N62661.AR.002618
NS NEWPORT
5090.3a

U S NAVY RESPONSES TO U S EPA AND RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT COMMENTS TO DRAFT FINAL FEASIBILITY STUDY SITE 8 NUSC DISPOSAL AREA WITH TRANSMITTAL NS NEWPORT RI
6/20/2012
TETRA TECH

TETRA TECH

C-NAVY-06-12-5078W

June 20, 2012

Project Number 112G02124

Ms. Ginny Lombardo
U.S. EPA Region I
5 Post Office Square, Suite 100
Mail Code OSRR07-3
Boston MA, 02109-3912

Ms. Pamela Crump
Rhode Island Department of Environmental Management (RIDEM)
235 Promenade Street
Providence, RI 02908-5767

Reference: CLEAN Contract No. N62470-08-D-1001
Contract Task Order No. WE19

Subject: Navy Responses to EPA and RIDEM Comments on the Draft Final Feasibility Study
Site 8, NUSC Disposal Area, Naval Station Newport, Rhode Island

Dear Ms. Lombardo and Ms. Crump:

On behalf of Ms. Maritza Montegross, U.S. Navy NAVFAC, Tetra Tech is pleased to provide the Navy's responses to EPA's and RIDEM's comments on the draft final Feasibility Study (FS) for Site 8 at Naval Station Newport, Rhode Island. It is recommended that a conference call be held as soon as possible to resolve the remaining issues outlined in this response document.

Please contact me at (978) 474-8449 or jim.ropp@tetratech.com should you have any questions.

Sincerely,

James Ropp, P.E.
Project Manager

Encl: Responses to EPA and RIDEM Comments, with revised ARAR tables
(email and hardcopy – EPA-1, RIDEM-1)

cc: M. Montegross, NAVFAC (w/ encl. – email and hardcopy)
W. Johnson, NAVFAC (w/ encl. – email)
S. Bird, NAVFAC (w/ encl. – email)
D. Barclift, NAVFAC (w/ encl. – email)
D. Moore, NAVSTA (w/ encl. – email and hardcopy)
P. Steinberg, Mabbett (w/ encl. – email)
K. Munney, USF&W (w/ encl. – email and hardcopy)
AR c/o G. Wagner, Tetra Tech (w/encl. – email and hardcopy)
S. Parker, Tetra Tech (w/o encl.)
D. Seiken, Tetra Tech (w/o encl. – email)
D. Straker, Tetra Tech (w/ encl. – email)
G. Glenn, Tetra Tech (w/o encl. – email)
File G02124-3.2 (w/encl. – original)

Tetra Tech, Inc.
250 Andover Street, Suite 200, Wilmington, MA 01887-1048
Tel 978.474.8400 Fax 978.474.8499 www.tetratech.com

Navy Responses to EPA Comments Dated June 5, 2012
on the Draft Final Feasibility Study for Site 8 – NUSC Disposal Area
Naval Station (NAVSTA) Newport, Rhode Island
June 19, 2012

On June 5, 2012, the United States Environmental Protection Agency (EPA) provided comments on the Draft Final Feasibility Study (FS) for Site 8, the Naval Undersea Systems Center (NUSC) Disposal Area (Tetra Tech, May 2012) at the Naval Station (NAVSTA) Newport, Rhode Island. The Navy's responses are provided below.

Comment 1: Page ES-3, Page 2-12, 2nd RAO Bullet, and Page 5-14: Note that the Draft Final FS refers to the prevention of "the use of site groundwater for human consumption". Navy's response to EPA's September 8, 2011 General Comment 2, indicated that the FS would be modified "to indicate that groundwater LUCs would prohibit the installation of groundwater supply (extraction) wells, including public and private drinking water wells and irrigation wells in addition to prohibiting any use of groundwater as potable." This is reflected in the LUCs description included on page 5-5. Please revise the RAOs on Page ES-3 and Page 2-12 and the statement on Page 5-14 to be consistent with the Navy's response to General Comment 2 and the LUC information provided on Page 5-5.

Response: As discussed during the June 6, 2012 meeting, the RAO is developed based on the results of the risk assessment. The requested additional restrictions (e.g., no irrigation wells) are included in the description of the Land Use Controls (LUCs) on page 5-5 of the FS. As agreed by EPA on June 7, 2012, the phrase "for human consumption" will be deleted from the RAO referenced on pages ES-3, 2-12, and 5-14.

Comment 2: Page 1-39, Sediment, Fish Tissue, Surface Water: Consistent with EPA's comment on the Draft Proposed Plan, provide additional clarification regarding the basis for why the fish tissue exposure route was not carried forward in the FS.

Response: Agree. The text will be clarified that, based on the results of the SRI, the COPCs identified in fish tissue were not carried forward as COCs for remediation, due to significant uncertainties in both the source of pesticides found in the fish tissue and the uptake of PCBs from sediment to fish, as well as comparisons to similar fish tissue samples from background/reference ponds.

Comment 3: Page 2-4, Section 2.1.4.2: In the second sentence insert "and floodplains" after "wetlands". Remove the third sentence.

Response: Disagree. This issue was previously discussed and approved by EPA. See the Navy's December 8, 2011 response to EPA Specific Comments #4, #10, and #13 on the Revised Draft FS (excerpts are reprinted below), as well as Attachment 2 of that response document.

> *Relevant Excerpts from the 12/8/2011 Response Document:*
>
> *Specific Comment 4: Page 2-4, Section 2.1.4.2: Remove the third sentence since floodplain standards would apply if the remedial action (even if not in a mapped floodplain) could cause downstream flooding (for instance through management of water levels at the dam) and the federal/state coastal zone for the base extends across the operable unit.*
>
> ***Response: Disagree. Site 8 is located outside of the 100-year floodplain per FEMA mapping and is outside of the 200-foot coastal zone delineation. The site wetlands are under the jurisdiction of RIDEM, not the Coastal Resources Management Council (source: Freshwater Wetlands Jurisdictional Boundary: Middletown, Rhode Island, April 2001, http://www.dem.ri.gov/maps/wetjuris.htm). Also, the pond sediment will be remediated through either capping or dredging options which will not impact downstream areas.***

Potential impacts during construction activities would be addressed through ARARs related to dredging and erosion and sediment controls. The design of the sediment remedy will be such that there is no net loss of water storage capacity in the pond (i.e., capping would be combined with dredging). […]

Specific Comment 10: Page 6-10, Section 6.2.2 and Page 6-13, Section 6.2.3; Compliance with ARARs: The alternatives only meet ARARs if the remedial actions can meet EPA sediment remediation guidance standards and federal ecological risk-based standards for freshwater sediments. The Navy needs a separate EPA finding under TSCA that the proposed PCB cleanup standard is protective and the remediation process (including management and dewatering of excavated sediments containing PCBs) will not pose an unreasonable risk of injury to health or the environment. To satisfy federal and State wetland and floodplain standards, the alternative needs to included mitigation to replace alteration of wetland resources and lost flood storage capacity (or show that filling in the shoreline of the alteration of waterways and waterbodies will not increase the risk of downstream flooding). The alternative needs to identify mitigation measures that will be taken.

Response: The sediment standards were developed using EPA guidance documents. The Contaminated Sediment Remediation Guidance for Hazardous Waste Sites document will be added to the ARAR tables as a TBC. Sediment exceeding the developed PRGs will be addressed through dredging and capping.

The FS will be clarified to discuss mitigation measures that may be required if wetlands are permanently lost, but mitigation would not be required for wetlands that are temporarily impacted if a portion of the pond is dredged. The sediment capping alternatives will also incorporate some dredging in order to prevent lost flood storage capacity. […]

Specific Comment 13: Table 2-2, Page 1: Although the "Floodplain Management" ARARs text is consistent with EPA's November 22, 2011 Comment 3, EPA requests that the "Floodplain Management" ARAR be replaced with the following to be consistent with more recent ARARs decision documents:

Floodplain Management and Protection of Wetlands, 44 C.F.R. 9	*Relevant and Appropriate*	*Remedial alternatives that may cause alteration within a 500-year floodplain/cause negative impacts to downstream floodplain or that will cause alteration of federal jurisdictional wetlands/aquatic habitats will be implemented in compliance with these relevant and appropriate FEMA standards (which promulgate requirements under Executive Order 11988 (Floodplain Management) and Executive Order 11990 (Protection of Wetlands)). Prohibits activities that adversely affect a federally-regulated wetland unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use. Requires soliciting public comment on any disturbance of floodplains or federally-regulated wetlands.*	*The effects the remedial action, particularly in regard to the sediment and soil alternatives, on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by sediment remediation, monitoring, or other remedial activities will be mitigated in accordance with requirements. The site is upstream of coastal flood zone. Remedial actions that involve remedial activities that may affect downstream floodplain areas will include all practicable means to minimize harm to and preserve beneficial values of floodplains. The Navy will solicit public comment regarding proposed impacts to wetlands and floodplains in the Proposed Plan. The comments received will be*

			addressed in the Responsiveness Summary in the ROD for this operable unit.

Response: […] No effects on the floodplain downstream are anticipated for any of the alternatives and the flow of flood waters would not be affected, so the floodplain aspects of this ARAR do not need to be considered (see also the response to September 8, 2011 Specific Comment #4 above). Methods to minimize impacts on wetlands and mitigation methods will be identified during the Remedial Design phase of the selected alternative. See also the updated ARAR Tables in Attachment 2. […]

Comment 4: Page 4-2: The last sentence on this page states: "Any wetland areas impacted by the remedy would also be restored." If any of the soil alternatives include areas of wetland soils (opposed to sediment areas that will be addressed under the sediment alternatives), then under the ARARs analysis there needs to be a determination as to which alternative is the Least Environmentally Damaging Practicable Alternative for protecting wetland resources under the federal Clean Water Act.

Response: As discussed during the June 6, 2012 meeting, this information is already presented in the FS ARAR tables. As agreed by EPA on June 7, 2012, no revisions to the FS are required to address this comment.

Comment 5: Page 4-4 and Page 4-6: On page 4-4, revise 3rd full sentence on the top of this page to read: "Therefore, if the use of the Paved Storage Area were to change in the future, including transfer of the property outside the Navy, or if the Paved Storage Area becomes inactive, *or if there is reason to believe that sources under the Paved Storage Area are inhibiting groundwater cleanup*, the Navy would complete follow-on geophysical investigations in that area and would remove subsurface debris, as necessary." Similarly, on page 4-6, revise the last sentence of the 2nd paragraph to state that the additional geophysical investigations and removal of anomalies would occur if the property was transferred. EPA does not agree that the property could be transferred without completion of the geophysical investigation of the Paved Storage Area. These sections should be consistent with Navy's response to EPA's August 11, 2011 General Comment 1.

Response: Page 4-4 will be revised as requested. However, regarding page 4-6, the FS is consistent with the Navy's December 8, 2011 response which stated that "additional geophysical investigation would be conducted if site use changed such that the Paved Gated Storage Area was no longer operated as a Waste Management Unit." The Navy maintains that the property could be transferred with the limitations and requirements of maintaining the Waste Management Area put into the deed.

Comment 6: Page 4-4, 3rd Bullet: Clarify the reason for the removal of soils represented by sample locations DA-SB142, DA-SB145, DA-SB146, DA-SB153 and B179-SB1/2/3.

Response: As discussed during the June 6, 2012 meeting, these isolated locations had exceedences of PRGs; therefore, selective excavation is planned for these areas. As agreed by EPA on June 7, 2012, no revisions to the FS are required to address this comment.

Comment 7: Page 4-7, Component 1: Revise the parenthetical to read "(Section 4.1.2, Component 3)" and note here "with the exception of the LTTD of PAH-contaminated soils."

Response: Agree. The text will be modified accordingly.

Comment 8: Page 4-21, Overall Protection: Revise the end of the 4th sentence of this section to read: "…as LUCs would still be required due to the underlying groundwater contamination at the North Meadow*, until groundwater cleanup goals are met*."

Response: Agree. The text will be revised as recommended.

Comment 9: Page 5-5, Component 2: LUCs: In the 2nd paragraph, 3rd sentence, delete "If necessary". EPA believes that it will be necessary to establish some form of LUC on groundwater use for adjacent property owners, particularly the golf course, to ensure that potential groundwater use on that property does not impact the protectiveness of the NUSC groundwater remedy. In addition, the LUC description needs to explain that LUCs inside the compliance boundary of the Waste Management Area (WMA) would be permanent, preventing the use of groundwater, and outside of the WMA, LUCs would be temporary until groundwater standards are achieved.

Response: The phrase "if necessary" will be deleted from the referenced sentence. However, as discussed during the June 6, 2012 meeting, a mechanism has not been identified for implementing LUCs on the adjacent private property (e.g., no local bylaw regarding new well installations is available). Therefore, as stated in the FS, the Navy will coordinate with the adjacent property owner and state agencies (e.g., Department of Public Health and RIDEM) to prevent the installation of a groundwater extraction well on property adjacent to Site 8.

The description will be modified to explain that the LUCs will be maintained for as long as site conditions are not suitable for unrestricted use and unlimited exposure. As such, LUCs are not necessarily "permanent" (e.g., if the Waste Management Area were to be removed in the future).

Comment 10: Page 5-22 and Page 6-21, Compliance with ARARs: Insert "Environmentally" after "Least."

Response: Agree. The text will be revised accordingly.

Comment 11: Page 6-12 and Page 6-16, Compliance with ARARs: EPA does not make a TSCA determination until public comment is solicited on the Proposed Plan and EPA signs the ROD. As such, revise the last sentence to state: "Accordingly, and based on the provisions of 40 CFR § 761.61(c), EPA will make a determination in the Record of Decision, based in part on any public comment received on the Proposed Plan if the Navy selects this alternative, as to whether in-place management of PCB contaminated sediments will not pose an unreasonable risk to public health or the environment."

Response: Agree. The text will be revised as recommended.

Comment 12: Table ES2: The "Treatment" criterion for GW2 should be labeled "No."

Response: It is agreed that MNA is not considered active treatment; however, the Navy believes that it is appropriate to identify MNA as a passive cleanup option which is different than a "no action" alternative. This is also consistent with EPA guidance documents such as OSWER Directive 9200.4-17P (Use of Monitored Natural Attenuation at Superfund, RCRA, Corrective Action, and Underground Storage Tank Sites) which describe MNA as a passive remediation option capable of transforming COCs to less toxic forms, reducing COC concentrations, and reducing COC mobility and bioavailability.

Comment 13: Table 2-1, Page 2: For the "Consideration" text for the federal MCLs and MCLGs, add to the end of the first sentence: "in all areas outside of the compliance boundary for any waste management area." For the Health Advisory "Consideration" text, add at the end of the second sentence: "in all areas outside of the compliance boundary for any waste management area." At the end of the third sentence add: "outside of the waste management compliance boundary and will be maintained permanently within the compliance boundary."

Response: Agree. ***[Note: Revised ARAR tables are provided for Comments #13 through #40. The changes are highlighted to facilitate review.]***

Comment 14: Table 2-1, Page 3: For the RI Remediation Regulation "Consideration" text, add at the end: "PRGs based on these standards will be achieved outside of the compliance zone for the waste management area and will be used as monitoring standards inside the compliance boundary."

Response: The following text will be added: "PRGs based on these standards will be achieved outside of the compliance zone for the waste management area (i.e., beyond the edge of the waste management area) and will be used as monitoring standards inside the compliance boundary."

Comment 15: Table 2-2, Page 3: To the "Synopsis" for the Freshwater Wetlands standards, add a new last sentence: "Also establishes standards for land within 50 feet of the edge of a state-regulated wetlands."

Response: Agree. The text will be revised accordingly.

Comment 16: Table 2-3, Page 1: Revise the text of the TSCA "Consideration" text to limit the discussion to sediment.

Response: This comment was further discussed with EPA on June 19, 2012. As discussed, no change to the TSCA text in Table 2-3 is required. Instead, text related to the in-place management of PCBs (similar to that presented in the fourth paragraph on page 6-12 of the draft final FS) will be included in Section 4 of the final FS for soil alternatives that leave PCBs in-place.

Comment 17: Table 2-3, Page 4: In the "Consideration" text for the Groundwater Protection Strategy, change the first three sentences to: "Under federal standards, groundwater within the Site is considered a potential drinking water source except within the compliance boundary of any waste management area established under the soil or sediment alternatives; therefore, groundwater must achieve federal drinking water and risk-based standards or more stringent State groundwater standards outside of the compliance boundary. Groundwater use restrictions outside of the compliance boundary will be maintained until these standards are achieved. Inside of the compliance boundary groundwater use restrictions are permanent as long as the waste management area remains in place."

Response: Agree; however the phrase "…are permanent as long as the waste management area remains in place" will be changed to "…will be in effect as long as the waste management area remains in place".

Comment 18: Table 4 ARARs Tables: Address comments made to the Table 2 ARARs Tables where relevant in these alternative-specific ARARs tables. Make changes noted below to each Chapter 4 ARAR table for all of the soil alternatives, where the same issue is repeated for each alternative's tables.

Response: Agree. The tables will be revised accordingly.

Comment 19: Table 4-4, all pages: Regarding the "Action to Be Taken" text for all of the ARARs and TBCs, long-term monitoring needs to occur for all areas under a cover, not just for the Paved Storage Area. (Make the changes also to the SO3 and SO4 Chemical-Specific Tables.)

Response: Agree. The text will be revised accordingly.

Comment 20: Table 4-5, Page 1: For the "Action to be Taken" text for the CWA, Section 404, remove the last sentence. (Make the changes also to the SO3 and SO4 Location-Specific Tables.)

Response: Agree. The sentence will be deleted.

Comment 21: Table 4-5, Page 4: Move the citation to the RI Freshwater Wetlands Rules and Regulations from the "Citation" column to the "Synopsis" column (along with the Act). In the "Citation" column include the citation to the Act (the Rules and Regulations appear not to have a citation). (Make

the changes also to the SO3 and SO4 Location-Specific Tables.) In the "Synopsis" text add at the end: "Also establishes standards for land within 50 feet of the edge of a state-regulated wetlands." In the "Action to be Taken" text change "wetlands" to "state jurisdictional wetland and buffer zone."

Response: The citation will be moved to the synopsis column. The following citation will be used instead: "RIGL 2-1, Sections 2-1-18 through 2-1-20.2; Fresh Water Wetlands Act; DEM Rules And Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act (Dec 2010), Rules 4.00 and 5.00". The synopsis text will be modified as requested. In the "Action to be Taken" column, "wetlands" will be changed to "state jurisdictional wetland and perimeter wetland". The Fresh Water Wetlands Act defines the area of land within 50 feet of a freshwater wetland as a "perimeter wetland" whereas a "buffer zone" is defined differently as "an area of undeveloped vegetated land retained in its natural undisturbed condition, or created to resemble a naturally occurring vegetated area that mitigates the negative impact of human activities on wetland functions and values."

Comment 22: Table 4-6, Pages 2-3: The "Action to be Taken" text for the MCLs, MCLGs and Health Advisory entries should be changed to: "[The standard] will be used to develop performance standards for monitoring the compliance boundary for the waste management area. If soil contamination levels have been reduced enough so that no site risk remains, monitoring can be ended." (Make the changes also for all other Action-Specific Tables for the other soil alternatives.)

Response: Agree, although the phrase "no risk" will be changed to "no unacceptable risk".

Comment 23: Table 4-6, Page 3: All of the State Air ARARs identified in Table 2 apply to this alternative since it includes ex-situ treatment that may have air emissions.

Response: Agree. The tables will be revised accordingly.

Comment 24: Table 4-6, Pages 5-10: The State Solid Waste standards apply to all areas where a cover is required, not just under the Paved Storage Area. (Make the changes for all other Action-Specific Tables for the other soil alternatives.)

Response: Agree. The tables will be revised accordingly.

Comment 25: Table 4-13, Page 2: For the "Reduction in Toxicity…through Treatment", Alternatives SO1, SO3, and SO4 should be listed as "None."

Response: See the response to Comment #12.

Comment 26: Table 5 ARARs Tables: Address comments made to the Table 2 ARARs Tables where relevant in these alternative-specific ARARs tables. Make changes noted below to each Chapter 5 ARAR table for all of the groundwater alternatives, where the same issue is repeated for each alternative's tables.

Response: Agree. The tables will be revised accordingly.

Comment 27: Table 5-1, Page 1: Add citations to the federal MCLGs and federal Health Advisory included in the Table 2 Chemical-Specific ARARs Tables.

Response: Agree. The table will be revised accordingly.

Comment 28: Table 5-1, Page 2: Remove the RI Water Quality standards, as those standards are Action-Specific ARARs.

Response: Agree. The ARAR will be deleted from this table.

Comment 29: Table 5-4, all ARARS: In the "Action to be Taken" text replace "Paved Storage Area" with "waste management area."

Response: Agree. The text will be revised accordingly.

Comment 30: Table 5-5, Page 2: Move the citation to the RI Freshwater Wetlands Rules and Regulations from the "Citation" column to the "Synopsis" column (along with the Act). In the "Citation" column include the citation to the Act (the Rules and Regulations appear not to have a citation). (Make the changes also to the GW3 and GW4 Location-Specific Tables.) In the "Synopsis" text add at the end: "Also establishes standards for land within 50 feet of the edge of a state-regulated wetlands." In the "Action to be Taken" text change "wetlands" to "state jurisdictional wetland and buffer zone."

Response: Agree, as modified per the response to Comment #21.

Comment 31: Table 5-6, Page 1: The first sentence of the "Action to be Taken" text for the MCLs, MCLGs and Health Advisory entries should be changed to: "[The standard] will be used to develop performance standards for monitoring the compliance boundary for the waste management area established where contamination is left in place under a cover." (Make changes to all other Action-Specific Tables for the other GW alternatives.)

Response: Agree. The text will be revised accordingly.

Comment 32: Table 5-6, Page 2: In the "Action to be Taken" text for the Groundwater Protection Strategy, change the first three sentences to: "Under federal standards, groundwater within the Site is considered a potential drinking water source except within the compliance boundary of any waste management area established under the soil or sediment alternatives; therefore, groundwater must achieve federal drinking water and risk-based standards or more stringent State groundwater standards outside of the compliance boundary. Groundwater use restrictions outside of the compliance boundary will be maintained until these standards are achieved. Inside of the compliance boundary groundwater use restrictions are permanent as long as the waste management area remains in place." (Make changes for all other Action Specific Tables for the other GW alternatives.)

Response: Agree; however the phrase "…are permanent as long as the waste management area remains in place" will be changed to "…will be in effect as long as the waste management area remains in place".

Comment 33: Table 5-13, Page 2: For the "Reduction in Toxicity…through Treatment", Alternatives GW1 and GW2 should be listed as "None."

Response: See the response to Comment #12.

Comment 34: Table 6 ARARs Tables: Address comments made to the Table 2 ARARs Tables where relevant in these alternative-specific ARARs tables. Make changes noted below to each Chapter 6 ARAR table for all of the sediment alternatives, where the same issue is repeated for each alternative's tables.

Response: Agree. The tables will be revised accordingly.

Comment 35: Table 6-1, Page 1: Remove the citation to the RI Water Quality Regulations (unless used to develop the sediment cleanup standards).

Response: Agree. The ARAR will be deleted.

Comment 36: Table 6-5, Page 1: For the "Action to be Taken" text for the CWA, Section 404, insert "Environmentally" before "Damaging" in the second sentence and remove the last sentence. (Make changes for all other Location-Specific ARARS Tables for the other SD alternatives.)

Response: Agree. The text will be revised accordingly.

Comment 37: Table 6-5, Page 2: For the Floodplain and Wetland Management "Action to be Taken", describe how the material added as part of the Enhanced Natural Recovery will not affect the flood storage capacity of the pond and that the overall remedy will not affect downstream floodplain resources by maintaining sediment contamination behind the dam.

Response: The "Action to be Taken" column will be modified to read as follows:

> **"During the Remedial Design stage, the effects of sediment remedial actions on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by sediment remediation will be mitigated in accordance with requirements. The flood storage capacity of the pond will be maintained by combining sediment cap construction with some sediment dredging. The overall remedy will not adversely impact the downstream floodplain area as contaminated sediment would be contained behind the dam. Public comment will be solicited in the Proposed Plan."**

Regarding downstream floodplains, see also the response to Comment #3.

Comment 38: Table 6-6, Page 1: For the TSCA "Action to be Taken" text in the first sentence replace "will be placed under a cover system" with "will be subject to enhanced natural recovery." In the third sentence change "The ROD…" to "If this alternative is chosen by the Navy, the ROD…"

Response: Agree. The text will be revised accordingly.

Comment 39: Table 6-7, Page 2: For the Floodplain and Wetland Management "Action to be Taken" text describe how the material added as part of the sediment cover will not affect the flood storage capacity of the pond and that the overall remedy will not affect downstream floodplain resources by maintaining sediment contamination behind the dam.

Response: It is assumed this comment refers to Table 6-8 of the FS. The text will be modified per the response to Comment #37.

Comment 40: Table 6-9, Page 1: For the TSCA "Action to be Taken" text in the third sentence change "The ROD…" to "If this alternative is chosen by the Navy the ROD…" (Make this change also to the SD4 Action-Specific table.)

Response: Agree. The text will be revised accordingly.

Comment 41: Table 6-13, Page 1: In the "Action-Specific" row, the text for SD3 refers to location-specific, rather than action-specific standards. Revise to note that the alternative will comply with action-specific ARARS.

Response: Agree. The text will be revised accordingly.

Comment 42: Table 6-13, Page 4: In the "Ability to Construct and Operate" row note that for SD2 and SD3 the Navy would need to maintain the NUSC Pond dam.

Response: Agree. The text will be revised accordingly.

Comment 43: Note that Figure 2-10 was not included in the hard copies. However, it is listed on the Table of Contents and was included in the electronic copies.

Response: Comment noted. The omission will be corrected in the final version of the FS.

Comment 44: Figures 4-1, 4-2, 4-4: Show the compliance boundary for the proposed waste management area.

Response: Agree. The compliance boundary will be drawn around the perimeter of the Paved Storage Area (open and gated).

Comment 45: Figure 4-3: Delete the references to geotextile, as there is no geotextile planned for the soil cover.

Response: A geotextile was included in the cost estimates. The text will be revised to indicate that the geotextile will be an optional feature of the cap, to be determined during the Remedial Design phase.

Comment 46: Figure 5-1 and 5-2: Modify figures to show where groundwater outside of the waste management area compliance boundary will need to achieve groundwater standards versus the area inside of the compliance boundary where performance standards will be used to monitor groundwater (note if there are different compliance boundaries for the different soil alternatives).

Response: Agree. The figures will be revised accordingly.

Comment 47: Appendix B.1:

- The volume of contaminated sediment in Deerfield Creek has decreased by more than 50% from 115 cubic yards to 51 cubic yards. Please explain the basis used for reducing the volume of contaminated sediment in Deerfield Creek.
- The area of surface soil exceeding industrial PRGs is said to be 192,757 sf (14,278 cy); however, the alternative description in Section 4.1.2 states that only 147,000 sf (11,600 cy) of surface soil (to 2 ft bgs) will be excavated and treated. Assuming that the difference between these two volumes is associated with the additional contaminated surface volume managed in accordance with Component 3 of this alternative plus the surface volume that will be left in place beneath paved areas, Navy needs to edit the alternative description to better clarify this.
- Regarding the number of verification samples required, EPA had recommended that sidewall samples be collected every 25 feet of excavation perimeter and this value was used in the calculations on this page to arrive at the number of verification samples required for SO2. However, the text in Section 4.1.2 (Page 4-5) states that samples will be collected every 50 feet of excavation perimeter. Please correct the text to correspond with the Appendix B.1 calculations, using one sample per 25 feet of perimeter.
- Please edit the calculations to clarify how Navy determined that only 12 verification samples would be required for Alternative SO3. Figure 4-2 shows the equivalent of six 50-foot diameter excavation areas located outside the area that will be capped. These areas will require sidewall sampling every 25 feet as well as 2 to 3 bottom samples per excavation so it appears that 50 to 60 verification samples will be required for this alternative just to address these excavations. Please review and correct or clarify the number of verification samples required.

