the asphalt lining have been compromised by phragmites growth that has penetrated the lining. If this condition is not addressed in a timely manner, the lining will become significantly damaged. Item 5d does not adequately describe the vegetative growth in the channel. In some areas of the channel the growth is rampant and needs ongoing attention to control the problem.

Comment Noted. Phragmites growing in Channel A were not inspected closely and were presumed to be growing in the built up sediment. Phragmites were noted to be growing through the asphalt in Channel D. Text will be revised to more adequately characterize the damaged asphalt. Following vegetation removal/control in these channels in 2006 that repairs will likely be made to the asphalt via professional sealant application. This has been added as an action item in the Action Item List.

p. 3 Drainage Channel C, item 7f is not related to Channel C as the culvert beneath the parking entrance is the ADS culvert between Channels B and D. If this item refers to Culvert 2, it has been addressed under Drainage Channel A as item 5j. This item should apparently be removed from the Channel C checklist.

Comment noted. Will edit accordingly.

p. 7 EPA's notes indicate that well 2LMW8S could not be found. This should be checked as 2LMW8S and 2LMW8D may have been inadvertently transposed by either EPA or the inspector.

Will review the notes and revise appropriately.

p. 8 EPA's notes indicate that well 2LMW8D is significantly damaged and should be abandoned. This should be checked as 2LMW8D and 2LMW8S may have been inadvertently transposed by either EPA or the inspector.

Will review the notes and revise appropriately.

Item 48a should note that the well 2LMW18S appears to have settled as it is at an angle to the ground surface in addition to being covered by sediment.

The possible settlement was not noted and could have been overlooked. The potential settlement of this well will be reassessed during the next inspection.

p. 9 Under 2LMW18D, item 49c should note that no PVC riser could be detected in the steel casing. Should this well be abandoned?

Abandonment or repair of this well will be considered along with consideration for abandonment of other wells in the coming year.

p. 15 Under Adequacy of O&M at site, EPA does not agree that the maintenance has been satisfactory or that current practices are adequate. While it is recognized that the Navy has allocated some resources to site maintenance, even the increased effort in the past two years has not been sufficient to address the ongoing maintenance requirements at the site. There are problems that have developed over a period of years that have been only partially addressed so that they continue to be recurring problems. The maintenance effort needs to be increased to more completely address the problems after which the maintenance intensity may be reduced. There are significant repairs required, especially related to monitoring wells, that are long overdue and need to be addressed at the next available opportunity. The report needs to be edited to reflect these concerns.

It is our opinion that maintenance performed in 2005 is satisfactory given resources available. This is based on the recent increase in attention to O&M at the site, assessment of activities performed in 2005 as well as the known plans that Navy has for maintenance and repairs at the site for 2006. EPA's concerns are noted and will be incorporated into the inspection report via inclusion of these comments & responses as an appendix to the report.

Under Deficiencies/Item Requiring Corrections, please clarify that the phragmites growth and sediment accumulation in the drainage channels has become significant, that phragmites are growing through the pavement and damaging it, and that immediate attention and comprehensive removal is required. Also add that the damaged monitoring well road boxes at several wells including 2LMW8, 2LMW17D, 2LMW18D, and 2LMW20D need immediate attention and several other wells are in need of repairs. Note also that the severity of the asphalt cracking problem at the deployed parking area requires attention to address the cracks and the trees growing in the cracks. Repairs there will involve cutting and removal of some existing asphalt to remove the trees and their roots to prevent damage to the geomembrane. It will not be sufficient to cut the trees off at the ground surface.

We believe that the deficiencies are adequately pointed out in the report. Additional verbiage has been added to the text of the report discussing the recent increase in efforts toward vegetation maintenance and the need to continue this level of effort while repairing damage already caused by vegetation. The majority of wells requiring repair are not currently being used. An assessment of wells that can potentially be abandoned (particularly those in paved areas) will be conducted in 2006. Additional verbiage has been added to the text of the report noting this.