Response: Regarding the volume of Deerfield Creek sediment to be dredged, the Section 6 figures will be corrected to show the reduced excavation at the north end of the stream (as shown in Figure 2-10 of the FS and also as described in the December 8, 2011 response document for EPA Specific Comment #43). Regarding verification samples, Figure 4-2 notes that the selective excavation areas were not drawn to scale. The number of verification samples was estimated based on the excavation dimensions presented in Appendix B.

Overall, the Navy believes that revisions to the FS to address these comments will not result in significantly different cost estimates (currently prepared at a -30% to +50% level of accuracy, as per CERCLA guidance), and thus would not change the remedy selection decision. Therefore, the Navy proposes addressing these remaining questions and/or discrepancies during the Remedial Design phase.

Comment 48: New Appendix B.1b:

- There is an inconsistency between the calculation assumptions in this new appendix and the figures (Figure 4-1, 4-2, and 4-4). The calculations assume excavation diameters of 20 feet whereas the figures scale to 50 feet in diameter. Please review, provide the correct proposed excavation diameter, and make any necessary corrections to the FS.
- Alternatives SO3 and SO4 – It is unlikely that Navy will be able to implement these alternatives without significantly more excavation and off-site disposal (or consolidation) than indicated by the calculations. In order to place a two-foot cover over portions of the areas requiring a soil cover, it will first be necessary to excavate some soil in order to maintain appropriate topography to match existing site features. Over-excavation (more than 2 feet) may be required in some locations where the soil cover thins to less than two feet to match existing site features. Also, for the steep slopes, in some areas it may not be feasible to apply a two foot soil cover without modifying the slope. These adjustments will add costs to these alternatives that are not accounted for in the cost estimates. Examples where excavation will likely be required prior to covering include: around the perimeter of the paved area, along Deerfield Creek and the unnamed stream, along NUWC Pond, and potentially along the northeastern property boundary. Navy needs modify the FS to address these additional excavations and to account for this additional work in the cost estimates and/or acknowledge these concerns and uncertainties in the text. For SO4 the situation may be more difficult to manage because soil excavated from elsewhere on the site will be consolidated in the cover areas prior to applying the two-foot soil cover.

Response: The descriptions of the soil alternatives will be modified to note these concerns and uncertainties. However, the Navy believes that the changes to the cost estimates would not result in a change to the remedy selection decision (i.e., Alternative SO3 would still be the most cost-effective option). Therefore, the Navy proposes addressing these remaining questions and/or discrepancies during the Remedial Design phase.

Comment 49: Appendix B.2: In the Navy's response to EPA's August 11, 2011 Specific Comment 47, Navy indicated that 49 wells are assumed to be available for monitoring. The calculations on page 2 of this appendix as well as the cost estimates confirm that the intention is to monitor groundwater at 49 locations. The text here states that replacement of the abandoned wells has already been accounted for in the soil alternatives; however, that is not correct. Review of the calculations for the soil alternatives as presented in Appendix B.1 and review of the costs estimates indicates that 25 wells will be abandoned but only 5 or 10, depending on the alternative, will be replaced. Please correct the FS to account for the additional new wells required to complete the 49-well monitoring network that this FS assumes will be available when the remedy is implemented.

Response: The Navy believes that revisions to the FS to address this comment will not result in significantly different cost estimates (currently prepared at a -30% to +50% level of accuracy, as per CERCLA guidance), and thus would not change the remedy selection decision. Therefore, the Navy proposes addressing this comment during the Remedial Design phase.

Comment 50: Appendix B.2: Navy added calculations for each groundwater alternative identified as *Time for Fresh Groundwater to Fully Replenish Site Aquifer*. Based on review of the associated text in Section 5 of the FS, these calculations are intended to estimate the time required to re-establish oxidizing conditions allowing mobilized metals to precipitate. The Navy's conclusion is that up to five years would be required for the South Meadow and Building 179 areas. A deficiency in the assumptions inherent in these calculations is that the replenishment would be equivalent to plug flow wherein fresh groundwater completely displaces contaminated groundwater as it flows through the aquifer. In reality true plug flow

will not occur, intermixing will occur, and therefore it will require several volume displacements to flush the contaminated aquifer and restore natural groundwater conditions. While sufficient oxidizing conditions may become re-established before natural groundwater conditions are fully restored, Navy should revise the FS to acknowledge that multiple volume displacements, not a single volume displacement, will likely be required before mobilized metals are no longer problematic. Therefore, the restoration time is likely to be longer than estimated.

Response: The estimated timeframe will be modified to assume that three volume displacements will be required to sufficiently reduce metals concentrations in groundwater. As discussed, the timeframe to achieve metals MNA will be reevaluated during the Remedial Action phase as more monitoring data become available and substantial reduction of the CVOC plume has been achieved.

Navy Responses to RIDEM Comments Dated June 5, 2012
on the Draft Final Feasibility Study for Site 8 – NUSC Disposal Area
Naval Station (NAVSTA) Newport, Rhode Island
June 19, 2012

On June 5, 2012, the Rhode Island Department of Environmental Management (RIDEM) provided comments on the Draft Final Feasibility Study (FS) for Site 8, the Naval Undersea Systems Center (NUSC) Disposal Area (Tetra Tech, May 2012) at the Naval Station (NAVSTA) Newport, Rhode Island. The Navy's responses are provided below.

Specific Comments:

Comment 1: p.1-19, Section 1.8.1.3, SRI Results for Soil, North Meadow.

"…no continuing source of TCE was identified in North Meadow soil."

Please note that RIDEM's Comment #6 on the Draft Supplemental Remedial Investigation stated that the two soil samples which were collected in the North Meadow were not sufficient to make the conclusion that there is no continuing source of TCE in the North Meadow. The Navy collected two soil samples at MW-127B and MW-128B. MW-128B had the highest concentrations of TCE in groundwater; however, MW-127B had very low concentrations. RIDEM believes that a potential source of TCE may still remain in this area, as evidenced by the increasing concentration of TCE in groundwater at MW-03B, which increased from 150 µg/L in 2010 to 340 µg/L in 2011. It appears that the source may be in the vicinity of MW-03B and/or MW-117B where it then migrates to MW-128B through the high yield fracture zones. RIDEM requests that additional soil samples in the vicinity of MW-03B and MW-117B be taken during the Pre-Design Investigation to verify the conclusion that no source exists in this area.

Response: The Navy agrees to advance and sample up to three additional soil borings in the vicinity of MW-03B during the Pre-Design Investigation (PDI) to further verify there is no continuing source of TCE in soil in that area. The locations and sampling protocols will be developed in coordination with RIDEM and EPA during the PDI planning phase. Based on the current data and conceptual site model (CSM), the Navy believes that there is sufficient information to move forward with the proposed remedy at this time and the Remedial Design (RD) can be adjusted as necessary, based on the results of the PDI.

Comment 2: p. 1-22, Section 1.8.1.4, Leachability Criteria for Soil; last paragraph.

"Additional verification sampling for SPLP-metals analysis may be appropriate during the Remedial Design/Remedial Action phase, to verify that metals concentrations in onsite soils do not exceed leachability criteria."

As agreed to during our meeting/conference call on February 15, 2012, please change "*may be appropriate*" to *"will be conducted"*.

Response: The text will be revised accordingly.

Comment 3: p.1-23, Section 1.8.2.1, RI Results, GRO/ETPH.

RIDEM included a comment on the Proposed Plan regarding MW-100B which was observed during the RI field work to contain a 4.5-inch layer of LNAPL which was subsequently removed. As this monitoring well is designated to be sampled for future MNA analysis and was also selected for bioremediation and/or ISCO treatment, RIDEM simply requests that this well be monitored for the presence of LNAPL at future sampling events.

Response: The Navy checked MW-100B with an oil/water interface probe during the March 2011 and May 2012 MNA sampling events, and no measureable LNAPL was detected.

The Navy agrees to continue monitoring MW-100B for the presence of LNAPL during future groundwater sampling events.

Comment 4: p. 1-35, Section 1.10.1, Baseline Human Health Risk Assessment; 4th paragraph.

"Cancer and non-cancer risks for residential and industrial exposures via vapor intrusion were found to be within acceptable levels."

Vapor intrusion was not considered in the development of PRGs in the FS because this pathway did not pose an unacceptable risk in the HHRA, and there are no currently occupied buildings at the Site. However, this pathway is a viable future exposure pathway and may contribute to cumulative cancer risk should Site buildings be routinely occupied. Please state in this FS that appropriate measures will be included in the LUCs to eliminate this pathway (e.g., reevaluation of vapor intrusion risk, post-remediation and prior to occupancy, and/or use of vapor barriers, sub-slab depressurization systems, etc.) or that vapor intrusion evaluation will be required for any future development.

Response: Disagree. As noted in Section 1.10.1, the vapor intrusion evaluation was for indoor air, including future residential use. The risk assessment calculated that the incremental lifetime cancer risk (ILCR) was 6E-7 and the non-cancer hazard index (HI) was 0.0004 for hypothetical residential exposures via vapor intrusion. For industrial exposures, the ILCR was 4E-7 and the HI was 0.0003. These values are well below USEPA and RIDEM target levels and indicate that the vapor intrusion pathway is not a significant contributor to the cumulative risk for exposures to groundwater. Therefore, LUCs are not needed for the vapor intrusion pathway.

Comment 5: p. 2-8, Section 2.2.2, Derivation of PRGs, Human Health PRGs.

"Additional verification sampling for SPLP analysis may be appropriate during the RD/RA phase to verify that metals levels in site soil are not exceeding Leachability Criteria."

As agreed to during our meeting/conference call on February 15, 2012, please change "*may be appropriate"* to *"will be conducted".*

Response: The text will be revised accordingly.

Comment 6: p.3-24, Section 3.4.5.1, In-Situ Enhanced Bioremediation; whole section.

Please include a discussion in this section of the need for a microcosm study to determine the effectiveness of bioremediation at any area of the site.

Response: The text already states that site-specific treatability testing may be required (e.g., top of page 3-23); however, this section and the bioremediation discussion in Chapter 5 will be modified to note that the treatability study can include a microcosm study. Note that the Navy is currently developing a work plan to conduct a microcosm study as part of the Site 8 PDI.

Comment 7: p. 4-4, Section 4.1.2, Alternative S02, Component 3; 1st bullet.

" ...if the use of the Paved Storage Area were to change in the future, including transfer of the property outside the Navy, or if the Paved Storage Area becomes inactive, the Navy would complete follow-on geophysical investigations in that area and would remove subsurface debris, as necessary."

RIDEM maintains that removal of all remaining potential source areas at this site will ensure long-term effectiveness of the remedy while minimizing monitoring requirements. We believe any anomalies should be properly investigated to ensure that drums with the potential to contain hazardous waste are not present. If any such drums are left in place they could re-contaminate the groundwater proposed to be treated by either bioremediation or ISCO. That being said, RIDEM concedes the Navy's proposed approach and agrees to disagree on this issue.

Response: Comment noted.

Comment 8: p. 5 8, Section 5.1.4, Alternative GW4, Component 1: In-Situ Chemical Oxidation.

The primary ISCO technology evaluated in this section is Fenton's Reagent (hydrogen peroxide and iron catalyst). However, page 3-26 states:

"Pilot tests to select a reagent might also be required, although because of the relatively low TCE concentrations·, potassium permanganate would likely be used."

It is not immediately clear why Fenton's Reagent was selected over potassium or sodium permanganate for ISCO Alternative GW4. The ability of permanganate to oxidize chlorinated ethenes has been widely demonstrated in the field, including at comparable, operational sites in Rhode Island. In addition, the stability and persistence of permanganate in the subsurface make it a better choice for fractured rock applications with uncertain fracture/matrix interactions and migration pathways. It is noted the chlorinated ethanes are recalcitrant to permanganate; however, activated persulfate is an alternative, proven ISCO reagent that provides trichloroethane (TCA) coverage while offering more stability than Fenton's Reagent. Additional consideration should be given to permanganate and/or activated persulfate for source area remediation at the Site. This is particularly salient as the safety of site workers was cited as key differentiator between ISCO and bioremediation. In general, permanganate and activated persulfate do not result in unsafe gas and heat evolution, which is correctly noted as a safety hazard for unstabilized Fenton's Reagent. It is recommended that these reagents be strongly considered at the site in lieu of Fenton's Reagent and a more detailed explanation be added to this section regarding the selection process on the ISCO reagent.

Response: The Navy acknowledges RIDEM's concerns regarding the type of reagent that would be selected for the ISCO process. A brief discussion regarding the different oxidizing agents will be added to Section 5.1.4 as requested, but Fenton's Reagent will be retained for costing purposes in the FS. Further evaluation of the specific oxidant which may be used will be presented in the Remedial Design or PDI. The Proposed Plan will be modified to note the different oxidant choices to be considered during the design phase.

Comment 9: Figures 5-1 and 5-2, Target Treatment Zones for Groundwater Alternatives.

Figure 2-7 outlines areas with groundwater concentrations exceeding PRGs. Figures 5-1 and 5-2 highlight wells that were selected for treatment. Several wells located in the areas exceeding PRGs were not selected for treatment (e.g., MW127B, MW108B, MW102B, MW130B, MW124B, and MW129B). Please include these wells for treatment or justify their exclusion in this FS. If these wells are not to be treated, please indicate how long it will take, based on modeling, for these wells to reach remedial goals.

Response: As described on page 5-6 of the FS, Figures 5-1 and 5-2 present one conceptual approach where the treatment zones would target high concentration wells or areas to intercept the plumes, depending on groundwater velocity. The remaining plume fringe where concentrations are low would be addressed through MNA. The Navy is currently developing a draft Remedial Design which will provide further details and will be provided for RIDEM review. At this time, it appears that wells such as MW-129B and MW-102B will be directly within the influence of the treatment zone. MW-108B is located in the planned waste management area, and therefore, does not require groundwater treatment (or other action to be determined), unless it is observed over time that COCs from MW-108B are migrating outside the waste management area at concentrations above PRGs. Wells MW-124B, MW-127B, and MW-130B contain low levels of CVOCs (83.8 J ug/L, 12.3 J ug/L, and 33.6 J ug/L of total CVOCs, respectively) with COCs only slightly exceeding individual PRGs. These wells will be included in the long-term monitoring program, and the need for any further action can be evaluated based on the observed results of the active treatment zones and the MNA program.

REVISED ARAR TABLES

POTENTIAL CHEMICAL-SPECIFIC ARARs AND TBCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 4

Authority	Requirement	Status	Requirement Synopsis	Consideration
Federal Regulatory Requirements	EPA Human Health Assessment Cancer Slope Factors (CSFs).	To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants.	Were used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in site media.
	Reference Dose (RfD)	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media.	Were used to calculate potential non-carcinogenic hazards caused by exposure to contaminants.
	Guidelines for Carcinogen Risk Assessment EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	Were used to calculate potential carcinogenic risks caused by exposure to contaminants.
	Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance of assessing cancer risks to children.	Were used to calculate potential carcinogenic risks to children caused by exposure to contaminants.
	Recommendations of the Technical Review Workgroup for Lead for an Approach to Assessing Risks Associated with Adult Exposure to Lead in Soil	To Be Considered	EPA guidance for evaluating the risks posed by lead in soil	Guidance on assessing lead-impacted soil exceeding adult (and child) risk levels in residential use scenarios.

POTENTIAL CHEMICAL-SPECIFIC ARARs AND TBCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 4

Authority	Requirement	Status	Requirement Synopsis	Consideration
Federal Regulatory Requirements (continued)	Safe Drinking Water Act (42 U.S.C. §300f *et seq.)*; National Primary Drinking Water Regulations (40 CFR 141, Subpart B and G)	Relevant and Appropriate	Establishes maximum contaminant levels (MCLs) for common organic and inorganic contaminants applicable to public drinking water supplies. Used as relevant and appropriate cleanup standards for aquifers and surface water bodies that are potential drinking water sources.	Under federal standards, groundwater within the Site is considered a potential drinking water source; therefore, groundwater must achieve these standards in all areas outside of the compliance boundary for any waste management area. Groundwater use restrictions will be maintained until these standards are achieved. Within the compliance boundary beginning at the edge of ~~for any~~any waste management area, these are used as monitoring standards.
	Safe Drinking Water Act (42 U.S.C. §300f *et seq.)*; National primary drinking water regulations (40 C.F.R. 141, Subpart F)	Relevant and Appropriate for non-zero MCLGs only	Establishes maximum contaminant level goals (MCLGs) for public water supplies. MCLGs are health goals for drinking water sources. These unenforceable health goals are available for a number of organic and inorganic compounds.	Under federal standards, groundwater within the Site is considered a potential drinking water source; therefore, groundwater must achieve these standards in all areas outside of the compliance boundary for any waste management area. Groundwater use restrictions will be maintained until these standards are achieved. Within the compliance boundary beginning at the edge of ~~for~~ any waste management area, these are used as monitoring standards.

POTENTIAL CHEMICAL-SPECIFIC ARARs AND TBCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Authority	Requirement	Status	Requirement Synopsis	Consideration
	Health Advisories (EPA Office of Drinking Water)	To Be Considered	Health Advisories are estimates of risk due to consumption of contaminated drinking water; they consider non-carcinogenic effects only. To be considered for contaminants in groundwater that may be used for drinking water. The risk-based standard for manganese is 0.3 mg/L.	Health advisories will be used to evaluate the non-carcinogenic risk resulting from exposure to certain compounds (i.e., manganese). The remedy will be designed to ultimately reduce contaminant levels in groundwater used for drinking water to levels that do not exceed advisory levels in all areas outside of the compliance boundary for any waste management area. Groundwater use restrictions will be maintained until these standards are achieved outside of the waste management area compliance boundary and will be maintained within the compliance boundary until conditions are suitable for unlimited use and unrestricted exposure.
	Probable Effects Concentration Quotients (PEC-Qs), MacDonald, et al., 2000 and Ingersoll et al., 2000.	To Be Considered	Provides guidance values for identifying potential risk to ecological receptors exposed to contaminated sediments.	Primary basis for evaluating risk to aquatic ecological receptors. This guidance can be used to develop PRGs.
State Regulatory Requirements	Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations), CRIR 12-180-001, DEM-DSR-01-93, Sections 8002 and 8.03	Applicable	These regulations set remediation standards for contaminated media. These standards are applicable to a CERCLA remedy when they are more stringent than federal standards. Establishes criteria for groundwater and both direct contact and leachability of contaminants in soil.	The Remediation Regulations are used in the establishment of PRGs for soil for direct contact and leachability to be used in the remedial action. Also used to establish groundwater PRGs when these standards are more stringent than federal standards. PRGs based on these standards will be achieved outside of the compliance zone for the waste management area (i.e., beyond the edge of the waste management area) and will be used as monitoring standards inside the compliance boundary.

CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act.

CFR – Code of Federal Regulations
EPA – United States Environmental Protection Agency.
OSWER – Office of Solid Waste and Emergency Response
PRG – Preliminary Remediation Goal.
U.S.C. – United States Code.

POTENTIAL LOCATION-SPECIFIC ARARs AND TBCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

AUTHORITY	REQUIREMENT	STATUS	REQUIREMENT SYNOPSIS	CONSIDERATION
Federal Regulatory Requirements	Clean Water Act - Section 404 (33 U.S.C. s 1344); Section 404 (b)(1) Guidelines For Specification Of Disposal Sites For Dredged or Fill Material (40 CFR 230 and 33 CFR 320 and 323)	Applicable	Under this requirement, no activity that adversely affects a federal jurisdictional wetland and waters of the United States shall be permitted if a practicable alternative with lesser effects is available. If activity takes place, impacts must be minimized to the maximum extent. Controls discharges of dredged or fill material to protect aquatic ecosystems.	Alternatives may involve excavation and filling of federal jurisdictional wetland resources and waters of the United States. Filling or discharge into wetland resource areas will only occur where there is no other practicable alternative and any adverse impacts to aquatic ecosystems will be mitigated. The Navy will identify the remedial alternative that is the least environmentally damaging practicable alternative for protecting wetland resource areas.
	Fish and Wildlife Coordination Act (16 U.S.C. 661)	Applicable	This regulation requires that any federal agency proposing to modify a body of water must consult with the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service, and other related state agencies. That federal agency must consult with the appropriate government entity and also take action to prevent, mitigate, or compensate for project-related losses of endangered species, fish and wildlife resources.	Alternatives may modify potential, fish and wildlife habitats. All appropriate state and federal agencies, such as the USFWS, will be consulted to ensure that losses of these resources will be prevented, mitigated, or compensated.
Federal Regulatory Requirements (Continued)	Floodplain Management and Protection of Wetlands, 44 CFR 9	Relevant and Appropriate	FEMA regulations that implement Executive Order 11990, Protection of Wetlands. Prohibits activities that adversely affect a federally-regulated wetland unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.	During the remedial design stage, the effects of the remedial action, particularly in regard to the sediment and soil alternatives on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by sediment remediation, monitoring, or other remedial activities will be mitigated in accordance with requirements. No floodplains are onsite and potential impacts to downstream floodplains will be avoided. Public comment will be solicited in the Proposed Plan.

POTENTIAL LOCATION-SPECIFIC ARARs AND TBCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 3

AUTHORITY	REQUIREMENT	STATUS	REQUIREMENT SYNOPSIS	CONSIDERATION
	Endangered Species Act 16 USC 1531 et seq., 50 CFR 200, 50 CFR 402	Applicable	If a location contains a federal endangered or threatened species or its critical habitat, and an action may impact the species or its habitat, the USFWS or the National Marine Fisheries Service must be consulted.	The federally-listed endangered loggerhead turtle (*Caretta caretta*) and federally-~~listed threatened~~listed threatened Kemp's ridley turtle (*Lepidochelys kempii*) occur in the waters of Narragansett Bay. Appropriate agencies will be consulted to find ways to minimize adverse effects to the listed species and its habitat.
	National Historic Landmarks (Historic Sites Act); 16 USC §461 et seq.; 36 CFR Part 65	Applicable	The purpose of the National Historic Landmarks program is to identify and designate National Historic Landmarks, and encourage the long range preservation of nationally significant properties that illustrate or commemorate the history and prehistory of the United States.	Features with potential historical/cultural significance will be evaluated during the remedial design phase. Should this remedy impact historical properties/structures determined to be protected by this standard, activities will be coordinated with the Department of the Interior.
Federal Regulatory Requirements (Continued)	Protection of Historic Properties (National Historic Preservation Act); 16 USC §470 et seq., 36 CFR Part 800	Applicable	Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment.	Features with potential historical/cultural significance will be evaluated during the remedial design phase. Should this remedy impact properties/structures determined to be protected by this standard, activities will be coordinated with the Advisory Council on Historic Preservation.
State Regulatory Requirements	Endangered Species Act, RIGL 20-37-1 *et seq.*	Relevant and Appropriate	Regulates activities affecting state-listed endangered or threatened species or their critical habitat. Includes provisions to declare state-listed threatened and endangered species.	The state listed loggerhead turtle (*Caretta caretta*) and Kemp's ridley turtle (*Lepidochelys kempii*) occur in the waters of Narragansett Bay. Appropriate agencies will be consulted to find ways to minimize adverse effects to the listed species and its habitat.
	Inspection of Dams and Reservoirs; Rules and Regulations for Dam Safety, RIGL 46-19	Applicable	Sets standards for inspecting and maintaining dams in the State.	LUCs and O&M of the NUSC Pond dam will be required to prevent contaminated sediment that is being managed in-place from migrating downstream of the dam.

POTENTIAL LOCATION-SPECIFIC ARARs AND TBCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

AUTHORITY	REQUIREMENT	STATUS	REQUIREMENT SYNOPSIS	CONSIDERATION
	~~Fresh Water Wetlands Act; Rules and Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act~~RIGL 2-1, Sections 2-1-18 through 2-1-20.2; Fresh Water Wetlands Act; DEM Rules And Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act (Dec 2010), Rules 4.00 and 5.00	Applicable	Defines and establishes provisions for the protection of swamps, marshes and other fresh water wetlands in the state. Actions are required to prevent the undesirable drainage, excavation, filling, alteration, encroachment or any other form of disturbance or destruction of a wetland. Also establishes standards for land within 50 feet of the edge of state-regulated wetlands.	Remedial activities will be conducted to minimize the disturbance of ~~wetlands~~ state jurisdictional wetlands and perimeter wetlands.
	Rhode Island Historical Preservation Act; RIGL 42-45 et seq.	Applicable	Requires action to take into account effects on properties included on or eligible for the National register of Historic Places and minimizes harm to National Historic Landmarks.	Features with potential historical/cultural significance will be evaluated during the remedial design phase. Should this remedy impact properties/structures determined to be protected by this standard, activities will be coordinated with the State Agency.

CFR – Code of Federal Regulations
RIGL – Rhode Island General Laws
U.S.C. – United States Code
FEMA – Federal Emergency Management Agency

TABLE 2-3

POTENTIAL ACTION-SPECIFIC ARARs AND TBCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 12

Authority	Requirement	Status	Requirement Synopsis	Consideration
Federal Regulatory Requirements	Toxic Substances Control Act (TSCA); PCB Remediation Waste, 15 U.S.C. 2601 *et seq.*; 40 CFR 761.61(c)	Applicable	This section of the TSCA regulations provides risk-based cleanup and disposal options for PCB remediation waste based on the risks posed by the concentrations at which the PCBs are found. Written approval for the proposed risk-based cleanup must be obtained from the Director, Office of Site Remediation and Restoration, U.S. Environmental Protection Agency (USEPA) Region 1.	All sediment and soil exceeding identified PCB cleanup levels will either be removed, dewatered (if required) and disposed of off-site or will be placed under a cover system that meets TSCA protectiveness standards. The dredging, transportation/dewatering, and management of PCB-contaminated media will be performed in a manner to comply with TSCA, including air and surface water monitoring during remedial activities. The ROD will contain a finding by the Director, Office of Site Remediation and Restoration, EPA Region 1, that the remedy's sediment and soil PCB cleanup levels, along with the dredging, dewatering, and management of the contaminated media will not pose an unreasonable risk to human health or the environment.
	CWA, Underground Injection Control (UIC), 40 CFR 144,146, and 147.2000	Applicable	These regulations address the discharge of wastes, chemicals or other substances into the subsurface. The federal UIC program designates injection wells incidental to aquifer remediation and experimental technologies as Class V wells authorized by rule that do not require a separate UIC permit.	These standards regulate the injection of biological or chemical substance into the groundwater. In-situ treatment will be conducted in compliance with these standards.

TABLE 2-3

POTENTIAL ACTION-SPECIFIC ARARs AND TBCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 12

Authority	Requirement	Status	Requirement Synopsis	Consideration
Federal Regulatory Requirements (continued)	Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites, OSWER Directive 9200.4-17P (April 21, 1999)	To Be Considered	EPA guidance regarding the use of monitored natural attenuation for the cleanup of contaminated soil and groundwater. In particular, a reasonable time frame for achieving cleanup standard though monitored attenuation would be comparable to that which could be achieved through active restoration.	This guidance will be used to determine success of monitored natural attenuation component of any alternative to attain all groundwater cleanup standards within a reasonable time frame.
	Safe Drinking Water Act (42 U.S.C. §300f et seq.); National primary drinking water regulations (40 C.F.R. 141, Subparts B and G)	Relevant and Appropriate	Establishes MCLs for common organic and inorganic contaminants applicable to public drinking water supplies. Used as relevant and appropriate standards for aquifers and surface water bodies that are potential drinking water sources.	These are monitoring standards used to ensure contaminated groundwater does not migrate beyond the compliance zone for areas where waste is managed in place.
	Safe Drinking Water Act (42 U.S.C. §300f et seq.); National primary drinking water regulations (40 C.F.R. 141, Subpart F)	Relevant and Appropriate for non-zero MCLGs only; MCLGs set as zero are To Be Considered.	Establishes maximum contaminant level goals (MCLGs) for public water supplies. MCLGs are health goals for drinking water sources. These unenforceable health goals are available for a number of organic and inorganic compounds.	These are monitoring standards used to ensure contaminated groundwater does not migrate beyond the compliance zone for areas where waste is managed in place.
	Health Advisories (EPA Office of Drinking Water)	To Be Considered	Health Advisories are estimates of risk due to consumption of contaminated drinking water; they consider non-carcinogenic effects only. To be considered for contaminants in groundwater that may be used for drinking water. The risk-based standard for manganese is 0.3 mg/L.	These are monitoring standards used to ensure contaminated groundwater does not migrate beyond the compliance zone for areas where waste is managed in place.

TABLE 2-3

POTENTIAL ACTION-SPECIFIC ARARs AND TBCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 3 OF 12

Authority	Requirement	Status	Requirement Synopsis	Consideration
Federal Regulatory Requirements (continued)	CWA National Recommended Water Quality Criteria (NRWQC), 40 CFR 122.44)	Relevant and Appropriate	Federal NRWQC are health-based and ecologically based criteria developed for carcinogenic and non-carcinogenic compounds. These standard may be used to develop cleanup standards for sediments	Water quality standards used to develop monitoring standards for sediment remedial alternatives at the Site.
	Clean Water Act - National Pollutant Discharge Elimination System (NPDES), 40 CFR Parts 122 and 125	Applicable	Establishes the specifications for discharging pollutants from any point source into the waters of the U.S. Includes stormwater standards for activities disturbing more than one acre.	Any water discharged to surface water bodies during remedial activities will comply with this regulation. Best management practices will be used to meet stormwater standards during the remedial action.
	Clean Water Act; General Pretreatment Regulations for Existing and New Sources of Pollution, 33 U.S.C. § 1251 et seq. 40 CFR. Part 403	Applicable	Standards for direct discharge of waste water into a Publicly Owned Treatment Works (POTW).	These standards will apply if water from the remedial action such as from dewatering is discharged to a POTW.

TABLE 2-3

POTENTIAL ACTION-SPECIFIC ARARs AND TBCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 4 OF 12

Authority	Requirement	Status	Requirement Synopsis	Consideration
Federal Regulatory Requirements (continued)	EPA Groundwater Protection Strategy (August 1984; NCP Preamble, Vol 55, No. 46, March 8, 1990, 40 CFR Part 300, p. 8733); Guidelines for Ground-Water Classification (November 1986)	To Be Considered	The Groundwater Protection Strategy provides a common reference for preserving clean groundwater and protecting the public health against the effects of past contamination. Guidelines for consistency in groundwater protection programs focus on the highest beneficial use of a groundwater aquifer and define three classes of groundwater. These documents defined Class I, II and III groundwaters.	Under federal standards, groundwater within the Site is considered a potential drinking water source except within the compliance boundary of any waste management area established under the soil or sediment alternatives; therefore, groundwater must achieve ~~these~~federal drinking water and risk-based standards or more stringent State groundwater standards outside of the compliance boundary. Groundwater use restrictions outside of the compliance boundary will be maintained until these standards are achieved. ~~Groundwater outside~~Inside of the compliance boundary groundwater use restrictions will be in effect as long as the waste management area remains in place~~for the Paved Storage Area established at the Site needs to attain federal drinking water and risk-based standards~~. Groundwater monitoring using these standards will be used to make sure groundwater exceeding these standards does not migrate beyond the compliance boundary. Exceedances of these standards within the compliance boundary is a basis for establishing prohibitions on the use of groundwater within the compliance boundary. An additional buffer zone beyond the compliance boundary to prevent groundwater wells from being installed that would draw contaminated groundwater beyond the compliance boundary may also be established, if required.

TABLE 2-3

POTENTIAL ACTION-SPECIFIC ARARs AND TBCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 5 OF 12

Authority	Requirement	Status	Requirement Synopsis	Consideration
Federal Regulatory Requirements (continued)	Contaminated Sediment Remediation Guidance for Hazardous Waste Sites (EPA-540-R-05-012 OSWER 9355.0-85 December 2005)	To Be Considered	Guidance for making remedy decisions for contaminated sediment sites.	This guidance will be considered in addressing contaminated sediment alternatives involving Monitored Natural Recovery, Thin Layer Capping, Dredging, and/or Cover/Capping. The guidance also addresses dewatering, and disposal of the contaminated sediments.
	Management of Undesirable Plants on Federal Lands, 7 U.S.C. 2814	Relevant and Appropriate	Requires federal agencies to establish integrated management systems to control or contain undesirable plant species on federal lands under the agency's jurisdiction.	Measures will be taken to control the establishment of *Phragmites*, purple loosestrife or other invasive plants within all remediated areas. An invasive species control plan will be developed as part of the long-term O&M for this site. The responsibility of control will be transitioned to NAVSTA after (1) the remedy is in place, and (2) NAVSTA develops a base-wide program for controlling undesirable plants.
State Regulatory Requirements	Clean Air Act - Fugitive Dust Control, RIGL 23-23 *et seq.*; CRIR 12-31-05	Applicable	Requires that reasonable precaution be taken to prevent particulate matter from becoming airborne.	Removal of soil/sediment during active construction would be implemented to prevent material from becoming airborne.
	Clean Air Act -Emissions Detrimental to Persons or Property, RIGL 23-23 *et seq.*; CRIR 12-31-07	Applicable	Prohibits emissions of contaminants that may be injurious to human, plant, or animal life, or cause damage to property or which reasonably interferes with the enjoyment of life and property.	Monitoring of air emissions during remedial activities will be used to assess compliance with these standards if threshold levels are reached.
	Clean Air Act - Air Pollution Control, RIGL 23-23 *et seq.*; CRIR 12-31-09	Applicable	Establishes guidelines for the construction, installation, or operation of potential air emission units. Establishes permissible emission rates for some contaminants.	Emissions for soil treatment system and fugitive dust would be monitored and if any control system is required it will meet the substantive provisions of the standards if threshold levels are reached.

TABLE 2-3

POTENTIAL ACTION-SPECIFIC ARARs AND TBCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 6 OF 12

Authority	Requirement	Status	Requirement Synopsis	Consideration
State Regulatory Requirements (Continued)	Visible Emissions (CRIR 12-31-01)	Applicable	Regulates emissions that cause opacity.	Soil treatment equipment will have controls to meet opacity requirements.
	Particulate Emissions from Industrial Processes (CRIR12-31-03)	Relevant and Appropriate	Regulates particulate emission rates based on weight of material processed in industrial processes.	Particulate emissions from soil processed through soil treatment equipment would be controlled to meet the requirements of this regulation.
	Clean Air Act – Air Toxics, RIGL 23-23 *et seq.*; CRIR 12-31-22	Applicable	Prohibits the emission of specified contaminants at rates which would result in ground level concentrations greater than acceptable ambient levels or acceptable ambient levels as set in the regulations.	Monitoring of air emissions during excavation will be used to assess compliance with these standards if threshold levels are reached. Operation and maintenance activities will be carried out in a manner which will minimize potential air releases.
	Regulations for Rhode Island Pollutant Discharge Elimination Systems, RIGL 42-16 *et seq.*; CRIR 12-190-003, Rules 15 and 31	Applicable	Contains applicable effluent monitoring requirements, and standards and special conditions for discharges. Rule 31 establishes standards for storm water discharges. Rhode Island is fully authorized to administer the NPDES program.	Discharge of water from remedial activities (including dewatering sediment/soil) to surface waters will need to meet these standards. Storm water controls for areas of construction/maintenance will be implemented and maintained to meet these standards.
	Water Quality Regulations, RIGL 42-16 et seq.; CRIR 12-190-001	Applicable	Establishes water use classification and water quality criteria for waters of the state.	Surface water concentrations will be compared against these criteria during monitoring of the implementation of the remedy, as well as during long-term monitoring events.
	Drilling of Drinking Water Wells; Rules and Regulations Governing the Enforcement of Chapter 46-13.2 Relating to the Drilling of Drinking Water Wells, RIGL 46-13..2 *et seq.*	Applicable	Prohibits installing drinking water wells in contaminated aquifers. Establishes standards for decommissioning monitoring wells (Rule 9.03).	Under these standards drinking water wells are prohibited within areas of contamination and monitoring wells used will be properly decommissioned when no longer needed.

TABLE 2-3

POTENTIAL ACTION-SPECIFIC ARARs AND TBCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 7 OF 12

Authority	Requirement	Status	Requirement Synopsis	Consideration
State Regulatory Requirements (Continued)	Water Pollution Control - Pollution Discharge Elimination Systems – Pretreatment Regulations; Rules 1 - 7	Applicable	Regulations for the discharge of wastewater into a publicly owned treatment works (POTW).	Water generated through sediment dewatering will be characterized for proper disposal. Discharges to a POTW will follow these requirements.
	Pretreatment Regulations, RIGL 46-12, 42-17.1, 42-45	Applicable	Rhode Island standards for discharge to POTWs.	These standards will apply if water from the remedial action (such as from soil or sediment dewatering) is discharged to a POTW.
	Rhode Island Solid Waste Regulations, DEM OWM-SW04-01, 1.7.14(b)	Relevant and Appropriate	Regulation states that an approved closure plan must be implemented.	The site will be closed under a plan developed in accordance with the substantive requirements of this section of the regulations, to be incorporated into the remedial design (RD), and the Operations and Maintenance Plan (O&M) (including a monitoring plan).
	Rhode Island Solid Waste Regulations – Dust Control, DEM OWM-SW0401, 1.7.10	Relevant and Appropriate	Requires dust control.	Dust must be controlled at the site during cover construction and during maintenance activities.
	Rhode Island Solid Waste Regulations – Health and Safety, DEM OWM-SW0401, 1.7.12 (a)	Relevant and Appropriate	Requires solid waste management facilities be designed and maintained to protect the health and safety of personnel at the facility and persons in close proximity.	Under this subsection health and safety of construction workers and persons in the proximity of the site would be maintained during construction and maintenance activities.

TABLE 2-3

POTENTIAL ACTION-SPECIFIC ARARs AND TBCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 8 OF 12

Authority	Requirement	Status	Requirement Synopsis	Consideration
State Regulatory Requirements (Continued)	Rhode Island Solid Waste Regulations, DEM OWM-SW04-01, 1.8.01 (a) and 1.8.01 (b)	Relevant and Appropriate	Requires facilities to monitor groundwater and to meet closure requirements.	The substantive requirements of this section of the regulations will be met by monitoring groundwater and meeting closure requirements. If contaminants are left in place, the site will be closed as a waste management unit, and undergo long term monitoring. The remedial design (RD), remedial action work plan (RAWP), operations and monitoring plan (O&M) (including the long term monitoring plan [LTMP]) developed for this cleanup will contain the specific monitoring and closure requirements for the waste management unit that will comply with the substantive requirements.
	Rhode Island Solid Waste Regulations, DEM OWM-SW04-01, 2.1.08 (a) (8)	Relevant and Appropriate	Contains requirements for construction of monitoring wells to monitor a solid waste landfill.	The substantive requirements of this section of the regulations will be met for construction of new monitoring wells.
	Rhode Island Solid Waste Regulations, DEM OWM-SW04-01, 2.2.12 (d) (1) and 2.2.12 (d) (2) (ii)(iii) and (v)	Relevant and Appropriate	Contains requirements for construction and maintenance of the vegetative cover final cover system.	Remedies including cover systems will include appropriate vegetation requirements of a soil cover in compliance with these standards.
	Rhode Island Solid Waste Regulations – Sedimentation and Erosion Control, DEM OWM-SW0401, 2.1.04	Relevant and Appropriate	Requires a “Sedimentation and Erosion Control Plan” be developed.	An erosion and sediment control plan will be developed for this site in accordance with the substantive requirements of this section. The RD and the RAWP, to be developed for this cleanup, will contain the specific erosion and sediment controls requirements for the remedial construction.

TABLE 2-3

POTENTIAL ACTION-SPECIFIC ARARs AND TBCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Authority	Requirement	Status	Requirement Synopsis	Consideration
State Regulatory Requirements (Continued)	Rhode Island Solid Waste Regulations, DEM OWM-SW04-01, 2.3.04(e), (f)	Relevant and Appropriate	Outlines the requirements for the maintenance and permeability of cover material.	The substantive requirements of this section of the regulations will be met by installing an asphalt cover that has been determined to provide an adequate barrier for specific areas to be used for storage, or a soil cover that has been determined to provide an adequate barrier for the remainder of the land within the site."
	Rhode Island Solid Waste Regulations – Compliance Boundaries, DEM OWM-SW0401, 2.3.05	Relevant and Appropriate	Establishes requirement for compliance boundary for pollution of ground waters or surface waters.	The substantive requirements of this section of the regulations will be met by the requirement that no contamination of groundwater be permitted outside the boundary of the Paved Storage Area. Because this remedy leaves contamination in place, groundwater monitoring will be conducted to assure that no contaminants are transported to the groundwater beyond the boundary of the waste management area.
	Rhode Island Solid Waste Regulations, DEM OWM-SW04-01, 2.3.10	Relevant and Appropriate	Contains requirements for surface water drainage.	The substantive requirements of this section of the regulations will be met through design of appropriate surface drainage considerations for the cover. The cover system would be designed to prevent erosion, sedimentation, and standing water on the cover. Minimum slope requirements for solid waste landfills have been determined not relevant or appropriate for a soil cover which is not intended to reduce infiltration

TABLE 2-3

POTENTIAL ACTION-SPECIFIC ARARs AND TBCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 10 OF 12

Authority	Requirement	Status	Requirement Synopsis	Consideration
State Regulatory Requirements (Continued)	Rhode Island Solid Waste Regulations – Siting in and Adjacent to Wetlands and Floodplains, DEM OWM-SW0401, 2.3.14	Relevant and Appropriate	Provides requirements for new solid waste landfill units and expansions that impact wetlands and coastal wetlands, coastal flood zones, etc.	These regulations would apply to alternatives that involve alteration of land within wetlands. The substantive requirements of this section of the regulations would be met by protecting wetland resources during construction and maintenance of a cover over soil containing residual contamination. The RD, RAWP, and the LTMP would be developed and would provide specific requirements, to meet the substantive requirements of this section.
	Rhode Island Solid Waste Regulations – Closure in "Unstable Areas", DEM OWM-SW0401, 2.3.23	Relevant and Appropriate	Provides requirements for closure of solid waste units in "unstable areas", interpreted to include wetland and floodplains.	These regulations would apply to alternatives that establish a waste management area adjacent to "unstable areas." The substantive requirements of this section of the regulations would be met through the closure of the waste management area. The waste management area would be covered in a manner that prevents the release of contaminants during a 100 year flood event.
	Standards for Identification and Listing of Hazardous Waste, Rules and Regulations for Hazardous Waste Management, RIGL 23-19.1 et seq.; CRIR 12-030-003 Rule 5.8	Applicable	Defines the listed and characteristic hazardous wastes including designated "Rhode Island Wastes" which are not included in the federal definition of hazardous waste.	These regulations would apply when determining whether or not a solid waste is hazardous, either by being listed or by exhibiting a hazardous characteristic or meeting the definition of a Rhode Island Waste.
	Standards for Generators of Hazardous Waste, Rules and Regulations for Hazardous Waste Management, RIGL 23-19.1 et seq.; CRIR 12-030-003 Rule 5.0	Applicable	Establishes manifesting, pre-transport, and recordkeeping requirements for hazardous waste.	These regulations would apply to the management of any contaminated media that, after testing, is determined to exceed hazardous waste thresholds.

TABLE 2-3

POTENTIAL ACTION-SPECIFIC ARARs AND TBCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 11 OF 12

Authority	Requirement	Status	Requirement Synopsis	Consideration
State Regulatory Requirements (Continued)	Operational Requirements for Treatment, Storage, and Disposal Facilities (TSDF), Rules and Regulations for Hazardous Waste Management, RIGL 23-19.1 et seq.; CRIR 12-030-003 Rule 8.0	Potentially Applicable	Outlines operational requirements for all hazardous waste TSDFs including, but not limited to, general waste analysis, security procedures, inspections, safety, groundwater monitoring. Also, sets design, construction, and operational requirements for hazardous waste containers and tanks, and closure requirements for hazardous waste facilities. The site is not a TSDF, and the Navy does not intend to treat, store or dispose of hazardous wastes in a manner that would require the site to be considered a TSDF under these regulations.	If remediation at the site results in the necessity to treat, store, or dispose of hazardous waste in the manner required of a TSDF, the substantive requirements must be met.
	Injection Control Regulations, Underground Injection Control Program Rules and Regulations	Applicable	Establishes a State Underground Injection Control Program consistent with federal requirements to preserve the quality of the groundwater of the state.	These regulations apply underground injection of electron donor substrate or oxidizing chemicals.
	~~Groundwater Quality Rules and Regulations, Well Standards – Appendix I~~RIGL Ch. 46-12, Section 46-12-2; Ch. 46-13.1, Ch. 23-18.9, Sec. 23-18-9.1; DEM Rules and Regulations for Groundwater Quality (Mar 2005), Appendix 1	Applicable	Identifies the standards and specification that must be followed for the installation or abandonment of monitoring wells.	Applies to wells installed for monitoring and injection of electron donor substrate or oxidizing chemicals.

TABLE 2-3

POTENTIAL ACTION-SPECIFIC ARARs AND TBCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 12 OF 12

Authority	Requirement	Status	Requirement Synopsis	Consideration
State Regulatory Requirements (Continued)	Rules and Regulations for Dredging and the Management of Dredged Material, DEM-OWR-DR-02-03 (September 2010)	Relevant and Appropriate	These standards ensure that dredging and management of the associated dredged material is conducted in a manner which is protective of groundwater and surface water quality so as to ensure the continued viability and integrity of drinking water and fish and wildlife resources. Establish standards and criteria governing the dewatering of dredged material for beneficial use or disposal.	Sediment alternatives that involve dredging as a component of the remedial action will be developed so as to meet these standards.
	Injection Control Regulations; Underground Injection Control Program Rules and Regulations; RIGL Ch 46-12, 46-13.1; DEM Underground Injection Control Program Rules and Regulations (May 1984)	Applicable	Establishes a State Underground Injection Control Program consistent with federal requirements to preserve the quality of the groundwater of the state.	These standards regulate the injection of biological or chemical substance into the groundwater. In-situ treatment will be conducted in compliance with these standards.

CFR – Code of Federal Regulations.
RAWP – Remedial Action Work Plan.
RIGL – Rhode Island General Laws
U.S.C. – United States Code.
~~WMA – Waste Management Area~~

CHEMICAL-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 – EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
EPA Carcinogenicity Slope Factor	None	To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants. Slope factors are developed by EPA from health effects assessments. Carcinogenic effects present the most up-to-date information on cancer risk potency. Potency factors are developed by EPA from Health Effects Assessments of evaluation by the Carcinogenic Assessment Group.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in site media. Risks due to carcinogens as assessed with slope factors will be addressed through remediation to industrial cleanup levels based on excavation of the top 2 feet of contaminated soil, backfilling with 2 feet of clean permeable cover material (except in areas where an existing pavement cover will be maintained), ex-situ treatment of PAH contaminated soil, off-site disposal of the remaining excavated soil, removal of anomalies, LUCs and long-term monitoring of the ~~Paved Storage Area~~area under the soil cover and the waste management area.
EPA Risk Reference Dose (RfDs)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media. RfDs are considered to be the levels unlikely to cause significant adverse health effects associated with a threshold mechanism of action in human exposure for a lifetime.	Used to calculate potential non-carcinogenic hazards caused by exposure to contaminants. Hazards due to non-carcinogens with EPA RfDs will be addressed through remediation to industrial cleanup levels based on excavation of the top 2 feet of contaminated soil, backfilling with 2 feet of clean permeable cover material (except in areas where an existing pavement cover will be maintained), ex-situ treatment of PAH contaminated soil, off-site disposal of the remaining excavated soil, removal of anomalies, LUCs and long-term monitoring of the ~~Paved Storage Area~~ area under the soil cover and the waste management area.

CHEMICAL-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 – EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Guidelines for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	Used to calculate potential carcinogenic risks caused by exposure to contaminants. Hazards due to carcinogens assessed through this guidance will be addressed through remediation to industrial cleanup levels based on excavation of the top 2 feet of contaminated soil, backfilling with 2 feet of clean permeable cover material (except in areas where an existing pavement cover will be maintained), ex-situ treatment of PAH contaminated soil, off-site disposal of the remaining excavated soil, removal of anomalies, LUCs and long-term monitoring of the ~~Paved Storage Area~~area under the soil cover and the waste management area.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance of assessing cancer risks to children.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants. Carcinogenic risks to children assessed through this guidance will be addressed through remediation to industrial cleanup levels based on excavation of the top 2 feet of contaminated soil, backfilling with 2 feet of clean permeable cover material (except in areas where an existing pavement cover will be maintained), ex-situ treatment of PAH contaminated soil, off-site disposal of the remaining excavated soil, removal of anomalies, LUCs and long-term monitoring of ~~the Paved Storage Area~~ the area under the soil cover and the waste management area.

CHEMICAL-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 – EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Recommendations of the Technical Review Workgroup for Lead for an approach to Assessing Risks Associated with Adult Exposure to Lead In Soil	EPA-540-R-03-001 (January 2003)	To Be Considered	EPA Guidance for evaluating risks posed by lead in soil.	Risks from lead assessed under this guidance will be addressed through remediation to industrial cleanup levels based on excavation of the top 2 feet of contaminated soil, backfilling with 2 feet of clean permeable cover material (except in areas where an existing pavement cover will be maintained), ex-situ treatment of PAH contaminated soil, off-site disposal of the remaining excavated soil, removal of anomalies, LUCs and long-term monitoring of the ~~Paved Storage Area.~~ area under the soil cover and the waste management area.
State				
Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)	Code of Rhode Island Rules (CRIR) 12-180-001; DEM-DSR-01-93, sections 8.01 and 8.02	Applicable	These regulations set remediation standards for direct contact and leachability for contaminated soil at NPL sites when they are more stringent than federal standards.	These standards were used to develop soil PRGs. Remediation to industrial cleanup levels based on excavation of the top 2 feet of contaminated soil, backfilling with 2 feet of clean permeable cover material (except in areas where an existing pavement cover will be maintained), ex-situ treatment of PAH contaminated soil, off-site disposal of the remaining excavated soil, removal of anomalies, LUCs and long-term monitoring (of the ~~Paved Storage Area~~ area under the soil cover and the waste management area) meets the regulations' requirements for allowing industrial use. Leachability standards will be met through excavation and off-site disposal. PRGs based on these standards will be achieved outside of the compliance zone for the waste management area (i.e., beyond the edge of the waste management area) and will be used as monitoring standards inside the compliance

CHEMICAL-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 – EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 4 OF 4

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
				boundary.

TABLE 4-5

LOCATION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 - EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Clean Water Act, Section 404; Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material	33 U.S.C. § 1344; 40 C.F.R. Part 230, 231 and 33 C.F.R. Parts 320-323	Applicable	Under this requirement, no activity that adversely affects a wetland shall be permitted if a practicable alternative with lesser effects is available. If activity takes place, impacts must be minimized to the maximum extent. Controls discharges of dredged or fill material to protect aquatic ecosystems. Filling or discharge of dredged material will only occur where there is no other practicable alternative and any adverse impacts to aquatic ecosystems will be mitigated. Under these standards the Navy must solicit public comment through the Proposed Plan on its finding that one of the alternatives is the Least Environmentally Damaging Practicable Alternative.	Alternatives may involve discharge of dredged material and/or excavation. Soil remediation or other remedial actions that include dredging or filling in wetlands will be implemented to meet these requirements, including mitigation of altered wetland/aquatic resource, as required. The Navy has determined that this alternative is not the Least Environmentally Damaging Practicable Alternative to protect wetland resources because it does not provide the best balance of addressing contaminated soil within and adjacent to wetlands and waterways with minimizing both temporary and permanent alteration of wetlands and aquatic habitats on site. ~~The CERCLA criteria will be used to select the alternative.~~
Fish and Wildlife Coordination Act	16 U.S.C. §661 *et seq*.	Applicable	Requires Federal agencies involved in actions that will result in the control of structural modification of any stream or body of water for any purpose to take action to protect fish and wildlife resources that may be affected by the action. The Navy must coordinate with appropriate federal and state resource	Measures to mitigate or compensate adverse project related impacts to fish and wildlife resources will be taken, if determined necessary. The appropriate federal and state resource agencies will be consulted, in particular regarding remedial measures for contaminated soil that will impact streams, wetlands, and downstream water bodies.

TABLE 4-5

LOCATION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 - EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 5

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
			agencies to ascertain the means and measures necessary to mitigate, prevent, and compensate for project related losses of fish and wildlife resources and to enhance the resources.	
Floodplain Management and Protection of Wetlands	44 C.F.R. 9	Relevant and Appropriate	Implements Executive Order 11990 (Protection of Wetlands). Prohibits activities that adversely affect a federally-regulated wetland unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.	During the remedial design stage the effects of soil remedial actions on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by soil remediation, will be mitigated in accordance with requirements. No impact to downstream floodplain areas will occur. Public comment will be solicited in the Proposed Plan.

TABLE 4-5

LOCATION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 - EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 3 OF 5

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Endangered Species Act	16 U.S.C. 1531 *et seq.*; 50 C.F.R. parts 200 and 402	~~Applicable~~ Relevant and Appropriate	Regulates activities affecting federally listed endangered or threatened species or their habitat. The federally-listed loggerhead turtle and Kemps-Ridley turtle occur in the water of Narragansett Bay.	Appropriate federal agencies will be consulted to ensure that remedial measure taken under this alternative will prevent site contamination from migrating downstream to the Bay.
National Historic Landmarks (Historic Sites Act)	16 USC §461 et seq.; 36 CFR Part 65	Applicable	The purpose of the National Historic Landmarks program is to identify and designate National Historic Landmarks, and encourage the long range preservation of nationally significant properties that illustrate or commemorate the history and prehistory of the United States.	Features with potential historical/cultural significance will be evaluated during the remedial design phase. Should this remedy impact historical properties/structures determined to be protected by this standard, activities will be coordinated with the Department of the Interior.
Protection of Historic Properties (National Historic Preservation Act)	16 USC §470 et seq., 36 CFR Part 800	Applicable	Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment.	Features with potential historical/cultural significance will be evaluated during the remedial design phase. Should this remedy impact properties/structures determined to be protected by this standard, activities will be coordinated with the Advisory Council on Historic Preservation.
State				
Rhode Island Endangered Species Act	RIGL 20-37-1 *et seq.*	Relevant and Appropriate	Regulates activities affecting State-listed endangered or threatened species or their habitat. The State-listed	Appropriate State agencies will be consulted to ensure that remedial measure taken under this alternative will prevent site contamination from

TABLE 4-5

LOCATION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 - EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
			loggerhead turtle and Kemps-Ridley turtle occur in the water of Narragansett Bay.	migrating downstream to the Bay.
Rhode Island Historical Preservation Act	RIGL 42-45 et seq.	Applicable	Requires action to take into account effects on properties included on or eligible for the National register of Historic Places and minimizes harm to National Historic Landmarks.	Features with potential historical/cultural significance will be evaluated during the remedial design phase. Should this remedy impact properties/structures determined to be protected by this standard, activities will be coordinated with the State Agency.
Fresh Water Wetlands Act	~~Rules and Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act~~ RIGL 2-1, Sections 2-1-18 through 2-1-20.2; Fresh Water Wetlands Act; DEM Rules And Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act (Dec 2010), Rules 4.00 and	Applicable	Rules and regulations governing the administration and enforcement of the Fresh Water Wetlands Act. Defines and establishes provisions for the protection of swamps, marshes and other fresh water wetlands in the state. Actions are required to prevent the undesirable drainage, excavation, filling, alteration, encroachment or any other form of disturbance or destruction of a wetland. Also establishes standards for land within 50 feet of the edge of a state-regulated wetlands.	Excavation activities will be conducted to minimize the disturbance of ~~wetlands~~ state jurisdictional wetland and perimeter wetlands.