Options for repairs to areas within the Deployed Parking Area are being investigated. This is a somewhat complex issue due to the nature of the area and what it is used for.

DRMO Landfill Inspection Report

- p. 4 In the Security, Fencing and Gates section, the statement regarding the adequacy of the vegetation control along the fence line needs to be edited to clarify the situation. There has been a recurring problem area at the northern end of the fence line near the catch basin. Heavy vegetation growth there has infiltrated the fence and in the past has partially blocked the swale at the catch basin. Maintenance during 2005 has partially addressed this problem but a greater removal effort is required to control this vegetation to protect the fence and prevent further infiltration into the swale area. At a minimum it is expected annual vegetation removal and spraying will be required if this vegetation is not removed or severely cut back.

At the time of the inspection, the maintenance appeared to have adequately cut back the vegetative growth. The inspection is for a snapshot in time and not focused on past maintenance deficiencies. As stated in the report maintenance activities will continue as prescribed.

- p. 5 The text in the Asphalt Pavement section should be edited to clarify that a significant amount of standing water, approximately 80 feet long and 10 feet wide and up to two inches deep, had accumulated along the jersey barriers on the western side of the site.

Comment noted. Will edit accordingly.

The text should also note that a small depression and some standing water were observed in and around the area of wells 6MW11D and 6MW11S. Repairs were made to these wells in 2005; however, the pavement around the wells remains somewhat depressed allowing some water accumulation around and over the wells.

Comment noted. Will edit accordingly.

- p. 6 In the Groundwater Monitoring Wells section, paragraph 1, the first sentence should be corrected to indicate that it was the 11 October 2005 annual inspection that identified well 6MW7S as in need of repair. The inspector had difficulty finding this well for the reasons cited in the second sentence of this paragraph.

Comment noted. Will edit accordingly.

DRMO October 11, 2005 Inspection Checklist

- p. 1 For clarity, item 1d under Security Fencing should further note that the signs do not satisfy the letter of the IROD requirement for signage. The IROD states that the posted signs shall warn potential trespassers that a health hazard is present.

Action item list will be amended to include replacement of existing signs with new ones having ROD and NLON compliant language.

Item 2b should note many minor depressions throughout the pavement with significant ponding of water along the jersey barriers caused by sediment accumulation and possible depressions in the pavement.

Comment noted. Will edit accordingly. However, it is noted that this language was left out in an attempt to keep information relevant and to avoid repetition. The information requested is discussed in another portion of the report.

- p. 2 Under Thames River Riprap, clarify that the westerly end of the geotextile, a component of the cap, was observed beneath the rip rap at some locations along the shoreline; however, as long as it remains secured in place beneath the rip rap no maintenance for this item will be required.

This item can be reviewed during the next inspection. It is a minor item that was not noted and appears to have no maintenance impact at this time.

- p. 3 The pdf file has been truncated and item 17d for 6MW7S is missing.

Comment noted. Item 17d for 6MW7S is present in the revised report.

- p. 5 The text in the Adequacy of O&M at the site should be edited to recognize that there are problems that have developed over a period of years that have been only partially addressed so that they continue to be recurring problems. The problem of sediment accumulation and ponding of water along the jersey barriers is ongoing and needs to be resolved. Also, there are repairs required, especially related to minor settlement areas that are impacting monitoring wells. These maintenance and repair items are adequately identified in the subsequent deficiencies discussion but the assessment of the adequacy of the O&M to date is not consistent with the problems existing at the site and should be edited accordingly.

It is our opinion that maintenance performed in 2005 is satisfactory given resources available. This is based on the recent increase in attention to O&M at the site, assessment of activities performed in 2005 as well as the known plans that Navy has for maintenance and repairs at the site for 2006. Repairs to the areas of concern along the jersey barriers and other areas of minor settlement will be assessed and completed as resources become available. EPA's concerns are noted and will be incorporated into the inspection report via inclusion of these comments & responses as an appendix to the report.