TABLE 4-5

LOCATION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 - EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 5 OF 5

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
	5.00			

TABLE 4-6

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 - EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 12

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Toxic Substances Control Act (TSCA) 15 U.S.C. 2601 *et seq.*; PCB Remediation Waste,	40 CFR 761.61(c)	Applicable	This section of the TSCA regulations provides risk-based cleanup and disposal options for PCB remediation waste based on the risks posed by the concentrations at which the PCBs are found. Written approval for the proposed risk-based cleanup must be obtained from the Director, Office of Site Remediation and Restoration, USEPA Region 1.	All soil exceeding identified PCB cleanup levels will either be removed, dewatered (if required) and disposed of off-site or will be placed under a cover system that meets TSCA protectiveness standards. The excavation, transportation/ dewatering, and management of PCB contaminated media will be performed in a manner to comply with TSCA, including air and surface water monitoring during remedial activities. The ROD will contain a finding by the Director, Office of Site Remediation and Restoration, USEPA Region 1, that the remedy's soil PCB cleanup levels, along with the excavation, dewatering, and management of the contaminated media will not pose an unreasonable risk to human health or the environment.

TABLE 4-6

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 - EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subparts B and G	Relevant and Appropriate	Establishes MCLs for common organic and inorganic contaminants applicable to public drinking water supplies. Used as relevant and appropriate standards for aquifers and surface water bodies that are potential drinking water sources.	MCLs were considered in development of PRGs. The ~~PRGs~~ MCLs will be used to develop performance standards for monitoring the compliance boundary for the waste management area. ~~determine whether contamination has migrated outside of the compliance zone of the Paved Storage Area to ensure the protectiveness of the remedy, or i~~If contamination levels have been reduced enough ~~and~~ so that no unacceptable ~~-~~site risk remains, ~~and~~ monitoring can be ended.
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subpart F	Relevant and Appropriate for non-zero MCLGs only	Establishes maximum contaminant level goals (MCLGs) for public water supplies. MCLGs are health goals for drinking water sources. These unenforceable health goals are available for a number of organic and inorganic compounds.	MCLGs were considered in development of PRGs. The ~~PRGs~~ non-zero MCLGs will be used to develop performance standards for monitoring the compliance boundary for the waste management area. ~~determine whether contamination has migrated outside of the compliance zone of the Paved Storage Area to ensure the protectiveness of the remedy, or if~~ If contamination levels have been reduced enough ~~and~~ so that no unacceptable site risk remains, ~~and~~ monitoring can be ended.

TABLE 4-6

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 - EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 3 OF 12

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Health Advisories (EPA Office of Drinking Water)		To Be Considered	Health Advisories are estimates of risk due to consumption of contaminated drinking water; they consider non-carcinogenic effects only. To be considered for contaminants in groundwater that may be used for drinking water. The risk-based standard for manganese is 0.3 mg/L.	The HA for manganese was considered in development of PRGs. The ~~PRGs~~ HA will be used to develop performance standards for monitoring the compliance boundary for the waste management area. ~~determine whether contamination has migrated outside of the compliance zone of the Paved Storage Area to ensure the protectiveness of the remedy, or if~~ If contamination levels have been reduced enough ~~and~~ so that no unacceptable site risk remains ~~and~~ monitoring can be ended.
CWA National Recommended Water Quality Criteria (NRWQC)	40 CFR 122.44	Relevant and Appropriate	Federal NRWQC are health-based and ecologically based criteria developed for carcinogenic and non-carcinogenic compounds. These standards may be used to develop cleanup standards for sediments.	Water quality standards used to develop monitoring standards both during the active remedial period and for long-term monitoring of the protectiveness of the waste management area that will be established under this alternative.
Clean Water Act - National Pollutant Discharge Elimination System (NPDES)	40 CFR Parts 122 and 125	Applicable	Includes stormwater standards for activities disturbing more than one acre.	Best management practices will be used to meet stormwater standards during the remedial action.

TABLE 4-6

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 - EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 4 OF 12

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Management of Undesirable Plants on Federal Lands	7 U.S.C. 2814	Relevant and Appropriate	Requires federal agencies to establish integrated management systems to control or contain undesirable plant species on federal lands under the agency's jurisdiction.	Measures will be taken to control the establishment of *Phragmites*, purple loosestrife or other invasive plants within all remediated areas. An invasive species control plan will be developed as part of the long-term O&M for this site. The responsibility of control will be transitioned to NAVSTA after (1) the remedy is in place, and (2) NAVSTA develops a base-wide program for controlling undesirable plants.
State				
Clean Air Act -Emissions Detrimental to Persons or Property	RIGL 23-23 *et seq.*; CRIR 12-31-07	Applicable	Prohibits emissions of contaminants which may be injurious to humans, plant or animal life or cause damage to property or which reasonably interferes with the enjoyment of life and property.	Monitoring of air emissions during excavation/cover installation and ex-situ treatment will be used to assess compliance with these standards if threshold levels are reached.
Clean Air Act – Air Toxics	RIGL 23-23 *et seq.*; CRIR 12-31-22	Applicable	Prohibits the emission of specified contaminants at rates which would result in ground level concentrations greater than acceptable ambient levels or acceptable ambient levels as set in the regulations.	Monitoring of air emissions during excavation/cover installation and ex-situ treatment will be used to assess compliance with these standards if threshold levels are reached.
Clean Air Act - Fugitive Dust Control	RIGL 23-23 *et seq.*; CRIR 12-31-05	Applicable	Requires that reasonable precaution be taken to prevent particulate matter from becoming airborne.	Removal of soil during active construction would be implemented to prevent material from becoming airborne.
Clean Air Act - Air Pollution Control	RIGL 23-23 *et seq.*; CRIR 12-31-09	Applicable	Establishes guidelines for the construction, installation, or operation of potential air emission units. Establishes permissible emission rates for some contaminants.	Emissions for soil treatment system and fugitive dust would be monitored and if any control system is required it will meet the substantive provisions of the standards if threshold levels are reached.

TABLE 4-6

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 - EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Visible Emissions	RIGL 23-23; ~~C~~CRIR 12-31-01	Applicable	Regulates emissions that cause opacity.	Soil treatment equipment will have controls to meet opacity requirements.
Particulate Emissions from Industrial Processes	RIGL 23-23; CRIR12-31-03	Relevant and Appropriate	Regulates particulate emission rates based on weight of material processed in industrial processes.	Particulate emissions from soil processed through soil treatment equipment would be controlled to meet the requirements of this regulation.
Water Pollution Control - Pollution Discharge Elimination Systems	RIGL 42-16 *et seq.*; CRIR 12-190-003, Rule 31	Applicable	Includes storm water requirements for construction projects that disturb over one acre.	Stormwater standards for construction projects over one acre will be met.
Rules and Regulations for Dredging and Management of Dredge Materials	DEM-OWR-DR-0203	Applicable	Addresses dredging activities and disposal of dredge spoils.	Any dredging of wetland soils and backfilling with cover material that is required under this alternative must comply with the requirements of the regulations.
Drilling of Drinking Water Wells; Rules and Regulations Governing the Enforcement of Chapter 46-13.2 Relating to the Drilling of Drinking Water Wells	RIGL 46-13..2 et seq.	Applicable	Prohibits installing drinking water wells in contaminated aquifers. Establishes standards for decommissioning monitoring wells (Rule 9.03).	Under these standards drinking water wells are prohibited within the waste management area that will be established under this alternative and monitoring wells used will be properly decommissioned when no longer needed.

TABLE 4-6

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 - EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Rules and Regulations for Groundwater Quality~~— Appendix 1~~	RIGL Ch. 46-12, Section 46-12-2; Ch. 46-13.1, Ch. 23-18.9, Sec. 23-18-9.1; DEM Rules and Regulations for Groundwater Quality (Mar 2005), Appendix 1	Applicable	Identifies the standards and specification that must be followed for the installation or abandonment of monitoring wells.	Under this alternative, wells installed for monitoring the waste management area will be installed and abandoned according to these standards.
State (Continued)				
Standards for Identification and Listing of Hazardous Waste	RIGL 23-19.1 et seq.; CRIR 12-030-003 Rule 5.8	Applicable	Defines the listed and characteristic hazardous wastes.	These regulations would apply when determining whether or not a solid waste is hazardous, either by being listed or by exhibiting a hazardous characteristic.
Hazardous Waste Management Standards for Generators	RIGL 23-19.1 et seq.; CRIR 12-030-003 Rule 5	Applicable	Sets standards for handling and disposal~~, design, operation, and monitoring~~ of hazardous waste. ~~The standards of 40 CFR Part 264 are incorporated by reference.~~	Wastes generated will be tested to determine if they constitute hazardous waste. Any hazardous waste identified will be handled and disposed according to these standards.

TABLE 4-6

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 - EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 7 OF 12

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Operational Requirements for Treatment, Storage, and Disposal Facilities (TSDF)	RIGL 23-19.1 et seq.; CRIR 12-030-003 Rule 8.0	Potentially Applicable	Outlines operational requirements for all hazardous waste TSDFs including, but not limited to, general waste analysis, security procedures, inspections, safety, groundwater monitoring. Also, sets design, construction, and operational requirements for hazardous waste containers and tanks, and closure requirements for hazardous waste facilities. The site is not a TSDF, and the Navy does not intend to treat, store or dispose of hazardous wastes in a manner that would require the site to be considered a TSDF under these regulations.	If remediation at the site results in the necessity to treat, store, or dispose of hazardous waste in the manner required of a TSDF, the substantive requirements must be met.
State (Continued)				
Rhode Island Solid Waste Regulations – Closure	DEM OWM-SW0401, 1.7.14(b)	Relevant and Appropriate	Regulation states that an approved closure plan must be implemented.	The site will be closed under a plan developed in accordance with the substantive requirements of this section of the regulations (to be incorporated into the remedial design (RD) and the Operations and Maintenance (O&M) Plan (including a monitoring plan). Contaminated soil beneath the Paved Storage Area will be left in place as a waste management area.
Rhode Island Solid Waste Regulations – Dust Control	DEM OWM-SW0401, 1.7.10	Relevant and Appropriate	Requires dust control.	Dust must be controlled at the site during cover construction and during maintenance activities.

TABLE 4-6

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 - EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Rhode Island Solid Waste Regulations – Health and Safety	DEM OWM-SW0401, 1.7.12 (a)	Relevant and Appropriate	Requires solid waste management facilities be designed and maintained to protect the health and safety of personnel at the facility and persons in close proximity.	Under this subsection health and safety of construction workers and persons in the proximity of the site would be maintained during construction and maintenance activities.
Rhode Island Solid Waste Regulations – Groundwater Monitoring and Closure	DEM OWM-SW0401, 1.8.01 (a) and 1.8.01 (b)	Relevant and Appropriate	Requires facilities to monitor groundwater and to meet closure requirements	The substantive requirements of this section of the regulations will be met by monitoring groundwater and meeting closure requirements. Because contaminants will be left in place ~~at the Paved Storage Area~~, the Paved Storage Area will be closed as a waste management area, and undergo long term monitoring. Monitoring of the area under the soil cover would also be conducted. The remedial design (RD), remedial action work plan (RAWP), operations and monitoring plan (O&M) (including the long term monitoring plan [LTMP]) developed for this cleanup will contain the specific monitoring and closure requirements for the waste management area that will comply with the substantive requirements.
Rhode Island Solid Waste Regulations – Sedimentation and Erosion Control	DEM OWM-SW0401, 2.1.04	Relevant and Appropriate	Requires a “Sedimentation and Erosion Control Plan” be developed.	An erosion and sediment control plan will be developed for this site in accordance with the substantive requirements of this section. The RD and the RAWP, to be developed for this cleanup, will contain the specific erosion and sediment controls requirements for the remedial construction.

TABLE 4-6

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 - EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Rhode Island Solid Waste Regulations - Monitoring Wells	DEM OWM-SW0401, 2.1.08 (a) (8)	Relevant and Appropriate	Contains requirements for construction of monitoring wells to monitor a solid waste landfill.	The substantive requirements of this section of the regulations will be met for construction of new monitoring wells ~~for the waste management area~~.
Rhode Island Solid Waste Regulations – Long-term Monitoring	DEM OWM-SW0401, 2.1.08 (c)	Relevant and Appropriate	Contains requirements for monitoring wells.	The substantive requirements of this section of the regulations will be met by maintaining monitoring wells for the purpose of monitoring groundwater conditions at the site ~~by the waste management area~~. Because this remedy leaves contamination in place, it will be supported with a Long Term Monitoring Plan (LTMP) for groundwater. The LTMP will be directed by a work plan that will contain the specific monitoring requirements.
State (Continued)				
Rhode Island Solid Waste Regulations – Cover Systems	DEM OWM-SW0401, 2.2.12 (d) (1) and 2.2.12 (d) (2) (ii)(iii) and (v).	Relevant and Appropriate	Contains requirements for maintenance of the vegetative cover final cover system.	Remedies including cover systems will include appropriate vegetation requirements of a soil cover in compliance with these standards.
Rhode Island Solid Waste Regulations – Cover Permeability	DEM OWM-SW0401, 2.3.04(e), (f)	Relevant and Appropriate	Outlines the requirements for the maintenance and permeability of cover material	The substantive requirements of this section of the regulations will be met by maintaining the asphalt cover that has been determined to provide an adequate barrier for specific areas to be used for storage (~~Paved Storage Area~~waste management area), or a soil cover that has been determined to provide an adequate barrier for the remainder of the land within the site.

TABLE 4-6

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 - EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 10 OF 12

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Rhode Island Solid Waste Regulations – Compliance Boundaries	DEM OWM-SW0401, 2.3.05	Relevant and Appropriate	Establishes requirement for compliance boundary for pollution of ground waters or surface waters.	The substantive requirements of this section of the regulations will be met by monitoring groundwater under the soil cover and by the requirement that no contamination of groundwater be permitted outside the boundary of the ~~Paved Storage Area~~waste management area. Because this remedy leaves contamination in place, groundwater monitoring will be conducted to assure that no contaminants are transported to the groundwater beyond the boundary of the waste management area.
Rhode Island Solid Waste Regulations – Surface Water Drainage	DEM OWM-SW0401, 2.3.10	Relevant and Appropriate	Contains requirements for surface water drainage.	The substantive requirements of this section of the regulations will be met through design of appropriate surface drainage considerations for the cover. The cover system would be designed to prevent erosion, sedimentation, and standing water on the cover. Minimum slope requirements for solid waste landfills have been determined not relevant or appropriate for a soil cover which is not intended to reduce infiltration.

TABLE 4-6

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 - EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 11 OF 12

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Rhode Island Solid Waste Regulations - Monitoring Wells	DEM OWM-SW0401, 2.3.11	Relevant and Appropriate	Contains requirements for monitoring wells.	The substantive requirements of this section of the regulations will be met by having and maintaining monitoring wells for the purpose of monitoring groundwater conditions by the soil cover and the waste management area. Because this remedy leaves contaminants in place, it will be supported with a Long Term Monitoring Plan (LTMP) for groundwater. The LTMP will be directed by a work plan that will contain the specific monitoring well requirements.
Rhode Island Solid Waste Regulations – Siting in and Adjacent to Wetlands and Floodplains	DEM OWM-SW0401, 2.3.14	Relevant and Appropriate	Provides requirements for new solid waste landfill units and expansions that impact wetlands and coastal wetlands, coastal flood zones, etc.	This alternative will involve alteration of land within wetlands. The substantive requirements of this section of the regulations will be met by protecting wetland and downstream floodplain resources during construction and maintenance of a cover over soil containing residual contamination. The RD, RAWP, and the LTMP will be developed and provide specific requirements, to meet the substantive requirements of this section

TABLE 4-6

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO2 - EXCAVATION, EX-SITU TREATMENT, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 12 OF 12

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Rhode Island Solid Waste Regulations – Closure in "Unstable Areas"	DEM OWM-SW0401, 2.3.23	Relevant and Appropriate	Provides requirements for closure of solid waste units in "unstable areas", interpreted to include wetland and floodplains.	This alternative establishes a soil cover and a waste management area adjacent to "unstable areas." The substantive requirements of this section of the regulations will be met through the closure of the ~~waste management~~cover areas. This alternative meets the intent because the ~~waste management area~~site will be covered in a manner that prevents the release of contaminants during a 100-year flood event.

CHEMICAL-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO3 – SOIL COVER, SELECTIVE EXCAVATION, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
EPA Carcinogenicity Slope Factor	None	To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants. Slope factors are developed by EPA from health effects assessments. Carcinogenic effects present the most up-to-date information on cancer risk potency. Potency factors are developed by EPA from Health Effects Assessments of evaluation by the Carcinogenic Assessment Group.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in site media. Risks due to carcinogens as assessed with slope factors will be addressed through remediation to industrial cleanup levels based on installing a cover over areas of contaminated soil (except in areas where an existing pavement cover will be maintained), removal of anomalies, LUCs and long-term monitoring of the ~~Paved Storage Area.~~ area under the soil cover and the waste management area.
EPA Risk Reference Dose (RfDs)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media. RfDs are considered to be the levels unlikely to cause significant adverse health effects associated with a threshold mechanism of action in human exposure for a lifetime.	Used to calculate potential non-carcinogenic hazards caused by exposure to contaminants. Hazards due to noncarcinogens with EPA RfDs will be addressed through remediation to industrial cleanup levels based on installing a cover over areas of contaminated soil (except in areas where an existing pavement cover will be maintained), removal of anomalies, LUCs and long-term monitoring of the ~~established~~ area under the soil cover and the waste management area.
Guidelines for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	Used to calculate potential carcinogenic risks caused by exposure to contaminants. Hazards due to carcinogens assessed through this guidance will be addressed through remediation to industrial cleanup levels based on installing a cover over areas of contaminated soil (except in areas where an existing pavement cover will be maintained), removal of anomalies, LUCs and long-term monitoring of the ~~Paved Storage Area~~ area under the soil cover and the waste

				management area.~~.~~

CHEMICAL-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO3 – SOIL COVER, SELECTIVE EXCAVATION, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal (Continued)				
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance of assessing cancer risks to children.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants. Carcinogenic risks to children assessed through this guidance will be addressed through remediation to industrial cleanup levels based on installing a cover over areas of contaminated soil (except in areas where an existing pavement cover will be maintained), removal of anomalies, LUCs and long-term monitoring of the ~~Paved Storage Area~~ area under the soil cover and the waste management area..
Recommendations of the Technical Review Workgroup for Lead for an approach to Assessing Risks Associated with Adult Exposure to Lead In Soil	EPA-540-R-03-001 (January 2003)	To Be Considered	EPA Guidance for evaluating risks posed by lead in soil.	Risks from lead assessed under this guidance will be addressed through remediation to industrial cleanup levels based on installing a cover over areas of contaminated soil (except in areas where an existing pavement cover will be maintained), removal of anomalies, LUCs and long-term monitoring of the ~~Paved Storage Area~~ area under the soil cover and the waste management area..
State				
Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)	Code of Rhode Island Rules (CRIR) 12-180-001; DEM-DSR-01-93, sections 8.01 and 8.02	Applicable	These regulations set remediation standards for direct contact and leachability for contaminated soil at NPL sites when they are more stringent than federal standards.	These standards were used to develop soil PRGs. Remediation to industrial cleanup levels based on placement of 2 feet of clean permeable cover material (except in areas where an existing pavement cover will be maintained), removal and off-site disposal of anomalies, LUCs and long-term monitoring (of the ~~Paved Storage Area~~ area under the soil cover and the waste management area) meets the regulations' requirements for allowing industrial use. Leachability standards will be met through excavation and off-site disposal.

CHEMICAL-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO3 – SOIL COVER, SELECTIVE EXCAVATION, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

				PRGs based on these standards will be achieved outside of the compliance zone for the waste management area (i.e., beyond the edge of the waste management area) and will be used as monitoring standards inside the compliance boundary.

LOCATION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO3 – SOIL COVER, SELECTIVE EXCAVATION, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Clean Water Act, Section 404; Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material	33 U.S.C. § 1344; 40 C.F.R. Part 230, 231 and 33 C.F.R. Parts 320-323	Applicable	Under this requirement, no activity that adversely affects a wetland shall be permitted if a practicable alternative with lesser effects is available. If activity takes place, impacts must be minimized to the maximum extent. Controls discharges of dredged or fill material to protect aquatic ecosystems. Filling or discharge of dredged material will only occur where there is no other practicable alternative and any adverse impacts to aquatic ecosystems will be mitigated. Under these standards the Navy must solicit public comment through the Proposed Plan on its finding that one of the alternatives is the Least Environmentally Damaging Practicable Alternative.	Alternatives may involve discharge of dredged material and/or excavation. Soil remediation or other remedial actions that include dredging or filling in wetlands will be implemented to meet these requirements, including mitigation of altered wetland/aquatic resource as required. The Navy has determined that this alternative is the Least Environmentally Damaging Practicable Alternative to protect wetland resources because it provides the best balance of addressing contaminated soil within and adjacent to wetlands and waterways with minimizing both temporary and permanent alteration of wetlands and aquatic habitats on site. ~~The CERCLA criteria will be used to select the alternative.~~

LOCATION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO3 – SOIL COVER, SELECTIVE EXCAVATION, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal (Continued)				
Fish and Wildlife Coordination Act	16 U.S.C. §661 *et seq*.	Applicable	Requires Federal agencies involved in actions that will result in the control of structural modification of any stream or body of water for any purpose to take action to protect fish and wildlife resources that may be affected by the action. The Navy must coordinate with appropriate federal and state resource agencies to ascertain the means and measures necessary to mitigate, prevent, and compensate for project related losses of fish and wildlife resources and to enhance the resources.	Measures to mitigate or compensate adverse project related impacts to fish and wildlife resources will be taken, if determined necessary. The appropriate federal and state resource agencies will be consulted, in particular regarding remedial measures for contaminated soil that will impact streams, wetlands, and downstream water bodies.
Floodplain Management and Protection of Wetlands	44 C.F.R. 9	Relevant and Appropriate	Implements Executive Order 11990 (Protection of Wetlands). Prohibits activities that adversely affect a federally-regulated wetland unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.	During the remedial design stage the effects of soil remedial actions on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by soil remediation, will be mitigated in accordance with requirements. No impact to downstream floodplain areas will occur. Public comment will be solicited in the Proposed Plan.
Endangered Species Act	16 U.S.C. 1531 *et seq.*; 50 C.F.R. parts 200 and 402	~~Applicable~~ Relevant and Appropriate	Regulates activities affecting federally listed endangered or threatened species or their habitat. The federally-listed loggerhead turtle and Kemps-Ridley turtle occur in the water of Narragansett Bay.	Appropriate federal agencies will be consulted to ensure that remedial measure taken under this alternative will prevent site contamination from migrating downstream to the Bay.

LOCATION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO3 – SOIL COVER, SELECTIVE EXCAVATION, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal (Continued)				
National Historic Landmarks (Historic Sites Act)	16 USC §461 et seq.; 36 CFR Part 65	Applicable	The purpose of the National Historic Landmarks program is to identify and designate National Historic Landmarks, and encourage the long range preservation of nationally significant properties that illustrate or commemorate the history and prehistory of the United States.	Features with potential historical/cultural significance will be evaluated during the remedial design phase. Should this remedy impact historical properties/structures determined to be protected by this standard, activities will be coordinated with the Department of the Interior.
Protection of Historic Properties (National Historic Preservation Act)	16 USC §470 et seq., 36 CFR Part 800	Applicable	Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment.	Features with potential historical/cultural significance will be evaluated during the remedial design phase. Should this remedy impact properties/structures determined to be protected by this standard, activities will be coordinated with the Advisory Council on Historic Preservation.

LOCATION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO3 – SOIL COVER, SELECTIVE EXCAVATION, REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
Rhode Island Endangered Species Act	RIGL 20-37-1 *et seq.*	Relevant and Appropriate	Regulates activities affecting State-listed endangered or threatened species or their habitat. The State-listed loggerhead turtle and Kemps-Ridley turtle occur in the water of Narragansett Bay.	Appropriate State agencies will be consulted to ensure that remedial measure taken under this alternative will prevent site contamination from migrating downstream to the Bay.
Rhode Island Historical Preservation Act	RIGL 42-45 et seq.	Applicable	Requires action to take into account effects on properties included on or eligible for the National register of Historic Places and minimizes harm to National Historic Landmarks.	Features with potential historical/cultural significance will be evaluated during the remedial design phase. Should this remedy impact properties/structures determined to be protected by this standard, activities will be coordinated with the State Agency.
Fresh Water Wetlands Act	~~Rules and Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act~~ RIGL 2-1, Sections 2-1-18 through 2-1-20.2; Fresh Water Wetlands Act; DEM Rules And Regulations Governing the Administration	Applicable	Rules and regulations governing the administration and enforcement of the Fresh Water Wetlands Act. Defines and establishes provisions for the protection of swamps, marshes and other fresh water wetlands in the state. Actions are required to prevent the undesirable drainage, excavation, filling, alteration, encroachment or any other form of disturbance or destruction of a wetland. Also establishes standards for land within 50 feet of the edge of a state-regulated wetlands.	Cover installation and excavation activities will be conducted to minimize the disturbance of ~~wetlands~~ state jurisdictional wetland and perimeter wetland.

	and Enforcement of the Fresh Water Wetlands Act (Dec 2010), Rules 4.00 and 5.00			

TABLE 4-9

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO3 – SOIL COVER, SELECTIVE EXCAVATION AND REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 11

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Toxic Substances Control Act (TSCA) 15 U.S.C. 2601 *et seq.*; PCB Remediation Waste,	40 CFR 761.61(c)	Applicable	This section of the TSCA regulations provides risk-based cleanup and disposal options for PCB remediation waste based on the risks posed by the concentrations at which the PCBs are found. Written approval for the proposed risk-based cleanup must be obtained from the Director, Office of Site Remediation and Restoration, USEPA Region 1.	All soil exceeding identified PCB cleanup levels will either be removed, dewatered (if required) and disposed of off-site or will be placed under a cover system that meets TSCA protectiveness standards. The excavation, transportation/ dewatering, and management of PCB contaminated media will be performed in a manner to comply with TSCA, including air and surface water monitoring during remedial activities. The ROD will contain a finding by the Director, Office of Site Remediation and Restoration, USEPA Region 1, that the remedy's soil PCB cleanup levels, along with the excavation, dewatering, and management of the contaminated media will not pose an unreasonable risk to human health or the environment.

TABLE 4-9

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO3 – SOIL COVER, SELECTIVE EXCAVATION AND REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 11

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subparts B and G	Relevant and Appropriate	Establishes MCLs for common organic and inorganic contaminants applicable to public drinking water supplies. Used as relevant and appropriate standards for aquifers and surface water bodies that are potential drinking water sources.	MCLs were considered in development of PRGs. The ~~PRGs~~ MCLs will be used to develop performance standards for monitoring the compliance boundary for the waste management area. ~~determine whether contamination has migrated outside of the compliance zone of the Paved Storage Area to ensure the protectiveness of the remedy, or if~~ If contamination levels have been reduced enough ~~and~~ so that no unacceptable site risk remains, ~~and~~ monitoring can be ended.
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subpart F	Relevant and Appropriate for non-zero MCLGs only	Establishes maximum contaminant level goals (MCLGs) for public water supplies. MCLGs are health goals for drinking water sources. These unenforceable health goals are available for a number of organic and inorganic compounds.	MCLGs were considered in development of PRGs. The ~~PRGs~~ non-zero MCLGs will be used to develop performance standards for monitoring the compliance boundary for the waste management area. ~~determine whether contamination has migrated outside of the compliance zone of the Paved Storage Area to ensure the protectiveness of the remedy, or if~~ If contamination levels have been reduced enough ~~and~~ so that no unacceptable site risk remains, ~~and~~ monitoring can be ended.

TABLE 4-9

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO3 – SOIL COVER, SELECTIVE EXCAVATION AND REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 3 OF 11

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Health Advisories (EPA Office of Drinking Water)		To Be Considered	Health Advisories are estimates of risk due to consumption of contaminated drinking water; they consider non-carcinogenic effects only. To be considered for contaminants in groundwater that may be used for drinking water. The risk-based standard for manganese is 0.3 mg/L.	The HA for manganese was considered in development of PRGs. The ~~PRGs~~ HA will be used to develop performance standards for monitoring the compliance boundary for the waste management area. ~~determine whether contamination has migrated outside of the compliance zone of the Paved Storage Area to ensure the protectiveness of the remedy, or i~~If contamination levels have been reduced enough ~~and~~ so that no unacceptable site risk remains, ~~and~~ monitoring can be ended.
CWA National Recommended Water Quality Criteria (NRWQC)	40 CFR 122.44	Relevant and Appropriate	Federal NRWQC are health-based and ecologically based criteria developed for carcinogenic and non-carcinogenic compounds. These standards may be used to develop cleanup standards for sediments.	Water quality standards used to develop monitoring standards both during the active remedial period and for long-term monitoring of the protectiveness of the waste management area that will be established under this alternative.
Clean Water Act - National Pollutant Discharge Elimination System (NPDES)	40 CFR Parts 122 and 125	Applicable	Includes stormwater standards for activities disturbing more than one acre.	Best management practices will be used to meet stormwater standards during the remedial action.

TABLE 4-9

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO3 – SOIL COVER, SELECTIVE EXCAVATION AND REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 4 OF 11

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Management of Undesirable Plants on Federal Lands	7 U.S.C. 2814	Relevant and Appropriate	Requires federal agencies to establish integrated management systems to control or contain undesirable plant species on federal lands under the agency's jurisdiction.	Measures will be taken to control the establishment of *Phragmites*, purple loosestrife or other invasive plants within all remediated areas. An invasive species control plan will be developed as part of the long-term O&M for this site. The responsibility of control will be transitioned to NAVSTA after (1) the remedy is in place, and (2) NAVSTA develops a base-wide program for controlling undesirable plants.
State				
Clean Air Act -Emissions Detrimental to Persons or Property	RIGL 23-23 *et seq.*; CRIR 12-31-07	Applicable	Prohibits emissions of contaminants which may be injurious to humans, plant or animal life or cause damage to property or which reasonably interferes with the enjoyment of life and property.	Monitoring of air emissions during cover installation and O&M will be used to assess compliance with these standards if threshold levels are reached.
Clean Air Act – Air Toxics	RIGL 23-23 *et seq.*; CRIR 12-31-22	Applicable	Prohibits the emission of specified contaminants at rates which would result in ground level concentrations greater than acceptable ambient levels or acceptable ambient levels as set in the regulations.	Monitoring of air emissions during cover installation and O&M will be used to assess compliance with these standards if threshold levels are reached.
Water Pollution Control - Pollution Discharge Elimination Systems	RIGL 42-16 *et seq.*; CRIR 12-190-003 Rule 31	Applicable	Includes storm water requirements for construction projects that disturb over one acre.	Stormwater standards for construction projects over one acre will be met.

TABLE 4-9

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO3 – SOIL COVER, SELECTIVE EXCAVATION AND REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 5 OF 11

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Rules and Regulations for Dredging and Management of Dredge Materials	DEM-OWR-DR-0203	Applicable	Addresses dredging activities and disposal of dredge spoils.	Any dredging of wetland soils and backfilling with cover material that is required while implementing the alternative must comply with the requirements of the regulations.
Drilling of Drinking Water Wells; Rules and Regulations Governing the Enforcement of Chapter 46-13.2 Relating to the Drilling of Drinking Water Wells	RIGL 46-13..2 et seq.	Applicable	Prohibits installing drinking water wells in contaminated aquifers. Establishes standards for decommissioning monitoring wells (Rule 9.03).	Under these standards drinking water wells are prohibited within the waste management area that will be established under this alternative and monitoring wells used will be properly decommissioned when no longer needed.
Rules and Regulations for Groundwater Quality~~— Appendix I~~	RIGL Ch. 46-12, Section 46-12-2; Ch. 46-13.1, Ch. 23-18.9, Sec. 23-18-9.1; DEM Rules and Regulations for Groundwater Quality (Mar 2005), Appendix 1	Applicable	Identifies the standards and specification that must be followed for the installation or abandonment of monitoring wells.	Under this alternative, wells installed for monitoring the waste management area will be installed and abandoned according to these standards.
State (Continued)				
Standards for Identification and Listing of Hazardous Waste	RIGL 23-19.1 et seq.; CRIR 12-030-003 Rule 5.8	Applicable	Defines the listed and characteristic hazardous wastes.	These regulations would apply when determining whether or not a solid waste is hazardous, either by being listed or by exhibiting a hazardous characteristic.

TABLE 4-9

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO3 – SOIL COVER, SELECTIVE EXCAVATION AND REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 6 OF 11

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Hazardous Waste Management Standards for Generators	RIGL 23-19.1 et seq.; CRIR 12-030-003 Rule 5.0	Applicable	Sets standards for handling~~, design, operation, and monitoring~~ and disposal of hazardous waste. ~~The standards of 40 CFR Part 264 are incorporated by reference.~~	Wastes generated will be tested to determine if they constitute hazardous waste. Any hazardous waste identified will be handled and disposed according to these standards.
Operational Requirements for Treatment, Storage, and Disposal Facilities (TSDF)	RIGL 23-19.1 et seq.; CRIR 12-030-003 Rule 8.0	Potentially Applicable	Outlines operational requirements for all hazardous waste TSDFs including, but not limited to, general waste analysis, security procedures, inspections, safety, groundwater monitoring. Also, sets design, construction, and operational requirements for hazardous waste containers and tanks, and closure requirements for hazardous waste facilities. The site is not a TSDF, and the Navy does not intend to treat, store or dispose of hazardous wastes in a manner that would require the site to be considered a TSDF under these regulations.	If remediation at the site results in the necessity to treat, store, or dispose of hazardous waste in the manner required of a TSDF, the substantive requirements must be met.
Rhode Island Solid Waste Regulations – Closure	DEM OWM-SW0401, 1.7.14(b)	Relevant and Appropriate	Regulation states that an approved closure plan must be implemented.	The site will be closed under a plan developed in accordance with the substantive requirements of this section of the regulations, to be incorporated into the remedial design (RD) and the Operations and Maintenance Plan (O&M) (including a monitoring plan). Contaminated soil beneath the Paved Storage Area will be left in place as a waste management area.

TABLE 4-9

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO3 – SOIL COVER, SELECTIVE EXCAVATION AND REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 7 OF 11

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State (Continued)				
Rhode Island Solid Waste Regulations – Dust Control	DEM OWM-SW0401, 1.7.10	Relevant and Appropriate	Requires dust control.	Dust must be controlled at the site during cover construction and during maintenance activities.
Rhode Island Solid Waste Regulations – Health and Safety	DEM OWM-SW0401, 1.7.12 (a)	Relevant and Appropriate	Requires solid waste management facilities be designed and maintained to protect the health and safety of personnel at the facility and persons in close proximity.	Under this subsection health and safety of construction workers and persons in the proximity of the site would be maintained during construction and maintenance activities.
Rhode Island Solid Waste Regulations – Groundwater Monitoring and Closure	DEM OWM-SW0401, 1.8.01 (a) and 1.8.01 (b)	Relevant and Appropriate	Requires facilities to monitor groundwater and to meet closure requirements	The substantive requirements of this section of the regulations will be met by monitoring groundwater and meeting closure requirements. Because contaminants will be left in place ~~at the Paved Storage Area~~, the Paved Storage Area will be closed as a waste management area, and undergo long term monitoring. Monitoring of the area under the soil cover would also be conducted. The remedial design (RD), remedial action work plan (RAWP), operations and monitoring plan (O&M) (including the long term monitoring plan [LTMP]) developed for this cleanup will contain the specific monitoring and closure requirements for the waste management area that will comply with the substantive requirements.

TABLE 4-9

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO3 – SOIL COVER, SELECTIVE EXCAVATION AND REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 8 OF 11

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State (Continued)				
Rhode Island Solid Waste Regulations – Sedimentation and Erosion Control	DEM OWM-SW0401, 2.1.04	Relevant and Appropriate	Requires a "Sedimentation and Erosion Control Plan" be developed.	An erosion and sediment control plan will be developed for this site in accordance with the substantive requirements of this section. The RD and the RAWP, to be developed for this cleanup, will contain the specific erosion and sediment controls requirements for the remedial construction.
Rhode Island Solid Waste Regulations - Monitoring Wells	DEM OWM-SW0401, 2.1.08 (a) (8)	Relevant and Appropriate	Contains requirements for construction of monitoring wells to monitor a solid waste landfill.	The substantive requirements of this section of the regulations will be met for construction of new monitoring wells ~~for the waste management area~~.
Rhode Island Solid Waste Regulations – Long-term Monitoring	DEM OWM-SW0401, 2.1.08 (c)	Relevant and Appropriate	Contains requirements for monitoring wells.	The substantive requirements of this section of the regulations will be met by maintaining monitoring wells for the purpose of monitoring groundwater conditions at the site ~~by the waste management area~~. Because this remedy leaves contamination in place, it will be supported with a Long Term Monitoring Plan (LTMP) for groundwater. The LTMP will be directed by a work plan that will contain the specific monitoring requirements.
Rhode Island Solid Waste Regulations – Cover Systems	DEM OWM-SW0401, 2.2.12 (d) (1) and 2.2.12 (d) (2) (ii)(iii) and (v).	Relevant and Appropriate	Contains requirements for construction and maintenance of the vegetative cover final cover system.	Remedies including cover systems will include appropriate vegetation requirements of a soil cover in compliance with these standards.

TABLE 4-9

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO3 – SOIL COVER, SELECTIVE EXCAVATION AND REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 9 OF 11

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Rhode Island Solid Waste Regulations – Cover Permeability	DEM OWM-SW0401, 2.3.04(e), (f)	Relevant and Appropriate	Outlines the requirements for the maintenance and permeability of cover material.	The substantive requirements of this section of the regulations will be met by maintaining the asphalt cover that has been determined to provide an adequate barrier for specific areas to be used for storage (~~Paved Storage Area~~waste management area), or a soil cover that has been determined to provide an adequate barrier for the remainder of the land within the site.
Rhode Island Solid Waste Regulations – Compliance Boundaries	DEM OWM-SW0401, 2.3.05	Relevant and Appropriate	Establishes requirement for compliance boundary for pollution of ground waters or surface waters.	The substantive requirements of this section of the regulations will be met by monitoring groundwater under the soil cover and by the requirement that no contamination of groundwater be permitted outside the boundary of the ~~Paved Storage Area~~waste management area. Because this remedy leaves contamination in place, groundwater monitoring will be conducted to assure that no contaminants are transported to the groundwater beyond the boundary of the waste management area.

TABLE 4-9

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO3 – SOIL COVER, SELECTIVE EXCAVATION AND REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 10 OF 11

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Rhode Island Solid Waste Regulations – Surface Water Drainage	DEM OWM-SW0401, 2.3.10	Relevant and Appropriate	Contains requirements for surface water drainage.	The substantive requirements of this section of the regulations will be met through design of appropriate surface drainage considerations for the cover. The cover system would be designed to prevent erosion, sedimentation, and standing water on the cover. Minimum slope requirements for solid waste landfills have been determined not relevant or appropriate for a soil cover which is not intended to reduce infiltration.
Rhode Island Solid Waste Regulations - Monitoring Wells	DEM OWM-SW0401, 2.3.11	Relevant and Appropriate	Contains requirements for monitoring wells.	The substantive requirements of this section of the regulations will be met by having and maintaining monitoring wells for the purpose of monitoring groundwater conditions by the soil cover and the waste management area. Because this remedy leaves contaminants in place, it will be supported with a Long Term Monitoring Plan (LTMP) for groundwater. The LTMP will be directed by a work plan that will contain the specific monitoring well requirements.

TABLE 4-9

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO3 – SOIL COVER, SELECTIVE EXCAVATION AND REMOVAL OF ANOMALIES, OFF-SITE DISPOSAL, LUCS, MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 11 OF 11

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Rhode Island Solid Waste Regulations – Siting in and Adjacent to Wetlands and Floodplains	DEM OWM-SW0401, 2.3.14	Relevant and Appropriate	Provides requirements for new solid waste landfill units and expansions that impact wetlands and coastal wetlands, coastal flood zones, etc.	This alternative will involve alteration of land within wetlands. The substantive requirements of this section of the regulations will be met by protecting wetland and downstream floodplain resources during construction and maintenance of a cover over soil containing residual contamination. The RD, RAWP, and the LTMP will be developed and provide specific requirements, to meet the substantive requirements of this section.
Rhode Island Solid Waste Regulations – Closure in "Unstable Areas"	DEM OWM-SW0401, 2.3.23	Relevant and Appropriate	Provides requirements for closure of solid waste units in "unstable areas", interpreted to include wetland and floodplains.	This alternative establishes a soil cover and a waste management area within and/or adjacent to "unstable areas." The substantive requirements of this section of the regulations will be met through the closure of the ~~waste management~~ cover areas. This alternative meets the intent because the ~~waste management area~~ sitewill be covered in a manner that prevents the release of contaminants during a 100-year flood event.

CHEMICAL-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
EPA Carcinogenicity Slope Factor	None	To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants. Slope factors are developed by EPA from health effects assessments. Carcinogenic effects present the most up-to-date information on cancer risk potency. Potency factors are developed by EPA from Health Effects Assessments of evaluation by the Carcinogenic Assessment Group.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in site media. Risks due to carcinogens as assessed with slope factors will be addressed through remediation to industrial cleanup levels based on excavation, consolidation, and installing a cover over areas of contaminated soil (except in areas where an existing pavement cover will be maintained), removal of anomalies, LUCs and long-term monitoring of the ~~Paved Storage Area~~ area under the soil cover and the waste management area..
EPA Risk Reference Dose (RfDs)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media. RfDs are considered to be the levels unlikely to cause significant adverse health effects associated with a threshold mechanism of action in human exposure for a lifetime.	Used to calculate potential non-carcinogenic hazards caused by exposure to contaminants. Hazards due to non-carcinogens with EPA RfDs will be addressed through remediation to industrial cleanup levels based on excavation, consolidation, and installing a cover over areas of contaminated soil (except in areas where an existing pavement cover will be maintained), removal of anomalies, LUCs and long-term monitoring of the ~~established~~ area under the soil cover and the waste management area.

CHEMICAL-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal (Continued)				
Guidelines for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	Used to calculate potential carcinogenic risks caused by exposure to contaminants. Hazards due to carcinogens assessed through this guidance will be addressed through remediation to industrial cleanup levels based on excavation, consolidation, and installing a cover over areas of contaminated soil (except in areas where an existing pavement cover will be maintained), removal of anomalies, LUCs and long-term monitoring of the ~~Paved Storage Area~~ area under the soil cover and the waste management area..
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance of assessing cancer risks to children.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants. Carcinogenic risks to children assessed through this guidance will be addressed through remediation to industrial cleanup levels based on excavation, consolidation, and installing a cover over areas of contaminated soil (except in areas where an existing pavement cover will be maintained), removal of anomalies, LUCs and long-term monitoring of the ~~Paved Storage Area~~ area under the soil cover and the waste management area..
Recommendations of the Technical Review Workgroup for Lead for an approach to Assessing Risks Associated with Adult Exposure to Lead In Soil	EPA-540-R-03-001 (January 2003)	To Be Considered	EPA Guidance for evaluating risks posed by lead in soil.	Risks from lead assessed under this guidance will be addressed through remediation to industrial cleanup levels based on excavation, consolidation, and installing a cover over areas of contaminated soil (except in areas where an existing pavement cover will be maintained), removal of anomalies, LUCs and long-term monitoring of the ~~Paved Storage Area~~ area under the soil cover and the waste management area.

CHEMICAL-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)	Code of Rhode Island Rules (CRIR) 12-180-001; DEM-DSR-01-93, sections 8.01 and 8.02	Applicable	These regulations set remediation standards for direct contact and leachability for contaminated soil at NPL sites when they are more stringent than federal standards.	These standards were used to develop soil PRGs. Remediation to industrial cleanup levels based on excavation, consolidation, and placement of 2 feet of clean, permeable cover material (except in areas where an existing pavement cover will be maintained), removal and off-site disposal of anomalies, LUCs and long-term monitoring (of the ~~Paved Storage Area~~ area under the soil cover and the waste management area) meets the regulations' requirements for allowing industrial use. Leachability standards will be met through excavation and offsite disposal. PRGs based on these standards will be achieved outside of the compliance zone for the waste management area (i.e., beyond the edge of the waste management area) and will be used as monitoring standards inside the compliance boundary.

LOCATION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 5

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Clean Water Act, Section 404; Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material	33 U.S.C. § 1344; 40 C.F.R. Part 230, 231 and 33 C.F.R. Parts 320-323	Applicable	Under this requirement, no activity that adversely affects a wetland shall be permitted if a practicable alternative with lesser effects is available. If activity takes place, impacts must be minimized to the maximum extent. Controls discharges of dredged or fill material to protect aquatic ecosystems. Filling or discharge of dredged material will only occur where there is no other practicable alternative and any adverse impacts to aquatic ecosystems will be mitigated. Under these standards the Navy must solicit public comment through the Proposed Plan on its finding that one of the alternatives is the Least Environmentally Damaging Practicable Alternative.	Alternatives may involve discharge of dredged material and/or excavation. Soil remediation or other remedial actions that include dredging or filling in wetlands will be implemented to meet these requirements, including mitigation of altered wetland/aquatic resource as required. The Navy has determined that this alternative is not the Least Environmentally Damaging Practicable Alternative to protect wetland resources because it does not provide the best balance of addressing contaminated soil within and adjacent to wetlands and waterways with minimizing both temporary and permanent alteration of wetlands and aquatic habitats on site. ~~The CERCLA criteria will be used to select the alternative.~~

LOCATION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal (Continued)				
Fish and Wildlife Coordination Act	16 U.S.C.. §661 *et seq*.	Applicable	Requires Federal agencies involved in actions that will result in the control of structural modification of any stream or body of water for any purpose to take action to protect fish and wildlife resources that may be affected by the action. The Navy must coordinate with appropriate federal and state resource agencies to ascertain the means and measures necessary to mitigate, prevent, and compensate for project related losses of fish and wildlife resources and to enhance the resources.	Measures to mitigate or compensate adverse project related impacts to fish and wildlife resources will be taken, if determined necessary. The appropriate federal and state resource agencies will be consulted, in particular regarding remedial measures for contaminated soil that will impact streams, wetlands, and downstream water bodies.
Floodplain Management and Protection of Wetlands	44 C.F.R. 9	Relevant and Appropriate	Implements Executive Order 11990 (Protection of Wetlands). Prohibits activities that adversely affect a federally-regulated wetland unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.	During the remedial design stage the effects of soil remedial actions on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by soil remediation, will be mitigated in accordance with requirements. No impact to downstream floodplain areas will occur. Public comment will be solicited in the Proposed Plan.
Endangered Species Act	16 U.S.C. 1531 *et seq.*; 50 C.F.R. parts 200 and 402	~~Applicable~~ Relevant and Appropriate	Regulates activities affecting federally listed endangered or threatened species or their habitat. The federally-listed loggerhead turtle and Kemps-Ridley turtle occur in the water of Narragansett Bay.	Appropriate federal agencies will be consulted to ensure that remedial measure taken under this alternative will prevent site contamination from migrating downstream to the Bay.

LOCATION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 3 OF 5

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal (Continued)				
National Historic Landmarks (Historic Sites Act)	16 USC §461 et seq.; 36 CFR Part 65	Applicable	The purpose of the National Historic Landmarks program is to identify and designate National Historic Landmarks, and encourage the long range preservation of nationally significant properties that illustrate or commemorate the history and prehistory of the United States.	Features with potential historical/cultural significance will be evaluated during the remedial design phase. Should this remedy impact historical properties/structures determined to be protected by this standard, activities will be coordinated with the Department of the Interior.
Protection of Historic Properties (National Historic Preservation Act)	16 USC §470 et seq., 36 CFR Part 800	Applicable	Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment.	Features with potential historical/cultural significance will be evaluated during the remedial design phase. Should this remedy impact properties/structures determined to be protected by this standard, activities will be coordinated with the Advisory Council on Historic Preservation.

LOCATION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
Rhode Island Endangered Species Act	RIGL 20-37-1 *et seq.*	Relevant and Appropriate	Regulates activities affecting State-listed endangered or threatened species or their habitat. The State-listed loggerhead turtle and Kemps-Ridley turtle occur in the water of Narragansett Bay.	Appropriate State agencies will be consulted to ensure that remedial measure taken under this alternative will prevent site contamination from migrating downstream to the Bay.
Rhode Island Historical Preservation Act	RIGL 42-45 et seq.	Applicable	Requires action to take into account effects on properties included on or eligible for the National register of Historic Places and minimizes harm to National Historic Landmarks.	Features with potential historical/cultural significance will be evaluated during the remedial design phase. Should this remedy impact properties/structures determined to be protected by this standard, activities will be coordinated with the State Agency.
Fresh Water Wetlands Act	~~Rules and Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act~~ RIGL 2-1, Sections 2-1-18 through 2-1-20.2; Fresh Water Wetlands Act; DEM Rules And Regulations Governing the Administration and	Applicable	Rules and regulations governing the administration and enforcement of the Fresh Water Wetlands Act. Defines and establishes provisions for the protection of swamps, marshes and other fresh water wetlands in the state. Actions are required to prevent the undesirable drainage, excavation, filling, alteration, encroachment or any other form of disturbance or destruction of a wetland. Also establishes standards for land within 50 feet of the edge of a state-regulated wetlands.	Excavation, consolidation, and cover installation activities will be conducted to minimize the disturbance of ~~wetlands~~ state jurisdictional wetland and perimeter wetland.

LOCATION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
	Enforcement of the Fresh Water Wetlands Act (Dec 2010), Rules 4.00 and 5.00			

TABLE 4-12

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 11

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Toxic Substances Control Act (TSCA) 15 U.S.C. 2601 *et seq.*; PCB Remediation Waste,	40 CFR 761.61(c)	Applicable	This section of the TSCA regulations provides risk-based cleanup and disposal options for PCB remediation waste based on the risks posed by the concentrations at which the PCBs are found. Written approval for the proposed risk-based cleanup must be obtained from the Director, Office of Site Remediation and Restoration, USEPA Region 1.	All soil exceeding identified PCB cleanup levels will either be removed, dewatered (if required) and disposed of off-site or will be placed under a cover system that meets TSCA protectiveness standards. The excavation, transportation/ dewatering, and management of PCB contaminated media will be performed in a manner to comply with TSCA, including air and surface water monitoring during remedial activities. The ROD will contain a finding by the Director, Office of Site Remediation and Restoration, USEPA Region 1, that the remedy's soil PCB cleanup levels, along with the excavation, dewatering, and management of the contaminated media will not pose an unreasonable risk to human health or the environment.

TABLE 4-12

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subparts B and G	Relevant and Appropriate	Establishes MCLs for common organic and inorganic contaminants applicable to public drinking water supplies. Used as relevant and appropriate standards for aquifers and surface water bodies that are potential drinking water sources.	MCLs were considered in development of PRGs. The ~~PRGs~~ MCLs will be used to develop performance standards for monitoring the compliance boundary for the waste management area. ~~determine whether contamination has migrated outside of the compliance zone of the Paved Storage Area to ensure the protectiveness of the remedy, or i~~If contamination levels have been reduced enough ~~and~~ so that no unacceptable site risk remains, ~~and~~ monitoring can be ended.
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subpart F	Relevant and Appropriate for non-zero MCLGs only	Establishes maximum contaminant level goals (MCLGs) for public water supplies. MCLGs are health goals for drinking water sources. These unenforceable health goals are available for a number of organic and inorganic compounds.	MCLGs were considered in development of PRGs. The ~~PRGs~~ non-zero MCLGs will be used to develop performance standards for monitoring the compliance boundary for the waste management area. ~~determine whether contamination has migrated outside of the compliance zone of the Paved Storage Area to ensure the protectiveness of the remedy, or i~~If contamination levels have been reduced enough ~~and~~ so that no site unacceptable risk remains, ~~and~~ monitoring can be ended.

TABLE 4-12

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 3 OF 11

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Health Advisories (EPA Office of Drinking Water)		To Be Considered	Health Advisories are estimates of risk due to consumption of contaminated drinking water; they consider non-carcinogenic effects only. To be considered for contaminants in groundwater that may be used for drinking water. The risk-based standard for manganese is 0.3 mg/L.	The HA for manganese was considered in development of PRGs. The ~~PRGs~~ HAs will be used to develop performance standards for monitoring the compliance boundary for the waste management area. ~~determine whether contamination has migrated outside of the compliance zone of the Paved Storage Area to ensure the protectiveness of the remedy, or i~~If contamination levels have been reduced enough ~~and~~ so that no unacceptable site risk remains, ~~and~~ monitoring can be ended.
CWA National Recommended Water Quality Criteria (NRWQC)	40 CFR 122.44	Relevant and Appropriate	Federal NRWQC are health-based and ecologically based criteria developed for carcinogenic and non-carcinogenic compounds. These standards may be used to develop cleanup standards for sediments.	Water quality standards used to develop monitoring standards both during the active remedial period and for long-term monitoring of the protectiveness of the waste management area that will be established under this alternative.
Clean Water Act - National Pollutant Discharge Elimination System (NPDES)	40 CFR Parts 122 and 125	Applicable	Includes stormwater standards for activities disturbing more than one acre.	Best management practices will be used to meet stormwater standards during the remedial action.