Goss Cove Landfill Inspection Report

- p. 2 EPA's representative was Greg Kemp, not Doug Kemp.

Comment noted. Will edit accordingly.

- p. 4 It should be noted that some minor concrete curb damage was observed near the picnic area during this and earlier inspections but the condition of the curb has no impact on the effectiveness of the landfill cap.

Comment noted. This may have been overlooked during the inspection and will be revisited during the next inspection.

- p. 8 It should be noted in the text that a camera inspection of the box culvert had been scheduled for the same day as the annual inspection; however, owing to the rainy conditions, the camera inspection company postponed the inspection. It was to be rescheduled by Environmental Chemical Corporation as it is a necessary component of the annual inspection. The earlier camera inspection

had detected significant levels of sediment accumulation in the upper reaches of the box culvert. This camera inspection needs to be conducted to complete the 2005 annual inspection. If it has already been completed, please include the results of the camera inspection in this 2005 annual report. If it has not been conducted, please schedule it and provide a copy of the camera inspection and supplement the 2005 annual report with the findings of the camera inspection.

Camera inspection of the culvert was completed November 9, 2005. The video was not available at the time this Draft Report was issued. A copy of the video is attached to this Response to Comments.

- p. 9 The condition of the mortared joints between the catch basin and the piping cannot be adequately inspected from the ground surface, nor can the condition of the piping, especially the piping between the catch basins and the box culvert. These are the most vulnerable areas of the cap because of the potential impacts from differential settlement. At these locations runoff has a potential opportunity to infiltrate into the landfill materials and cause contaminant migration. Future inspections need to include a more comprehensive inspection of the drainage piping especially the piping between the catch basins and the box culvert where differential settlement will have the greatest impact. Inspection of the piping will need to be conducted with the video camera and should be scheduled with the next camera inspection for the box culvert.

Inspection of piping between catch basins and the box culvert is not specified as an inspection requirement in the O&M Manual (TTNUS, January 2006). Further discussion will be required if EPA feels that these portions of the storm drain system require inspection.

- p. 10 The summary should also note the poor condition of the sprinkler system that was installed to ensure the grass cap components remain viable. The sprinkler system needs to be repaired.

Comment noted. Will edit accordingly.

Also, EPA observed that the fenced storage area at the northern end of the site contains several hazardous material storage cabinets that are not locked. These cabinets contain hazardous materials, therefore, while they are kept within the fenced area which is normally locked, it would be prudent to lock the cabinets.

Comment noted.

Goss Cove Landfill October 11, 2005 Inspection Checklist

- p. 6 Under Box Culvert Road to River, items 36a and 36b (that should actually refer to the lower junction box) were not inspected because the location to access the lower junction box was not located. The junction box has never been inspected so the Navy needs to locate the access point for its subcontractor and ensure that the lower junction box is inspected during the next annual inspection. Also item 36c was not inspected because the box culvert is a confined space and the camera inspection scheduled for the day of the annual inspection was postponed. If the camera inspection has not been completed, it needs to be to complete the 2005 annual inspection.

Camera inspection of the culvert was completed November 9, 2005. The video was not available at the time this Draft Report was issued. A copy of the video is attached to this Response to Comments. Checklist has been updated.

p. 8 Preceding Item 52, the Title of the section should be Gas Vents not Storm Water Features. Please correct.

Comment noted. Will edit accordingly.

p. 9 Preceding Item 55, the title of this section is missing it should be Monitoring Wells. Please correct.

Comment noted. Will edit accordingly.

p. 11 Under Deficiencies/Item Requiring Corrections, it should be noted that the camera inspection that was scheduled for the day of the annual inspection was postponed and, if correct, has not yet been completed. The camera inspection is required to complete the 2005 annual inspection.

Camera inspection of the culvert was completed November 9, 2005. The video was not available at the time this Draft Report was issued. A copy of the video is attached to this Response to Comments. Checklist has been updated.