TABLE 4-12

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 4 OF 11

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Management of Undesirable Plants on Federal Lands	7 U.S.C. 2814	Relevant and Appropriate	Requires federal agencies to establish integrated management systems to control or contain undesirable plant species on federal lands under the agency's jurisdiction.	Measures will be taken to control the establishment of *Phragmites*, purple loosestrife or other invasive plants within all remediated areas. An invasive species control plan will be developed as part of the long-term O&M for this site. The responsibility of control will be transitioned to NAVSTA after (1) the remedy is in place, and (2) NAVSTA develops a base-wide program for controlling undesirable plants.
State				
Clean Air Act -Emissions Detrimental to Persons or Property	RIGL 23-23 *et seq.*; CRIR 12-31-07	Applicable	Prohibits emissions of contaminants which may be injurious to humans, plant or animal life or cause damage to property or which reasonably interferes with the enjoyment of life and property.	Monitoring of air emissions during cover installation and O&M will be used to assess compliance with these standards if threshold levels are reached.
Clean Air Act – Air Toxics	RIGL 23-23 *et seq.*; CRIR 12-31-22	Applicable	Prohibits the emission of specified contaminants at rates which would result in ground level concentrations greater than acceptable ambient levels or acceptable ambient levels as set in the regulations.	Monitoring of air emissions during cover installation and O&M will be used to assess compliance with these standards if threshold levels are reached.
Water Pollution Control - Pollution Discharge Elimination Systems	RIGL 42-16 *et seq.*; CRIR 12-190-003 Rule 31	Applicable	Includes storm water requirements for construction projects that disturb over one acre.	Stormwater standards for construction projects over one acre will be met.

TABLE 4-12

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 5 OF 11

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Rules and Regulations for Dredging and Management of Dredge Materials	DEM-OWR-DR-0203	Applicable	Addresses dredging activities and disposal of dredge spoils.	Any dredging of wetland soils and backfilling with cover material that is required while implementing the alternative must comply with the requirements of the regulations.
Drilling of Drinking Water Wells; Rules and Regulations Governing the Enforcement of Chapter 46-13.2 Relating to the Drilling of Drinking Water Wells	RIGL 46-13..2 et seq.	Applicable	Prohibits installing drinking water wells in contaminated aquifers. Establishes standards for decommissioning monitoring wells (Rule 9.03).	Under these standards drinking water wells are prohibited within the waste management area that will be established under this alternative and monitoring wells used will be properly decommissioned when no longer needed.
Rules and Regulations for Groundwater Quality~~— Appendix I~~	RIGL Ch. 46-12, Section 46-12-2; Ch. 46-13.1, Ch. 23-18.9, Sec. 23-18-9.1; DEM Rules and Regulations for Groundwater Quality (Mar 2005), Appendix 1	Applicable	Identifies the standards and specification that must be followed for the installation or abandonment of monitoring wells.	Under this alternative, wells installed for monitoring the waste management area will be installed and abandoned according to these standards.
State (Continued)				
Standards for Identification and Listing of Hazardous Waste	RIGL 23-19.1 et seq.; CRIR 12-030-003 Rule 5.8	Applicable	Defines the listed and characteristic hazardous wastes.	These regulations would apply when determining whether or not a solid waste is hazardous, either by being listed or by exhibiting a hazardous characteristic.

TABLE 4-12

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Hazardous Waste Management Standards for Generators	RIGL 23-19.1 et seq.; CRIR 12-030-003 Rule 5.0	Applicable	Sets standards for handling and disposal~~, design, operation, and monitoring~~ of hazardous waste. ~~The standards of 40 CFR Part 264 are incorporated by reference.~~	Wastes generated will be tested to determine if they constitute hazardous waste. Any hazardous waste identified will be handled and disposed according to these standards.
Operational Requirements for Treatment, Storage, and Disposal Facilities (TSDF)	RIGL 23-19.1 et seq.; CRIR 12-030-003 Rule 8.0	Potentially Applicable	Outlines operational requirements for all hazardous waste TSDFs including, but not limited to, general waste analysis, security procedures, inspections, safety, groundwater monitoring. Also, sets design, construction, and operational requirements for hazardous waste containers and tanks, and closure requirements for hazardous waste facilities. The site is not a TSDF, and the Navy does not intend to treat, store or dispose of hazardous wastes in a manner that would require the site to be considered a TSDF under these regulations.	If remediation at the site results in the necessity to treat, store, or dispose of hazardous waste in the manner required of a TSDF, the substantive requirements must be met.
Rhode Island Solid Waste Regulations – Closure	DEM OWM-SW0401, 1.7.14(b)	Relevant and Appropriate	Regulation states that an approved closure plan must be implemented.	The site will be closed under a plan developed in accordance with the substantive requirements of this section of the regulations, to be incorporated into the remedial design (RD) and the Operations and Maintenance Plan (O&M) (including a monitoring plan). Contaminated soil beneath the Paved Storage Area will be left in place as a waste management area.

TABLE 4-12

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State (Continued)				
Rhode Island Solid Waste Regulations – Dust Control	DEM OWM-SW0401, 1.7.10	Relevant and Appropriate	Requires dust control.	Dust must be controlled at the site during cover construction and during maintenance activities.
Rhode Island Solid Waste Regulations – Health and Safety	DEM OWM-SW0401, 1.7.12 (a)	Relevant and Appropriate	Requires solid waste management facilities be designed and maintained to protect the health and safety of personnel at the facility and persons in close proximity.	Under this subsection health and safety of construction workers and persons in the proximity of the site would be maintained during construction and maintenance activities.
Rhode Island Solid Waste Regulations – Groundwater Monitoring and Closure	DEM OWM-SW0401, 1.8.01 (a) and 1.8.01 (b)	Relevant and Appropriate	Requires facilities to monitor groundwater and to meet closure requirements	The substantive requirements of this section of the regulations will be met by monitoring groundwater and meeting closure requirements. Because contaminants will be left in place ~~at the Paved Storage Area~~, the Paved Storage Area will be closed as a waste management area, and undergo long term monitoring. Monitoring of the area under the soil cover would also be conducted. The remedial design (RD), remedial action work plan (RAWP), operations and monitoring plan (O&M) (including the long term monitoring plan [LTMP]) developed for this cleanup will contain the specific monitoring and closure requirements for the waste management area that will comply with the substantive requirements.

TABLE 4-12

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 8 OF 11

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State (Continued)				
Rhode Island Solid Waste Regulations – Sedimentation and Erosion Control	DEM OWM-SW0401, 2.1.04	Relevant and Appropriate	Requires a "Sedimentation and Erosion Control Plan" be developed.	An erosion and sediment control plan will be developed for this site in accordance with the substantive requirements of this section. The RD and the RAWP, to be developed for this cleanup, will contain the specific erosion and sediment controls requirements for the remedial construction.
Rhode Island Solid Waste Regulations - Monitoring Wells	DEM OWM-SW0401, 2.1.08 (a) (8)	Relevant and Appropriate	Contains requirements for construction of monitoring wells to monitor a solid waste landfill.	The substantive requirements of this section of the regulations will be met for construction of new monitoring wells ~~for the waste management area~~.
Rhode Island Solid Waste Regulations – Long-term Monitoring	DEM OWM-SW0401, 2.1.08 (c)	Relevant and Appropriate	Contains requirements for monitoring wells.	The substantive requirements of this section of the regulations will be met by maintaining monitoring wells for the purpose of monitoring groundwater conditions at the site ~~by the waste management area~~. Because this remedy leaves contamination in place, it will be supported with a Long Term Monitoring Plan (LTMP) for groundwater. The LTMP will be directed by a work plan that will contain the specific monitoring requirements.
Rhode Island Solid Waste Regulations – Cover Systems	DEM OWM-SW0401, 2.2.12 (d) (1) and 2.2.12 (d) (2) (ii)(iii) and (v).	Relevant and Appropriate	Contains requirements for construction and maintenance of the vegetative cover final cover system.	Remedies including cover systems will include appropriate vegetation requirements of a soil cover in compliance with these standards.

TABLE 4-12

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 9 OF 11

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Rhode Island Solid Waste Regulations – Cover Permeability	DEM OWM-SW0401, 2.3.04(e), (f)	Relevant and Appropriate	Outlines the requirements for the maintenance and permeability of cover material.	The substantive requirements of this section of the regulations will be met by maintaining the asphalt cover that has been determined to provide an adequate barrier for specific areas to be used for storage (~~Paved Storage Area~~waste management area), or a soil cover that has been determined to provide an adequate barrier for the remainder of the land within the site.
Rhode Island Solid Waste Regulations – Compliance Boundaries	DEM OWM-SW0401, 2.3.05	Relevant and Appropriate	Establishes requirement for compliance boundary for pollution of ground waters or surface waters.	The substantive requirements of this section of the regulations will be met by monitoring groundwater under the soil cover and by the requirement that no contamination of groundwater be permitted outside the boundary of the ~~Paved Storage Area~~waste management area. Because this remedy leaves contamination in place, groundwater monitoring will be conducted to assure that no contaminants are transported to the groundwater beyond the boundary of the waste management area.

TABLE 4-12

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 10 OF 11

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Rhode Island Solid Waste Regulations – Surface Water Drainage	DEM OWM-SW0401, 2.3.10	Relevant and Appropriate	Contains requirements for surface water drainage.	The substantive requirements of this section of the regulations will be met through design of appropriate surface drainage considerations for the cover. The cover system would be designed to prevent erosion, sedimentation, and standing water on the cover. Minimum slope requirements for solid waste landfills have been determined not relevant or appropriate for a soil cover which is not intended to reduce infiltration.
Rhode Island Solid Waste Regulations - Monitoring Wells	DEM OWM-SW0401, 2.3.11	Relevant and Appropriate	Contains requirements for monitoring wells.	The substantive requirements of this section of the regulations will be met by having and maintaining monitoring wells for the purpose of monitoring groundwater conditions by the soil cover and the waste management area. Because this remedy leaves contaminants in place, it will be supported with a Long Term Monitoring Plan (LTMP) for groundwater. The LTMP will be directed by a work plan that will contain the specific monitoring well requirements.

TABLE 4-12

ACTION-SPECIFIC ARARs AND TBCs
SOIL ALTERNATIVE SO4 – EXCAVATION, CONSOLIDATION, REMOVAL OF ANOMALIES, SOIL COVER, LUCs, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Rhode Island Solid Waste Regulations – Siting in and Adjacent to Wetlands and Floodplains	DEM OWM-SW0401, 2.3.14	Relevant and Appropriate	Provides requirements for new solid waste landfill units and expansions that impact wetlands and coastal wetlands, coastal flood zones, etc.	This alternative will involve alteration of land within wetlands. The substantive requirements of this section of the regulations will be met by protecting wetland and downstream floodplain resources during construction and maintenance of a cover over soil containing residual contamination. The RD, RAWP, and the LTMP will be developed and provide specific requirements, to meet the substantive requirements of this section.
Rhode Island Solid Waste Regulations – Closure in "Unstable Areas"	DEM OWM-SW0401, 2.3.23	Relevant and Appropriate	Provides requirements for closure of solid waste units in "unstable areas", interpreted to include wetland and floodplains.	This alternative establishes a soil cover and a waste management area within and/or adjacent to "unstable areas." The substantive requirements of this section of the regulations will be met through the closure of the ~~waste management~~ cover areas. This alternative meets the intent because the ~~waste management area~~site will be covered in a manner that prevents the release of contaminants during a 100-year flood event.

CHEMICAL-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW - NO ACTION
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 2

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
EPA Human Health Assessment Cancer Slope Factors (CSFs).	None	To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in site media. The No Action Alternative will not meet the risk based standards established by the federal TBC criteria.
Reference Dose (RfD)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media.	Used to calculate potential non-carcinogenic hazards caused by exposure to contaminants. The No Action Alternative will not meet the risk based standards established by the federal TBC criteria.
Guidelines for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	Used to calculate potential carcinogenic risks caused by exposure to contaminants. The No Action Alternative will not meet the risk based standards established by the federal TBC criteria.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance ~~of~~ on assessing cancer risks to children.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants. The No Action Alternative will not meet the risk based standards established by the federal TBC criteria.
Safe Drinking Water Act, National Primary Drinking Water Regulations - Maximum Contaminant Levels (MCLs)	40 Code of Federal Regulations (CFR)141, Subpart B and G	Relevant and Appropriate	Establishes maximum contaminant levels (MCLs) for common organic and inorganic contaminants applicable to public drinking water supplies. Used as relevant and appropriate cleanup standards for aquifers and surface water bodies that are potential drinking water sources.	The No Action Alternative will not meet these criteria.
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subpart F	Relevant and Appropriate for non-zero	Establishes maximum contaminant level goals (MCLGs) for public water supplies. MCLGs are health goals for drinking water sources. These	The No Action Alternative will not meet these criteria.

CHEMICAL-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW - NO ACTION
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
		MCLGs only	unenforceable health goals are available for a number of organic and inorganic compounds.	
Health Advisories (EPA Office of Drinking Water)		To Be Considered	Health Advisories are estimates of risk due to consumption of contaminated drinking water; they consider non-carcinogenic effects only. To be considered for contaminants in groundwater that may be used for drinking water. The risk-based standard for manganese is 0.3 mg/L.	The No Action Alternative will not meet these criteria.
State				
Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)	Code of Rhode Island Rules (CRIR) 12-180-001; DEM-DSR-01-93, Section 8.03, A to D	To Be Considered	Sets levels for monitoring of contaminated groundwater when more stringent than federal standards	Standards were considered in development of groundwater PRGs based on the use of the groundwater as a water supply. The No Action Alternative will not meet the risk based standards established by the State Remediation Regulations.
~~Water Quality Regulations~~	~~Rhode Island General Laws (RIGL) 42-16 et seq.; CRIR 12-190-001, Rules 8 and 9.~~	~~Applicable~~	~~Establishes water use classification and water quality criteria for waters of the state. National Recommended Water Quality Criteria are included in the RI regulations.~~	~~The No Action Alternative will not meet these criteria.~~

TABLE 5-4

CHEMICAL-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW2 - MNA AND LUCS
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 3

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subparts B and G	Relevant and Appropriate	Establishes MCLs for common organic and inorganic contaminants applicable to public drinking water supplies. Used as relevant and appropriate standards for aquifers and surface water bodies that are potential drinking water sources.	MCLs were considered in development of PRGs. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRGs would be met through natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subpart F	Relevant and Appropriate for non-zero MCLGs only	Establishes maximum contaminant level goals (MCLGs) for public water supplies. MCLGs are health goals for drinking water sources. These unenforceable health goals are available for a number of organic and inorganic compounds.	Non-zero MCLGs were considered in development of PRGs. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRGs would be met through natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.
Health Advisories (EPA Office of Drinking Water)		To Be Considered	Health Advisories are estimates of risk due to consumption of contaminated drinking water; they consider non-carcinogenic effects only. To be considered for contaminants in groundwater that may be used for drinking water. The risk-based standard for manganese is 0.3 mg/L.	Health Advisory was considered in development of PRG for manganese. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRG would be met through natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.
EPA Carcinogenicity Slope Factor		To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants. Slope factors are	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in groundwater for COCs without MCLs, non-zero MCLGs, or

TABLE 5-4

CHEMICAL-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW2 - MNA AND LUCS
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 3

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
			developed by EPA from health effects assessments. Carcinogenic effects present the most up-to-date information on cancer risk potency. Potency factors are developed by EPA from Health Effects Assessments of evaluation by the Carcinogenic Assessment Group.	Health Advisory values. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRG would be met through natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.
EPA Risk Reference Dose (RfDs)		To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media. RfDs are considered to be the levels unlikely to cause significant adverse health effects associated with a threshold mechanism of action in human exposure for a lifetime.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in groundwater for COCs without MCLs, non-zero MCLGs, or Health Advisory values. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRG would be met through natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.
Guidelines for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	Used to calculate potential carcinogenic risks caused by exposure to contaminants. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRG would be met through natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.
Supplemental Guidance for Assessing	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance of assessing cancer risks to children.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants. Outside of the compliance boundary of the

TABLE 5-4

CHEMICAL-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW2 - MNA AND LUCS
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 3 OF 3

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Susceptibility from Early-Life Exposure to Carcinogens				~~Paved Storage Area~~waste management area, PRG would be met through natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.
State				
Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)	Code of Rhode Island Rules (CRIR) 12-180-001; DEM-DSR-01-93, sections 8.01 and 8.03	Applicable	These regulations set remediation standards for groundwater at NPL sites when they are more stringent than federal standards.	These standards were used to develop groundwater PRGs. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRG would be met through natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.

TABLE 5-5

LOCATION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW2 - MNA AND LUCS
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 2

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Floodplain Management and Protection of Wetlands	44 C.F.R. 9	Relevant and Appropriate	Implements Executive Order 11990 (Protection of Wetlands)). Prohibits activities that adversely affect a federally-regulated wetland unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.	During the remedial design stage the effects of installing and maintaining monitoring wells on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by well installation and maintenance will be mitigated in accordance with requirements. Public comment will be solicited in the Proposed Plan.
Clean Water Act, Section 404; Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material	33 U.S.C. § 1344; 40 C.F.R. Part 230, 231 and 33 C.F.R. Parts 320-323	Applicable	Under this requirement, no activity that adversely affects a wetland shall be permitted if a practicable alternative with lesser effects is available. If activity takes place, impacts must be minimized to the maximum extent. Controls discharges of dredged or fill material to protect aquatic ecosystems. Filling or discharge of dredged material will only occur where there is no other practicable alternative and any adverse impacts to aquatic ecosystems will be mitigated. Under these standards the Navy must solicit public comment through the Proposed Plan on its finding that one of the alternatives is the Least Environmentally Damaging	Alternatives may involve discharge of dredged material and/or excavation. Installation or maintenance of monitoring wells that include dredging or filling in wetlands will be implemented to meet these requirements, including mitigation of altered wetland/aquatic resource as required.

TABLE 5-5

LOCATION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW2 - MNA AND LUCS
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 2

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
			Practicable Alternative.	
State				
Fresh Water Wetlands Act	~~Rules and Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act~~ RIGL 2-1, Sections 2-1-18 through 2-1-20.2; Fresh Water Wetlands Act; DEM Rules And Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act (Dec. 2010), Rules 4.00 and 5.00	Applicable	Rules and regulations governing the administration and enforcement of the Fresh Water Wetlands Act. Defines and establishes provisions for the protection of swamps, marshes and other fresh water wetlands in the state. Actions are required to prevent the undesirable drainage, excavation, filling, alteration, encroachment or any other form of disturbance or destruction of a wetland. Also establishes standards for land within 50 feet of the edge of a state-regulated wetlands.	Injection well installation, injection, and monitoring activities will be conducted to minimize the disturbance of ~~wetlands~~ state jurisdictional wetland and perimeter wetland.

TABLE 5-6

ACTION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW2 - MNA AND LUCS
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 5

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subparts B and G	Relevant and Appropriate	Establishes MCLs for common organic and inorganic contaminants applicable to public drinking water supplies. Used as relevant and appropriate standards for aquifers and surface water bodies that are potential drinking water sources.	~~Groundwater within the compliance boundary of the Paved Storage Area will be monitored using the standards to ensure contaminated groundwater does not migrate beyond the compliance boundary.~~The MCLs will be used to develop performance standards for monitoring the compliance boundary for the waste management area established where contamination is left in place under a cover. Exceedances of these standards within the compliance boundary will be addressed by LUCs.
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subpart F	Relevant and Appropriate for non-zero MCLGs only	Establishes maximum contaminant level goals (MCLGs) for public water supplies. MCLGs are health goals for drinking water sources. These unenforceable health goals are available for a number of organic and inorganic compounds.	~~Groundwater within the compliance boundary of the Paved Storage Area will be monitored using the standards to ensure contaminated groundwater does not migrate beyond the compliance boundary.~~The non-zero MCLGs will be used to develop performance standards for monitoring the compliance boundary for the waste management area established where contamination is left in place under a cover. Exceedances of these standards within the compliance boundary will be addressed by LUCs.
Health Advisories (EPA Office of Drinking Water)		To Be Considered	Health Advisories are estimates of risk due to consumption of contaminated drinking water; they consider non-carcinogenic effects only. To be considered for contaminants in	~~Groundwater within the compliance boundary the Paved Storage Area will be monitored using the standards.~~ The Health Advisory for manganese will be used to develop performance standards

TABLE 5-6

ACTION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW2 - MNA AND LUCS
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 5

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
			groundwater that may be used for drinking water. The risk-based standard for manganese is 0.3 mg/L.	for monitoring the compliance boundary for the waste management area established where contamination is left in place under a cover. Exceedances of these standards (particularly for manganese) within the compliance boundary will be addressed by LUCs.
Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites,	OSWER Directive 9200.4-17P (April 21, 1999)	To Be Considered	EPA guidance regarding the use of monitored natural attenuation for the cleanup of contaminated soil and groundwater. In particular, a reasonable time frame for achieving cleanup standard through monitored attenuation would be comparable to that which could be achieved through active restoration.	This guidance will be used to determine success of monitored natural attenuation component of any alternative to attain all groundwater cleanup standards within a reasonable time frame.
EPA Groundwater Protection Strategy (August 1984); NCP Preamble; Guidelines for Ground-Water Classification (November 1986)	Federal Register Vol 55, No. 46, March 8, 1990, p. 8733 (NCP Preamble)	To Be Considered	The Groundwater Protection Strategy provides a common reference for preserving clean groundwater and protecting the public health against the effects of past contamination. Guidelines for consistency in groundwater protection programs focus on the highest beneficial use of a groundwater aquifer and define three classes of groundwater. These documents defined Class I, II and III groundwaters.	Under federal standards, groundwater within the Site is considered a potential drinking water source except within the compliance boundary of any waste management area established under the soil or sediment alternatives; therefore, groundwater must achieve federal drinking water and risk-based standards or more stringent State groundwater standards outside of the compliance boundary. Groundwater use restrictions outside of the compliance boundary will be maintained until these standards are achieved. Inside of the compliance boundary groundwater use restrictions will be in effect for as long as the waste

TABLE 5-6

ACTION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW2 - MNA AND LUCS
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 3 OF 5

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
				management area remains in place.~~;~~ ~~therefore, groundwater must achieve these standards. Groundwater use restrictions will be maintained until these standards are achieved. Groundwater outside of the compliance boundary for the Paved Storage Area established at the Site needs to attain federal drinking water and risk-based standards.~~ Groundwater monitoring using these standards will be used to make sure groundwater exceeding these standards does not migrate beyond the compliance boundary. Exceedances of these standards within the compliance boundary is a basis for establishing prohibitions on the use of groundwater within the compliance boundary. An additional buffer zone beyond the compliance boundary to prevent groundwater wells from being installed that would draw contaminated groundwater beyond the compliance boundary may also be established, if required.
State				
Standards for Identification and Listing of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, Rhode Island General Laws	Applicable	Defines the listed and characteristic hazardous wastes.	These regulations to well installation and monitoring well sampling IDW when determining whether or not a solid waste is hazardous, either by being listed or by exhibiting a hazardous characteristic.

TABLE 5-6

ACTION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW2 - MNA AND LUCS
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 4 OF 5

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
	(RIGL) 23-19 et seq,, Code of Rhode Island Rules (CRIR) 12-030-003 Rule 5.8			
Standards for Generators of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, RIGL 23-19 et seq,, CRIR 12-030-003 Rule 5.0	Applicable	Establishes manifesting, pre-transport, and recordkeeping requirements for hazardous waste.	These regulations would apply to well installation and monitoring well sampling IDW, if hazardous.
Rhode Island Solid Waste Regulations - Monitoring Wells	DEM OWM-SW0401, 2.1.08 (a) (8)	Relevant and Appropriate	Contains requirements for construction of monitoring wells to monitor a solid waste landfill.	The substantive requirements of this section of the regulations will be met for construction of new monitoring wells and maintenance of all monitoring wells.
Rhode Island Solid Waste Regulations – Long-term Monitoring	DEM OWM-SW0401, 2.1.08 (c)	Relevant and Appropriate	Contains requirements for monitoring wells.	The substantive requirements of this section of the regulations will be met by maintaining monitoring wells for the purpose of monitoring groundwater conditions at the site, including monitoring for soil contamination left in place. Groundwater monitoring for alternatives for all media will be addressed through a monitoring program under the selected groundwater alternative.
Rhode Island Solid Waste Regulations - Monitoring Wells	DEM OWM-SW0401, 2.3.11	Relevant and Appropriate	Contains requirements for monitoring wells.	The substantive requirements of this section of the regulations will be met by maintaining monitoring wells for the purpose of monitoring groundwater

TABLE 5-6

ACTION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW2 - MNA AND LUCS
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 5 OF 5

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
				conditions at the site, including monitoring for soil contamination left in place. Groundwater monitoring for alternatives for all media will be addressed through a monitoring program under the selected groundwater alternative.
Rules and Regulations for Groundwater Quality~~— Appendix 1~~	RIGL Ch. 46-12, Section 46-12-2; Ch. 46-13.1, Ch. 23-18.9, Sec. 23-18-9.1; DEM Rules and Regulations for Groundwater Quality (Mar. 2005), Appendix 1	Applicable	Identifies the standards and specification that must be followed for the installation or abandonment of monitoring wells.	Wells installed for monitoring will be installed and abandoned according to these standards.

TABLE 5-7

CHEMICAL-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW3 - IN-SITU ENHANCED BIOREMEDIATION, MNA, AND LUCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 3

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subparts B and G	Relevant and Appropriate	Establishes MCLs for common organic and inorganic contaminants applicable to public drinking water supplies. Used as relevant and appropriate standards for aquifers and surface water bodies that are potential drinking water sources.	MCLs were considered in development of PRGs. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRGs would be met through bioremediation and natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subpart F	Relevant and Appropriate for non-zero MCLGs only	Establishes maximum contaminant level goals (MCLGs) for public water supplies. MCLGs are health goals for drinking water sources. These unenforceable health goals are available for a number of organic and inorganic compounds.	Non-zero MCLGs were considered in development of PRGs. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRGs would be met through bioremediation and natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.
Health Advisories (EPA Office of Drinking Water)		To Be Considered	Health Advisories are estimates of risk due to consumption of contaminated drinking water; they consider non-carcinogenic effects only. To be considered for contaminants in groundwater that may be used for drinking water. The risk-based standard for manganese is 0.3 mg/L.	Health Advisory was considered in development of PRG for manganese. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRG would be met through natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.
EPA Carcinogenicity Slope Factor		To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in groundwater for

TABLE 5-7

CHEMICAL-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW3 - IN-SITU ENHANCED BIOREMEDIATION, MNA, AND LUCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 3

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
			contaminants. Slope factors are developed by EPA from health effects assessments. Carcinogenic effects present the most up-to-date information on cancer risk potency. Potency factors are developed by EPA from Health Effects Assessments of evaluation by the Carcinogenic Assessment Group.	COCs without MCLs, non-zero MCLGs, or Health Advisory values. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRG would be met through bioremediation and natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.
EPA Risk Reference Dose (RfDs)		To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media. RfDs are considered to be the levels unlikely to cause significant adverse health effects associated with a threshold mechanism of action in human exposure for a lifetime.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in groundwater for COCs without MCLs, non-zero MCLGs, or Health Advisory values. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRG would be met through bioremediation and natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.
Guidelines for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	Used to calculate potential carcinogenic risks caused by exposure to contaminants. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRG would be met through bioremediation and natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these

TABLE 5-7

CHEMICAL-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW3 - IN-SITU ENHANCED BIOREMEDIATION, MNA, AND LUCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 3 OF 3

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
				standards.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance of assessing cancer risks to children.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRG would be met through bioremediation and natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.
State				
Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)	Code of Rhode Island Rules (CRIR) 12-180-001; DEM-DSR-01-93, sections 8.01 and 8.03	Applicable	These regulations set remediation standards for groundwater at NPL sites when they are more stringent than federal standards.	These standards were used to develop groundwater PRGs. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRG would be met through bioremediation and natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.

TABLE 5-8

LOCATION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW3 - IN-SITU ENHANCED BIOREMEDIATION, MNA, AND LUCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 2

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Floodplain Management and Protection of Wetlands	44 C.F.R. 9	Relevant and Appropriate	Implements Executive Order 11990 (Protection of Wetlands)). Prohibits activities that adversely affect a federally-regulated wetland unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.	During the remedial design stage the effects of installing and maintaining monitoring wells on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by well installation and maintenance will be mitigated in accordance with requirements. Public comment will be solicited in the Proposed Plan.
Clean Water Act, Section 404; Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material	33 U.S.C. § 1344; 40 C.F.R. Part 230, 231 and 33 C.F.R. Parts 320-323	Applicable	Under this requirement, no activity that adversely affects a wetland shall be permitted if a practicable alternative with lesser effects is available. If activity takes place, impacts must be minimized to the maximum extent. Controls discharges of dredged or fill material to protect aquatic ecosystems. Filling or discharge of dredged material will only occur where there is no other practicable alternative and any adverse impacts to aquatic ecosystems will be mitigated. Under these standards the Navy must solicit public comment through the Proposed Plan on its finding that one of the alternatives is the Least Environmentally Damaging Practicable Alternative.	Alternatives may involve discharge of dredged material and/or excavation. Installation or maintenance of monitoring wells that include dredging or filling in wetlands will be implemented to meet these requirements, including mitigation of altered wetland/aquatic resource as required.

TABLE 5-8

LOCATION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW3 - IN-SITU ENHANCED BIOREMEDIATION, MNA, AND LUCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 2

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
Fresh Water Wetlands Act	~~Rules and Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act~~ RIGL 2-1, Sections 2-1-18 through 2-1-20.2; Fresh Water Wetlands Act; DEM Rules And Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act (Dec 2010), Rules 4.00 and 5.00	Applicable	Rules and regulations governing the administration and enforcement of the Fresh Water Wetlands Act. Defines and establishes provisions for the protection of swamps, marshes and other fresh water wetlands in the state. Actions are required to prevent the undesirable drainage, excavation, filling, alteration, encroachment or any other form of disturbance or destruction of a wetland. Also establishes standards for land within 50 feet of the edge of a state-regulated wetlands.	Injection well installation, injection, and monitoring activities will be conducted to minimize the disturbance of state jurisdictional wetland and perimeter wetland~~wetlands~~.

TABLE 5-9

ACTION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW3 - IN-SITU ENHANCED BIOREMEDIATION, MNA, AND LUCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 6

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Underground Injection Control (UIC)	40 CFR 144,146, and 147.2000	Applicable	These regulations address the discharge of wastes, chemicals or other substances into the subsurface. The federal UIC program designates injection wells incidental to aquifer remediation as Class V wells.	These regulations apply underground injection of electron donor substrate.
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subparts B and G	Relevant and Appropriate	Establishes MCLs for common organic and inorganic contaminants applicable to public drinking water supplies. Used as relevant and appropriate standards for aquifers and surface water bodies that are potential drinking water sources.	~~Groundwater within the compliance boundary of the Paved Storage Area will be monitored using the standards to ensure contaminated groundwater does not migrate beyond the compliance boundary.~~The MCLs will be used to develop performance standards for monitoring the compliance boundary for the waste management area established where contamination is left in place under a cover. Exceedances of these standards within the compliance boundary will be addressed by LUCs.
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subpart F	Relevant and Appropriate for non-zero MCLGs only	Establishes maximum contaminant level goals (MCLGs) for public water supplies. MCLGs are health goals for drinking water sources. These unenforceable health goals are available for a number of organic and inorganic compounds.	~~Groundwater within the compliance boundary of the Paved Storage Area will be monitored using the standards to ensure contaminated groundwater does not migrate beyond the compliance boundary.~~The non-zero MCLGs will be used to develop performance standards for monitoring the compliance boundary for the waste management area established where contamination is left in place under a cover. Exceedances of

TABLE 5-9

ACTION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW3 - IN-SITU ENHANCED BIOREMEDIATION, MNA, AND LUCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 6

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
				these standards within the compliance boundary will be addressed by LUCs.
Health Advisories (EPA Office of Drinking Water)		To Be Considered	Health Advisories are estimates of risk due to consumption of contaminated drinking water; they consider non-carcinogenic effects only. To be considered for contaminants in groundwater that may be used for drinking water. The risk-based standard for manganese is 0.3 mg/L.	~~Groundwater within the compliance boundary of the Paved Storage Area will be monitored using the standards.~~ The Health Advisory for manganese will be used to develop performance standards for monitoring the compliance boundary for the waste management area established where contamination is left in place under a cover. Exceedances of these standards (particularly for manganese) within the compliance boundary will be addressed by LUCs.
Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites,	OSWER Directive 9200.4-17P (April 21, 1999)	To Be Considered	EPA guidance regarding the use of monitored natural attenuation for the cleanup of contaminated soil and groundwater. In particular, a reasonable time frame for achieving cleanup standard though monitored attenuation would be comparable to that which could be achieved through active restoration.	Bioremediation and MNA can attain federal drinking water and risk standards as defined by this guidance within a reasonable time frame outside of the compliance boundary for the waste management area.
EPA Groundwater Protection Strategy (August 1984); NCP Preamble; Guidelines for Ground-Water Classification (November 1986)	Federal Register Vol 55, No. 46, March 8, 1990, p. 8733 (NCP Preamble)	To Be Considered	The Groundwater Protection Strategy provides a common reference for preserving clean groundwater and protecting the public health against the effects of past contamination. Guidelines for consistency in groundwater protection programs focus on the highest beneficial use of a groundwater aquifer and define three	Under federal standards, groundwater within the Site is considered a potential drinking water source except within the compliance boundary of any waste management area established under the soil or sediment alternatives; therefore, groundwater must achieve federal drinking water and risk-based standards or more stringent State groundwater

TABLE 5-9

ACTION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW3 - IN-SITU ENHANCED BIOREMEDIATION, MNA, AND LUCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 3 OF 6

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
			classes of groundwater. These documents defined Class I, II and III groundwaters.	standards outside of the compliance boundary. Groundwater use restrictions outside of the compliance boundary will be maintained until these standards are achieved. Inside of the compliance boundary groundwater use restrictions will be in effect for as long as the waste management area remains in place.~~; therefore, groundwater must achieve these standards. Groundwater use restrictions will be maintained until these standards are achieved. Groundwater outside of the compliance boundary for the Paved Storage Area established at the Site needs to attain federal drinking water and risk-based standards.~~ Groundwater monitoring using these standards will be used to make sure groundwater exceeding these standards does not migrate beyond the compliance boundary. Exceedances of these standards within the compliance boundary is a basis for establishing prohibitions on the use of groundwater within the compliance boundary. An additional buffer zone beyond the compliance boundary to prevent groundwater wells from being installed that would draw contaminated groundwater beyond the compliance boundary may also be established, if required.

TABLE 5-9

ACTION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW3 - IN-SITU ENHANCED BIOREMEDIATION, MNA, AND LUCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
Standards for Identification and Listing of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, Rhode Island General Laws (RIGL) 23-19 et seq,, Code of Rhode Island Rules (CRIR) 12-030-003 Rule 5.8	Applicable	Defines the listed and characteristic hazardous wastes.	These regulations would apply when determining whether or not a solid waste is hazardous, either by being listed or by exhibiting a hazardous characteristic.
State (Continued)				
Standards for Generators of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, RIGL 23-19 et seq,, CRIR 12-030-003 Rule 5.0	Applicable	Establishes manifesting, pre-transport, and recordkeeping requirements for hazardous waste.	These regulations would apply to well installation and monitoring well sampling IDW, if hazardous.

TABLE 5-9

ACTION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW3 - IN-SITU ENHANCED BIOREMEDIATION, MNA, AND LUCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 5 OF 6

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Injection Control Regulations	~~Underground Injection Control Program Rules and Regulations~~ Underground Injection Control Program Rules and Regulations; RIGL Ch. 46-12, 46-13.1; DEM Underground Injection Control Program Rules and Regulations (May 1984)	Applicable	Establishes a State Underground Injection Control Program consistent with federal requirements to preserve the quality of the groundwater of the state.	These regulations apply underground injection of electron donor substrate.
Rhode Island Solid Waste Regulations - Monitoring Wells	DEM OWM-SW0401, 2.1.08 (a) (8)	Relevant and Appropriate	Contains requirements for construction of monitoring wells to monitor a solid waste landfill.	The substantive requirements of this section of the regulations will be met for construction of new monitoring wells and maintenance of all monitoring wells.
Rhode Island Solid Waste Regulations – Long-term Monitoring	DEM OWM-SW0401, 2.1.08 (c)	Relevant and Appropriate	Contains requirements for monitoring wells.	The substantive requirements of this section of the regulations will be met by maintaining monitoring wells for the purpose of monitoring groundwater conditions at the site, including monitoring for soil contamination left in place. Groundwater monitoring for alternatives for all media will be addressed through a monitoring program under the selected groundwater alternative.

TABLE 5-9

ACTION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW3 - IN-SITU ENHANCED BIOREMEDIATION, MNA, AND LUCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 6 OF 6

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Rhode Island Solid Waste Regulations - Monitoring Wells	DEM OWM-SW0401, 2.3.11	Relevant and Appropriate	Contains requirements for monitoring wells.	The substantive requirements of this section of the regulations will be met by maintaining monitoring wells for the purpose of monitoring groundwater conditions at the site, including monitoring for soil contamination left in place. Groundwater monitoring for alternatives for all media will be addressed through a monitoring program under the selected groundwater alternative.
Rules and Regulations for Groundwater Quality~~— Appendix 1~~	RIGL Ch. 46-12, Section 46-12-2; Ch. 46-13.1, Ch. 23-18.9, Sec. 23-18-9.1; DEM Rules and Regulations for Groundwater Quality (Mar. 2005), Appendix 1	Applicable	Identifies the standards and specification that must be followed for the installation or abandonment of monitoring wells.	Wells installed for monitoring and in-situ treatment will be installed and abandoned according to these standards.

TABLE 5-10

CHEMICAL-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW4 - IN-SITU CHEMICAL OXIDATION, MNA, AND LUCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 3

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subparts B and G	Relevant and Appropriate	Establishes MCLs for common organic and inorganic contaminants applicable to public drinking water supplies. Used as relevant and appropriate standards for aquifers and surface water bodies that are potential drinking water sources.	MCLs were considered in development of PRGs. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRGs would be met through chemical oxidation and natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subpart F	Relevant and Appropriate for non-zero MCLGs only	Establishes maximum contaminant level goals (MCLGs) for public water supplies. MCLGs are health goals for drinking water sources. These unenforceable health goals are available for a number of organic and inorganic compounds.	Non-zero MCLGs were considered in development of PRGs. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRGs would be met through chemical oxidation and natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.
Health Advisories (EPA Office of Drinking Water)		To Be Considered	Health Advisories are estimates of risk due to consumption of contaminated drinking water; they consider non-carcinogenic effects only. To be considered for contaminants in groundwater that may be used for drinking water. The risk-based standard for manganese is 0.3 mg/L.	Health Advisory was considered in development of PRG for manganese. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRG would be met through natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards..
EPA Carcinogenicity Slope Factor		To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in groundwater for

TABLE 5-10

CHEMICAL-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW4 - IN-SITU CHEMICAL OXIDATION, MNA, AND LUCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 3

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
			contaminants. Slope factors are developed by EPA from health effects assessments. Carcinogenic effects present the most up-to-date information on cancer risk potency. Potency factors are developed by EPA from Health Effects Assessments of evaluation by the Carcinogenic Assessment Group.	COCs without MCLs, non-zero MCLGs, or Health Advisory values. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRG would be met through chemical oxidation and natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.
EPA Risk Reference Dose (RfDs)		To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media. RfDs are considered to be the levels unlikely to cause significant adverse health effects associated with a threshold mechanism of action in human exposure for a lifetime.	Used to compute the individual incremental cancer risk resulting from exposure to carcinogenic contaminants in groundwater for COCs without MCLs, non-zero MCLGs, or Health Advisory values. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRG would be met through chemical oxidation and natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.
Guidelines for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	Used to calculate potential carcinogenic risks caused by exposure to contaminants. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRG would be met through chemical oxidation and natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these

TABLE 5-10

CHEMICAL-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW4 - IN-SITU CHEMICAL OXIDATION, MNA, AND LUCs
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 3 OF 3

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
				standards.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance of assessing cancer risks to children.	Used to calculate potential carcinogenic risks to children caused by exposure to contaminants. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRG would be met through chemical oxidation and natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.
State				
Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)	Code of Rhode Island Rules (CRIR) 12-180-001; DEM-DSR-01-93, sections 8.01 and 8.03	Applicable	These regulations set remediation standards for groundwater at NPL sites when they are more stringent than federal standards.	These standards were used to develop groundwater PRGs. Outside of the compliance boundary of the ~~Paved Storage Area~~waste management area, PRG would be met through chemical oxidation and natural attenuation. LUCs within the compliance boundary of the ~~Paved Storage Area~~waste management area will prevent use of contaminated groundwater that exceeds these standards.

TABLE 5-11

LOCATION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW4 - IN-SITU CHEMICAL OXIDATION, MNA, AND LUCS
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 2

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Floodplain Management and Protection of Wetlands	44 C.F.R. 9	Relevant and Appropriate	Implements Executive Order 11990 (Protection of Wetlands)). Prohibits activities that adversely affect a federally-regulated wetland unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.	During the remedial design stage the effects of installing and maintaining monitoring wells on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by well installation and maintenance will be mitigated in accordance with requirements. Public comment will be solicited in the Proposed Plan.
Clean Water Act, Section 404; Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material	33 U.S.C. § 1344; 40 C.F.R. Part 230, 231 and 33 C.F.R. Parts 320-323	Applicable	Under this requirement, no activity that adversely affects a wetland shall be permitted if a practicable alternative with lesser effects is available. If activity takes place, impacts must be minimized to the maximum extent. Controls discharges of dredged or fill material to protect aquatic ecosystems. Filling or discharge of dredged material will only occur where there is no other practicable alternative and any adverse impacts to aquatic ecosystems will be mitigated. Under these standards the Navy must solicit public comment through the Proposed Plan on its finding that one of the alternatives is the Least Environmentally Damaging	Alternatives may involve discharge of dredged material and/or excavation. Installation or maintenance of monitoring wells that include dredging or filling in wetlands will be implemented to meet these requirements, including mitigation of altered wetland/aquatic resource as required.

TABLE 5-11

LOCATION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW4 - IN-SITU CHEMICAL OXIDATION, MNA, AND LUCS
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 2

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
			Practicable Alternative.	
State				
Fresh Water Wetlands Act	~~Rules and Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act~~ RIGL 2-1, Sections 2-1-18 through 2-1-20.2; Fresh Water Wetlands Act; DEM Rules And Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act (Dec 2010), Rules 4.00 and 5.00	Applicable	Rules and regulations governing the administration and enforcement of the Fresh Water Wetlands Act. Defines and establishes provisions for the protection of swamps, marshes and other fresh water wetlands in the state. Actions are required to prevent the undesirable drainage, excavation, filling, alteration, encroachment or any other form of disturbance or destruction of a wetland. Also establishes standards for land within 50 feet of the edge of a state-regulated wetlands.	Injection well installation, injection, and monitoring activities will be conducted to minimize the disturbance of ~~wetlands~~ state jurisdictional wetland and perimeter wetland.

TABLE 5-12

ACTION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW4 - IN-SITU CHEMICAL OXIDATION, MNA, AND LUCS
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 6

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Underground Injection Control (UIC)	40 CFR 144,146, and 147.2000	Applicable	These regulations address the discharge of wastes, chemicals or other substances into the subsurface. The federal UIC program designates injection wells incidental to aquifer remediation as Class V wells.	These regulations apply underground injection of oxidizing chemical.
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subparts B and G	Relevant and Appropriate	Establishes MCLs for common organic and inorganic contaminants applicable to public drinking water supplies. Used as relevant and appropriate standards for aquifers and surface water bodies that are potential drinking water sources.	~~Groundwater within the compliance boundary of the Paved Storage Area will be monitored using the standards to ensure contaminated groundwater does not migrate beyond the compliance boundary.~~The MCLs will be used to develop performance standards for monitoring the compliance boundary for the waste management area established where contamination is left in place under a cover. Exceedances of these standards within the compliance boundary will be addressed by LUCs.
Safe Drinking Water Act; National primary drinking water regulations	42 U.S.C. §300f *et seq.*; 40 C.F.R. 141, Subpart F	Relevant and Appropriate for non-zero MCLGs only	Establishes maximum contaminant level goals (MCLGs) for public water supplies. MCLGs are health goals for drinking water sources. These unenforceable health goals are available for a number of organic and inorganic compounds.	~~Groundwater within the compliance boundary of the Paved Storage Area will be monitored using the standards to ensure contaminated groundwater does not migrate beyond the compliance boundary.~~The non-zero MCLGs will be used to develop performance standards for monitoring the compliance boundary for the waste management area established where contamination is left in place under a cover. Exceedances of these standards within the compliance boundary will be addressed by LUCs.

TABLE 5-12

ACTION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW4 - IN-SITU CHEMICAL OXIDATION, MNA, AND LUCS
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 6

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Health Advisories (EPA Office of Drinking Water)		To Be Considered	Health Advisories are estimates of risk due to consumption of contaminated drinking water; they consider non-carcinogenic effects only. To be considered for contaminants in groundwater that may be used for drinking water. The risk-based standard for manganese is 0.3 mg/L.	~~Groundwater within the compliance boundary of the Paved Storage Area will be monitored using the standards~~ The Health Advisory for manganese will be used to develop performance standards for monitoring the compliance boundary for the waste management area established where contamination is left in place under a cover. Exceedances of these standards (particularly for manganese) within the compliance boundary will be addressed by LUCs.
Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites,	OSWER Directive 9200.4-17P (April 21, 1999)	To Be Considered	EPA guidance regarding the use of monitored natural attenuation for the cleanup of contaminated soil and groundwater. In particular, a reasonable time frame for achieving cleanup standard though monitored attenuation would be comparable to that which could be achieved through active restoration.	Chemical oxidation and MNA can attain federal drinking water and risk standards as defined by this guidance within a reasonable time frame outside of the compliance boundary for the waste management area.
EPA Groundwater Protection Strategy (August 1984); NCP Preamble; Guidelines for Ground-Water Classification (November 1986)	Federal Register Vol 55, No. 46, March 8, 1990, p. 8733 (NCP Preamble)	To Be Considered	The Groundwater Protection Strategy provides a common reference for preserving clean groundwater and protecting the public health against the effects of past contamination. Guidelines for consistency in groundwater protection programs focus on the highest beneficial use of a groundwater aquifer and define three classes of groundwater. These documents defined Class I, II and III groundwaters.	Under federal standards, groundwater within the Site is considered a potential drinking water source source except within the compliance boundary of any waste management area established under the soil or sediment alternatives; therefore, groundwater must achieve federal drinking water and risk-based standards or more stringent State groundwater standards outside of the compliance boundary. Groundwater use restrictions outside of the

TABLE 5-12

ACTION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW4 - IN-SITU CHEMICAL OXIDATION, MNA, AND LUCS
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 3 OF 6

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
				compliance boundary will be maintained until these standards are achieved. Inside of the compliance boundary groundwater use restrictions will be in effect for as long as the waste management area remains in place.~~; therefore, groundwater must achieve these standards. Groundwater use restrictions will be maintained until these standards are achieved. Groundwater outside of the compliance boundary for the Paved Storage Area established at the Site needs to attain federal drinking water and risk-based standards.~~ Groundwater monitoring using these standards will be used to make sure groundwater exceeding these standards does not migrate beyond the compliance boundary. Exceedances of these standards within the compliance boundary is a basis for establishing prohibitions on the use of groundwater within the compliance boundary. An additional buffer zone beyond the compliance boundary to prevent groundwater wells from being installed that would draw contaminated groundwater beyond the compliance boundary may also be established, if required.

TABLE 5-12

ACTION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW4 - IN-SITU CHEMICAL OXIDATION, MNA, AND LUCS
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 4 OF 6

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
Standards for Identification and Listing of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, Rhode Island General Laws (RIGL) 23-19 et seq,, Code of Rhode Island Rules (CRIR) 12-030-003 Rule 5.8	Applicable	Defines the listed and characteristic hazardous wastes.	These regulations would apply when determining whether or not a solid waste is hazardous, either by being listed or by exhibiting a hazardous characteristic.
Standards for Generators of Hazardous Waste	Rules and Regulations for Hazardous Waste Management, RIGL 23-19 et seq,, CRIR 12-030-003 Rule 5.0	Applicable	Establishes manifesting, pre-transport, and recordkeeping requirements for hazardous waste.	These regulations would apply to well installation and monitoring well sampling IDW, if hazardous.

TABLE 5-12

ACTION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW4 - IN-SITU CHEMICAL OXIDATION, MNA, AND LUCS
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 5 OF 6

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Injection Control Regulations	~~Underground Injection Control Program Rules and Regulations~~ Underground Injection Control Program Rules and Regulations; RIGL Ch. 46-12, 46-13.1; DEM Underground Injection Control Program Rules and Regulations (May 1984)	Applicable	Establishes a State Underground Injection Control Program consistent with federal requirements to preserve the quality of the groundwater of the state.	These regulations apply underground injection of oxidizing chemical.
Rhode Island Solid Waste Regulations - Monitoring Wells	DEM OWM-SW0401, 2.1.08 (a) (8)	Relevant and Appropriate	Contains requirements for construction of monitoring wells to monitor a solid waste landfill.	The substantive requirements of this section of the regulations will be met for construction of new monitoring wells and maintenance of all monitoring wells.
Rhode Island Solid Waste Regulations – Long-term Monitoring	DEM OWM-SW0401, 2.1.08 (c)	Relevant and Appropriate	Contains requirements for monitoring wells.	The substantive requirements of this section of the regulations will be met by maintaining monitoring wells for the purpose of monitoring groundwater conditions at the site, including monitoring for soil contamination left in place. Groundwater monitoring for alternatives for all media will be addressed through a monitoring program under the selected groundwater alternative.

TABLE 5-12

ACTION-SPECIFIC ARARs AND TBCs
GROUNDWATER ALTERNATIVE GW4 - IN-SITU CHEMICAL OXIDATION, MNA, AND LUCS
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 6 OF 6

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Rhode Island Solid Waste Regulations - Monitoring Wells	DEM OWM-SW0401, 2.3.11	Relevant and Appropriate	Contains requirements for monitoring wells.	The substantive requirements of this section of the regulations will be met by maintaining monitoring wells for the purpose of monitoring groundwater conditions at the site, including monitoring for soil contamination left in place. Groundwater monitoring for alternatives for all media will be addressed through a monitoring program under the selected groundwater alternative.
Rules and Regulations for Groundwater Quality~~— Appendix 1~~	RIGL Ch. 46-12, Section 46-12-2; Ch. 46-13.1, Ch. 23-18.9, Sec. 23-18-9.1; DEM Rules and Regulations for Groundwater Quality (Mar. 2005), Appendix 1	Applicable	Identifies the standards and specification that must be followed for the installation or abandonment of monitoring wells.	Wells installed for monitoring and in-situ treatment will be installed and abandoned according to these standards.

CHEMICAL-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD1 – NO ACTION
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
EPA Human Health Assessment Cancer Slope Factors (CSFs).	None	To Be Considered	These are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants.	There are no actions for this alternative. Therefore, this TBC is not met.
Reference Dose (RfD)	None	To Be Considered	Guidance used to compute human health hazard resulting from exposure to non-carcinogens in site media.	There are no actions for this alternative. Therefore, this TBC is not met.
Guidelines for Carcinogen Risk Assessment	EPA/630/P-03/001F (March 2005)	To Be Considered	Guidance for assessing cancer risk.	There are no actions for this alternative. Therefore, this TBC is not met.
Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens	EPA/630/R-03/003F (March 2005)	To Be Considered	Guidance of assessing cancer risks to children.	There are no actions for this alternative. Therefore, this TBC is not met.
Clean Water Act, National Recommended Water Quality Criteria (NRWQC)	33 United States Code (USC)1251 *et seq.*	Relevant and Appropriate	Guidelines establish NRWQC for the protection of human health and/or the aquatic organisms.	There are no actions for this alternative. Therefore, this ARAR is not met.
Probable Effects Concentration Quotients (PEC-Qs)	MacDonald, et al., 2000 and Ingersoll et al., 2000.	To Be Considered	Provide guidance values for identifying potential risk to ecological receptors exposed to contaminated sediments.	There are no actions for this alternative. Therefore, this ARAR is not met.
State				
There are no state chemical-specific ARARs				
~~Water Quality Regulations~~	~~Rhode Island General Laws (RIGL) 42-16 et seq.; CRIR 12-190-001, Rules 8 and 9~~	~~Applicable~~	~~Establishes water use classification and water quality criteria for waters of the state.~~	~~There are no actions for this alternative. Therefore, this ARAR is not met.~~

TABLE 6-5

LOCATION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD2 – SELECTIVE SEDIMENT REMOVAL, ENR, LUCS, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 4

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Clean Water Act, Section 404; Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material	33 U.S.C. § 1344; 40 C.F.R. Part 230, 231 and 33 C.F.R. Parts 320-323	Applicable	Under this requirement, no activity that adversely affects a wetland shall be permitted if a practicable alternative with lesser effects is available. If activity takes place, impacts must be minimized to the maximum extent. Controls discharges of dredged or fill material to protect aquatic ecosystems. Filling or discharge of dredged material will only occur where there is no other practicable alternative and any adverse impacts to aquatic ecosystems will be mitigated. Under these standards the Navy must solicit public comment through the Proposed Plan on its finding that one of the alternatives is the Least Environmentally Damaging Practicable Alternative.	Sediment remediation or other remedial actions that include dredging or filling in wetlands will be implemented to meet these requirements, including mitigation of altered wetland/aquatic resource as required. The Navy has determined that this alternative is not the Least Environmentally Damaging Practicable Alternative to protect wetland resources because it does not provide the best balance of addressing contaminated sediment within and adjacent to wetlands and waterways with minimizing both temporary and permanent alteration of wetlands and aquatic habitats on site. ~~The CERCLA criteria will be used to select the alternative.~~
Fish and Wildlife Coordination Act	16 U.S.C. §661 *et seq*.	Applicable	Requires Federal agencies involved in actions that will result in the control of structural modification of any stream or body of water for any purpose to take action to protect fish and wildlife resources that may be affected by the action. The Navy must coordinate with appropriate federal and state resource agencies to ascertain the means and	Measures to mitigate or compensate adverse project related impacts to fish and wildlife resources will be taken, if determined necessary. The appropriate federal and state resource agencies will be consulted, in particular regarding remedial measures for

TABLE 6-5

LOCATION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD2 – SELECTIVE SEDIMENT REMOVAL, ENR, LUCS, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
			measures necessary to mitigate, prevent, and compensate for project related losses of fish and wildlife resources and to enhance the resources.	contaminated sediment that will impact streams, wetlands, and downstream water bodies.
Floodplain Management and Protection of Wetlands	44 C.F.R. 9	Relevant and Appropriate	Implements Executive Order 11990 (Protection of Wetlands)). Prohibits activities that adversely affect a federally-regulated wetland unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.	During the ~~r~~Remedial ~~d~~Design stage, the effects of sediment remedial actions on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by sediment remediation will be mitigated in accordance with requirements. The flood storage capacity of the pond will be maintained by combining sediment cap construction with some sediment dredging. The overall remedy will not adversely impact the downstream floodplain area as contaminated sediment would be contained behind the dam. Public comment will be solicited in the Proposed Plan.
Endangered Species Act	16 U.S.C. 1531 *et seq.*; 50 C.F.R. parts 200 and 402	~~Applicable~~ Relevant and Appropriate	Regulates activities affecting federally listed endangered or threatened species or their habitat. The federally-listed loggerhead turtle and Kemps-Ridley turtle occur in the water of Narragansett Bay.	Appropriate federal agencies will be consulted to ensure that remedial measure taken under this alternative will prevent site contamination from migrating downstream to the Bay.

TABLE 6-5

LOCATION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD2 – SELECTIVE SEDIMENT REMOVAL, ENR, LUCS, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 3 OF 4

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
Rhode Island Endangered Species Act	RIGL 20-37-1 *et seq.*	Relevant and Appropriate	Regulates activities affecting State-listed endangered or threatened species or their habitat. The State-listed loggerhead turtle and Kemps-Ridley turtle occur in the water of Narragansett Bay.	Appropriate State agencies will be consulted to ensure that remedial measure taken under this alternative will prevent site contamination from migrating downstream to the Bay.
Inspection of Dams and Reservoirs; Rules and Regulations for Dam Safety	RIGL 46-19	Applicable	Sets standards for inspecting and maintaining dams in the State.	LUCs and O&M of the NUSC Pond dam is required as part of the remedial action to prevent contaminated sediment that is being managed in place under this alternative from migrating downstream of the dam.
Fresh Water Wetlands Act	~~Rules and Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act~~ RIGL 2-1, Sections 2-1-18 through 2-1-20.2; Fresh Water Wetlands Act; DEM Rules And Regulations Governing the Administration	Applicable	Rules and regulations governing the administration and enforcement of the Fresh Water Wetlands Act. Defines and establishes provisions for the protection of swamps, marshes and other fresh water wetlands in the state. Actions are required to prevent the undesirable drainage, excavation, filling, alteration, encroachment or any other form of disturbance or destruction of a wetland. Also establishes standards for land within 50 feet of the edge of a state-regulated wetlands.	Sediment removal and ENR cover installation activities will be conducted to minimize the disturbance of ~~wetlands~~ state jurisdictional wetland and perimeter wetland.

TABLE 6-5

LOCATION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD2 – SELECTIVE SEDIMENT REMOVAL, ENR, LUCS, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 4 OF 4

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
	and Enforcement of the Fresh Water Wetlands Act (Dec 2010), Rules 4.00 and 5.00			

TABLE 6-6

ACTION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD2 – SELECTIVE SEDIMENT REMOVAL, ENR, LUCS, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 4

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Contaminated Sediment Remediation Guidance for Hazardous Waste Sites	EPA-540-R-05-012 OSWER 9355.0-85 (December 2005)	To Be Considered	Guidance for making remedy decisions for contaminated sediment sites. Some of the relevant sections of the guidance address Remedial Investigations (Ch. 2), FS Considerations (including LUCs) (Ch. 3), MNR (Ch. 4), Capping (Ch. 5), Dredging and Excavation (Ch. 6), and Long-Term Monitoring (Ch. 8).	ENR and selective sediment removal, along with dewatering and off-site disposal under this alternative meets guidance standards for addressing contaminated sediments in the wetlands/waterway (as long as habitat restoration requirements can be met).
Toxic Substances Control Act (TSCA); PCB Remediation Waste,	40 C.F.R. 761.61(c)	Applicable	This section of the TSCA regulations provides risk-based cleanup and disposal options for PCB remediation waste based on the risks posed by the *in-situ* concentrations at which the PCBs are found. Written approval for the proposed risk-based cleanup must be obtained from the Director, Office of Site Remediation and Restoration, U.S. Environmental Protection Agency (USEPA) Region 1.	All sediment exceeding identified PCB cleanup levels will either be removed, dewatered (if required) and disposed of off-site or will be ~~placed under a cover system~~ subject to enhanced natural recovery that meets TSCA protectiveness standards. The excavation, transportation, dewatering, and management of PCB contaminated media will be performed in a manner to comply with TSCA, including air and surface water monitoring during remedial activities. If this alternative is chosen by the Navy, the~~The~~ ROD will contain a finding by the Director, Office of Site Remediation and Restoration, USEPA Region 1, that the remedy's sediment PCB cleanup levels, along with the excavation, dewatering, and management of the contaminated media will not pose an unreasonable risk to human health or the environment.

TABLE 6-6

ACTION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD2 – SELECTIVE SEDIMENT REMOVAL, ENR, LUCS, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 4

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
CWA National Recommended Water Quality Criteria (NRWQC)	40 CFR 122.44)	Relevant and Appropriate	Federal NRWQC are health-based and ecologically based criteria developed for carcinogenic and non-carcinogenic compounds. These standards may be used to develop cleanup standards for sediments.	Water quality standards will be used to develop monitoring standards both during the active dredging/excavation and cover placement and for long-term monitoring.
Clean Water Act - National Pollutant Discharge Elimination System (NPDES)	40 CFR Parts 122 and 125	Applicable	Establishes the specifications for discharging pollutants from any point source into the waters of the U.S. Includes stormwater standards for activities disturbing more than one acre.	Any water discharged to surface water bodies during remedial activities, such as sediment dewatering will comply with this regulation. Best management practices will be used to meet stormwater standards during the remedial action.
Clean Water Act; General Pretreatment Regulations for Existing and New Sources of Pollution	33 U.S.C. § 1251 et seq. 40 CFR. Part 403	Applicable	Standards for direct discharge of waste water into a Publicly Owned Treatment Works (POTW).	These standards will apply if water from the remedial action such as from dewatering is discharged to a POTW.
Management of Undesirable Plants on Federal Lands	7 U.S.C. 2814	Relevant and Appropriate	Requires federal agencies to establish integrated management systems to control or contain undesirable plant species on federal lands under the agency's jurisdiction.	Measures will be taken to control the establishment of *Phragmites*, purple loosestrife or other invasive plants within all remediated areas. An invasive species control plan will be developed as part of the long-term O&M for this site. The responsibility of control will be transitioned to NAVSTA after (1) the remedy is in place, and (2) NAVSTA develops a base-wide program for controlling undesirable plants.

TABLE 6-6

ACTION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD2 – SELECTIVE SEDIMENT REMOVAL, ENR, LUCS, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 3 OF 4

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
Clean Air Act -Emissions Detrimental to Persons or Property	RIGL 23-23 *et seq.*; CRIR 12-31-07	Applicable	Prohibits emissions of contaminants which may be injurious to humans, plant or animal life, or cause damage to property, or which reasonably interferes with the enjoyment of life and property.	Monitoring of air emissions during excavation/dredging and cover installation will be used to assess compliance with these standards if threshold levels are reached.
Clean Air Act –Air Toxics	RIGL 23-23 *et seq*.; CRIR 12-31-22	Applicable	Prohibits the emission of specified contaminants at rates which would result in ground level concentrations greater than acceptable ambient levels or acceptable ambient levels as set in the regulations.	Monitoring of air emissions during excavation/dredging and cover installation will be used to assess compliance with these standards if threshold levels are reached.
Water Pollution Control - Pollution Discharge Elimination Systems	RIGL 42-16 *et seq.*; CRIR 12-190-003	Applicable	Contains discharge limitations, monitoring requirements and best management practices. Substantive requirements under NPDES are written such that state and federal national recommended water quality criteria (NRWQC) are met. Permits are required for off-site discharges, RI Standards apply to POTWs. Includes storm water requirements for construction projects that disturb over one acre.	Discharge of any water from remedial activities during sediment excavation/dredging into surface waters or POTW will meet applicable standards. Stormwater standards for construction projects over one acre will also be met.
Water Pollution Control - Water Quality	RIGL 42-16 *et seq.*; CRIR 12-190-001	Applicable	Establishes water use classification and water quality criteria for waters of the state.	Water quality standards will be used to develop monitoring standards during the active remedial activities, such as dredging or cover placement.
Pretreatment Regulations	RIGL 46-12, 4217.1, 42-45	Applicable	Rhode Island standards for discharge to POTWs.	These standards will apply if water from the remedial action such as from dewatering is discharged to a POTW.

TABLE 6-6

ACTION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD2 – SELECTIVE SEDIMENT REMOVAL, ENR, LUCS, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 4 OF 4

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Hazardous Waste Determination	RIGL 23-19.1 et seq.; CRIR 12-030-003, Rule 5.8	Applicable	Defines the listed and characteristic hazardous wastes.	These regulations would apply when determining whether or not a solid waste is hazardous, either by being listed or by exhibiting a hazardous characteristic.
Hazardous Waste Management Standards for Generators	RIGL 23-19.1 et seq.; CRIR 12-030-003, Rule 5.0	Applicable	Sets standards for handling, design, operation, and monitoring of hazardous waste. The standards of 40 CFR Part 264 are incorporated by reference.	Wastes generated would be tested to determine if they constitute hazardous waste. Any hazardous waste identified will be handled and disposed according to these standards.
Rules and Regulations for Dredging and Management of Dredge Materials	DEM-OWR-DR-0203	Applicable	Addresses dredging activities and disposal of dredge spoils.	Any dredging/excavation of sediment and backfilling with cover material that is required implementing the alternative must comply with the requirements of the regulations.

TABLE 6-8

LOCATION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD3 – SELECTIVE SEDIMENT REMOVAL, POND SEDIMENT COVER, LUCS, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 4

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Clean Water Act, Section 404; Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material	33 U.S.C. § 1344; 40 C.F.R. Part 230, 231 and 33 C.F.R. Parts 320-323	Applicable	Under this requirement, no activity that adversely affects a wetland shall be permitted if a practicable alternative with lesser effects is available. If activity takes place, impacts must be minimized to the maximum extent. Controls discharges of dredged or fill material to protect aquatic ecosystems. Filling or discharge of dredged material will only occur where there is no other practicable alternative and any adverse impacts to aquatic ecosystems will be mitigated. Under these standards the Navy must solicit public comment through the Proposed Plan on its finding that one of the alternatives is the Least Environmentally Damaging Practicable Alternative.	Sediment remediation or other remedial actions that include dredging or filling in wetlands will be implemented to meet these requirements, including mitigation of altered wetland/aquatic resource as required. Raising the Pond bottom with the cap may have significant impacts by converting aquatic habitats to upland/wetland and altering in-water aquatic habitats requiring replacement wetlands/aquatic habitats to be created elsewhere. The Navy has determined that this alternative is not the Least Environmentally Damaging Practicable Alternative to protect wetland resources because it does not provide the best balance of addressing contaminated sediment within and adjacent to wetlands and waterways with minimizing both temporary and permanent alteration of wetlands and aquatic habitats on site. ~~The CERCLA criteria will be used to select the alternative.~~
Fish and Wildlife Coordination Act	16 U.S.C. §661 *et seq*.	Applicable	Requires Federal agencies involved in actions that will result in the control of structural modification of any stream or body of water for any purpose to take action to protect fish and wildlife resources that may be affected by the action. The Navy must coordinate with	Measures to mitigate or compensate adverse project related impacts to fish and wildlife resources will be taken, if determined necessary. The appropriate federal and state resource agencies will be consulted, in particular regarding remedial measures for

TABLE 6-8

LOCATION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD3 – SELECTIVE SEDIMENT REMOVAL, POND SEDIMENT COVER, LUCS, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
			appropriate federal and state resource agencies to ascertain the means and measures necessary to mitigate, prevent, and compensate for project related losses of fish and wildlife resources and to enhance the resources.	contaminated sediment that will impact streams, wetlands, and downstream water bodies.
Floodplain Management and Protection of Wetlands	44 C.F.R. 9	Relevant and Appropriate	Implements Executive Order 11990 (Protection of Wetlands)). Prohibits activities that adversely affect a federally-regulated wetland unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.	During the remedial design stage the effects of sediment remedial actions on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by sediment remediation will be mitigated in accordance with requirements. The flood storage capacity of the pond would be maintained by combining sediment cap construction with some sediment dredging. The overall remedy will not adversely impact the downstream floodplain area as contaminated sediment would be contained behind the dam. Public comment will be solicited in the Proposed Plan.

TABLE 6-8

LOCATION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD3 – SELECTIVE SEDIMENT REMOVAL, POND SEDIMENT COVER, LUCS, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 3 OF 4

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal (Continued)				
Endangered Species Act	16 U.S.C. 1531 *et seq.*; 50 C.F.R. parts 200 and 402	~~Applicable~~ Relevant and Appropriate	Regulates activities affecting federally listed endangered or threatened species or their habitat. The federally-listed loggerhead turtle and Kemps-Ridley turtle occur in the water of Narragansett Bay.	Appropriate federal agencies will be consulted to ensure that remedial measure taken under this alternative will prevent site contamination from migrating downstream to the Bay.
State				
Inspection of Dams and Reservoirs; Rules and Regulations for Dam Safety	RIGL 46-19	Applicable	Sets standards for inspecting and maintaining dams in the State.	O&M of the NUSC Pond dam, along with LUCs, is required as part of the remedial action to prevent contaminated sediment that is being managed in place under this alternative from migrating downstream of the dam.
Rhode Island Endangered Species Act	RIGL 20-37-1 *et seq.*	Relevant and Appropriate	Regulates activities affecting State-listed endangered or threatened species or their habitat. The State-listed loggerhead turtle and Kemps-Ridley turtle occur in the water of Narragansett Bay.	Appropriate State agencies will be consulted to ensure that remedial measure taken under this alternative will prevent site contamination from migrating downstream to the Bay.
Fresh Water Wetlands Act	~~Rules and Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act~~ RIGL 2-1, Sections 2-1-18 through 2-1-	Applicable	Rules and regulations governing the administration and enforcement of the Fresh Water Wetlands Act. Defines and establishes provisions for the protection of swamps, marshes and other fresh water wetlands in the state. Actions are required to prevent the undesirable drainage, excavation, filling, alteration, encroachment or any other form of disturbance or destruction of a wetland. Also	Sediment removal and cover placement activities will be conducted to minimize the disturbance of ~~wetlands~~ state jurisdictional wetland and perimeter wetland.

TABLE 6-8

LOCATION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD3 – SELECTIVE SEDIMENT REMOVAL, POND SEDIMENT COVER, LUCS, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
	20.2; Fresh Water Wetlands Act; DEM Rules And Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act (Dec 2010), Rules 4.00 and 5.00		establishes standards for land within 50 feet of the edge of a state-regulated wetlands.	

TABLE 6-9

ACTION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD3 – SELECTIVE SEDIMENT REMOVAL, POND SEDIMENT COVER, LUCS, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 4

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Contaminated Sediment Remediation Guidance for Hazardous Waste Sites	EPA-540-R-05-012 OSWER 9355.0-85 (December 2005)	To Be Considered	Guidance for making remedy decisions for contaminated sediment sites. Some of the relevant sections of the guidance address Remedial Investigations (Ch. 2), FS Considerations (including LUCs) (Ch. 3), Capping (Ch. 5), Dredging and Excavation (Ch. 6), and Long-Term Monitoring (Ch. 8).	Limited removal and capping under this alternative meets guidance standards for addressing contaminated sediments in the wetlands/waterway (as long as habitat restoration requirements can be met).
Toxic Substances Control Act (TSCA); PCB Remediation Waste,	40 C.F.R. 761.61(c)	Applicable	This section of the TSCA regulations provides risk-based cleanup and disposal options for PCB remediation waste based on the risks posed by the *in-situ* concentrations at which the PCBs are found. Written approval for the proposed risk-based cleanup must be obtained from the Director, Office of Site Remediation and Restoration, U.S. Environmental Protection Agency (USEPA) Region 1.	All sediment exceeding identified PCB cleanup levels will either be removed, dewatered (if required) and disposed of off-site or will be placed under a cover system that meets TSCA protectiveness standards. The excavation, transportation, dewatering, and management of PCB contaminated media will be performed in a manner to comply with TSCA, including air and surface water monitoring during remedial activities. If this alternative is chosen by the Navy, the~~The~~ ROD will contain a finding by the Director, Office of Site Remediation and Restoration, USEPA Region 1, that the remedy's sediment PCB cleanup levels, along with the excavation, dewatering, and management of the contaminated media will not pose an unreasonable risk to human health or the environment.

TABLE 6-9

ACTION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD3 – SELECTIVE SEDIMENT REMOVAL, POND SEDIMENT COVER, LUCS, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
CWA National Recommended Water Quality Criteria (NRWQC)	40 CFR 122.44)	Relevant and Appropriate	Federal NRWQC are health-based and ecologically based criteria developed for carcinogenic and non-carcinogenic compounds. These standard may be used to develop cleanup standards for sediments	Water quality standards will be used to develop monitoring standards both during the active dredging/excavation and cover placement and for long-term monitoring.
Clean Water Act - National Pollutant Discharge Elimination System (NPDES)	40 CFR Parts 122 and 125	Applicable	Establishes the specifications for discharging pollutants from any point source into the waters of the U.S. Includes stormwater standards for activities disturbing more than one acre.	Any water discharged to surface water bodies during remedial activities such as sediment dewatering will comply with this regulation. Best management practices will be used to meet stormwater standards during the remedial action.
Clean Water Act; General Pretreatment Regulations for Existing and New Sources of Pollution	33 U.S.C. § 1251 et seq. 40 CFR. Part 403	Applicable	Standards for direct discharge of waste water into a Publicly Owned Treatment Works (POTW).	These standards will apply if water from the remedial action such as from dewatering is discharged to a POTW.
Management of Undesirable Plants on Federal Lands	7 U.S.C. 2814	Relevant and Appropriate	Requires federal agencies to establish integrated management systems to control or contain undesirable plant species on federal lands under the agency's jurisdiction.	Measures will be taken to control the establishment of *Phragmites*, purple loosestrife or other invasive plants within all remediated areas. An invasive species control plan will be developed as part of the long-term O&M for this site. The responsibility of control will be transitioned to NAVSTA after (1) the remedy is in place, and (2) NAVSTA develops a base-wide program for controlling undesirable plants.

TABLE 6-9

ACTION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD3 – SELECTIVE SEDIMENT REMOVAL, POND SEDIMENT COVER, LUCS, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
State				
Clean Air Act -Emissions Detrimental to Persons or Property	RIGL 23-23 *et seq.*; CRIR 12-31-07	Applicable	Prohibits emissions of contaminants which may be injurious to humans, plant or animal life or cause damage to property or which reasonably interferes with the enjoyment of life and property.	Monitoring of air emissions during excavation/dredging and cap installation will be used to assess compliance with these standards if threshold levels are reached.
Clean Air Act – Air Toxics	RIGL 23-23 *et seq.*; CRIR 12-31-22	Applicable	Prohibits the emission of specified contaminants at rates which would result in ground level concentrations greater than acceptable ambient levels or acceptable ambient levels as set in the regulations.	Monitoring of air emissions during excavation/dredging and cap installation will be used to assess compliance with these standards if threshold levels are reached.
Water Pollution Control - Pollution Discharge Elimination Systems	RIGL 42-16 *et seq.*; CRIR 12-190-003	Applicable	Contains discharge limitations, monitoring requirements and best management practices. Substantive requirements under NPDES are written such that state and federal national recommended water quality criteria (NRWQC) are met. Permits are required for off-site discharges, RI Standards apply to POTWs. Includes storm water requirements for construction projects that disturb over one acre.	Discharge of any water from remedial activities during sediment excavation/dredging into surface waters or POTW will meet applicable standards. Stormwater standards for construction projects over one acre will also be met.
State (Continued)				
Water Pollution Control - Water Quality	RIGL 42-16 *et seq.*; CRIR 12-190-001	Applicable	Establishes water use classification and water quality criteria for waters of the state.	Water quality standards will be used to develop monitoring standards during the active remedial activities, such as dredging or cap placement.

TABLE 6-9

ACTION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD3 – SELECTIVE SEDIMENT REMOVAL, POND SEDIMENT COVER, LUCS, AND MONITORING
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 4 OF 4

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Pretreatment Regulations	RIGL 46-12, 4217.1, 42-45	Applicable	Rhode Island standards for discharge to POTWs.	These standards will apply if water from the remedial action such as from dewatering is discharged to a POTW.
Hazardous Waste Determination	RIGL 23-19.1 et seq.; CRIR 12-030-003, Rule 5.8	Applicable	Defines the listed and characteristic hazardous wastes.	These regulations would apply when determining whether or not a solid waste is hazardous, either by being listed or by exhibiting a hazardous characteristic.
Hazardous Waste Management Standards for Generators	RIGL 23-19.1 et seq.; CRIR 12-030-003, Rule 5.0	Applicable	Sets standards for handling, design, operation, and monitoring of hazardous waste. The standards of 40 CFR Part 264 are incorporated by reference.	Wastes generated would be tested to determine if they constitute hazardous waste. Any hazardous waste identified will be handled and disposed according to these standards.
State of Rhode Island Rules and Regulations for Dredging and Management of Dredge Materials	Rules and regulations for Dredging and Management of Dredge Materials DEM-OWR-DR-02-03	Applicable	Addresses dredging activities and disposal of dredge spoils.	Any dredging that is required for the remedy must comply with the requirements of the regulations.

TABLE 6-11

LOCATION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD4 – SEDIMENT REMOVAL AND OFF-SITE DISPOSAL
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 3

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Clean Water Act, Section 404; Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material	33 U.S.C. § 1344; 40 C.F.R. Part 230, 231 and 33 C.F.R. Parts 320-323	Applicable	Under this requirement, no activity that adversely affects a wetland shall be permitted if a practicable alternative with lesser effects is available. If activity takes place, impacts must be minimized to the maximum extent. Controls discharges of dredged or fill material to protect aquatic ecosystems. Filling or discharge of dredged material will only occur where there is no other practicable alternative and any adverse impacts to aquatic ecosystems will be mitigated. Under these standards the Navy must solicit public comment through the Proposed Plan on its finding that one of the alternatives is the Least Environmentally Damaging Practicable Alternative.	Sediment remediation or other remedial actions that include dredging in wetlands/waterways will be implemented to meet these requirements, including mitigation of altered wetland/aquatic resource as required. The Navy has determined that this alternative is the Least Environmentally Damaging Practicable Alternative to protect wetland resources because it provides the best balance of addressing contaminated sediment within and adjacent to wetlands and waterways with minimizing both temporary and permanent alteration of wetlands and aquatic habitats on site. ~~The CERCLA criteria will be used to select the alternative.~~
Fish and Wildlife Coordination Act	16 U.S.C. §661 *et seq*.	Applicable	Requires Federal agencies involved in actions that will result in the control of structural modification of any stream or body of water for any purpose to take action to protect fish and wildlife resources that may be affected by the action. The Navy must coordinate with appropriate federal and state resource agencies to ascertain the means and measures necessary to mitigate,	Measures to mitigate or compensate adverse project related impacts to fish and wildlife resources will be taken, if determined necessary. The appropriate federal and state resource agencies will be consulted, in particular regarding remedial measures for contaminated sediment that will impact streams, wetlands, and downstream water

TABLE 6-11

LOCATION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD4 – SEDIMENT REMOVAL AND OFF-SITE DISPOSAL
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 3

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
			prevent, and compensate for project related losses of fish and wildlife resources and to enhance the resources.	bodies.
Floodplain Management and Protection of Wetlands	44 C.F.R. 9	Relevant and Appropriate	Implements Executive Order 11990 (Protection of Wetlands)). Prohibits activities that adversely affect a federally-regulated wetland unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.	During the remedial design stage the effects of sediment remedial actions on federal jurisdictional wetlands will be evaluated. All practicable means will be used to minimize harm to the wetlands. Wetlands disturbed by sediment remediation, will be mitigated in accordance with requirements. The remedy will not adversely impact the downstream floodplain area as contaminated sediment would be removed from the site. Public comment will be solicited in the Proposed Plan.
Endangered Species Act	16 U.S.C. 1531 *et seq.*; 50 C.F.R. parts 200 and 402	~~Applicable~~ Relevant and Appropriate	Regulates activities affecting federally listed endangered or threatened species or their habitat. The federally-listed loggerhead turtle and Kemps-Ridley turtle occur in the water of Narragansett Bay.	Appropriate federal agencies will be consulted to ensure that remedial measure taken under this alternative will prevent site contamination from migrating downstream to the Bay.
State				
Rhode Island Endangered Species Act	RIGL 20-37-1 *et seq.*	Relevant and Appropriate	Regulates activities affecting State-listed endangered or threatened species or their habitat. The State-listed loggerhead turtle and Kemps-	Appropriate State agencies will be consulted to ensure that remedial measure taken under this alternative will prevent site contamination from

TABLE 6-11

LOCATION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD4 – SEDIMENT REMOVAL AND OFF-SITE DISPOSAL
SITE 8 – NUSC DISPOSAL AREA FEASIBILITY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 3 OF 3

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
			Ridley turtle occur in the water of Narragansett Bay.	migrating downstream to the Bay.
Fresh Water Wetlands Act	~~Rules and Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act~~ RIGL 2-1, Sections 2-1-18 through 2-1-20.2; Fresh Water Wetlands Act; DEM Rules And Regulations Governing the Administration and Enforcement of the Fresh Water Wetlands Act (Dec 2010), Rules 4.00 and 5.00	Applicable	Rules and regulations governing the administration and enforcement of the Fresh Water Wetlands Act. Defines and establishes provisions for the protection of swamps, marshes and other fresh water wetlands in the state. Actions are required to prevent the undesirable drainage, excavation, filling, alteration, encroachment or any other form of disturbance or destruction of a wetland. Also establishes standards for land within 50 feet of the edge of a state-regulated wetlands.	Sediment removal activities will be conducted to minimize the disturbance of ~~wetlands~~ state jurisdictional wetland and perimeter wetland.

TABLE 6-12

ACTION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD4 – SEDIMENT REMOVAL AND OFF-SITE DISPOSAL
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 1 OF 4

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Federal				
Contaminated Sediment Remediation Guidance for Hazardous Waste Sites	EPA-540-R-05-012 OSWER 9355.0-85 (December 2005)	To Be Considered	Guidance for making remedy decisions for contaminated sediment sites. Some of the relevant sections of the guidance address Remedial Investigations (Ch. 2), FS Considerations (Ch. 3), and Dredging and Excavation (Ch. 6).	Removal of all contaminated sediment, along with dewatering and off-site disposal under this alternative meets guidance standards for addressing contaminated sediments in the wetlands/waterway (as long as habitat restoration requirements can be met).
Toxic Substances Control Act (TSCA); PCB Remediation Waste,	40 C.F.R. 761.61(c)	Applicable	This section of the TSCA regulations provides risk-based cleanup and disposal options for PCB remediation waste based on the risks posed by the *in-situ* concentrations at which the PCBs are found. Written approval for the proposed risk-based cleanup must be obtained from the Director, Office of Site Remediation and Restoration, U.S. Environmental Protection Agency (USEPA) Region 1.	All sediment exceeding identified PCB cleanup levels will be removed, dewatered (if required) and disposed of off-site. The excavation, transportation, dewatering, and management of PCB contaminated media will be performed in a manner to comply with TSCA, including air and surface water monitoring during remedial activities. If this alternative is chosen by the Navy, the~~The~~ ROD will contain a finding by the Director, Office of Site Remediation and Restoration, USEPA Region 1, that the remedy's sediment PCB cleanup levels, along with the excavation, dewatering, and management of the contaminated media will not pose an unreasonable risk to human health or the environment.
CWA National Recommended Water Quality Criteria (NRWQC)	40 CFR 122.44)	Relevant and Appropriate	Federal NRWQC are health-based and ecologically based criteria developed for carcinogenic and non-carcinogenic compounds. These standard may be used to develop cleanup standards for sediments	Water quality standards used to develop monitoring standards both during the active dredging.

TABLE 6-12

ACTION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD4 – SEDIMENT REMOVAL AND OFF-SITE DISPOSAL
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 2 OF 4

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Clean Water Act - National Pollutant Discharge Elimination System (NPDES)	40 CFR Parts 122 and 125	Applicable	Establishes the specifications for discharging pollutants from any point source into the waters of the U.S. Includes stormwater standards for activities disturbing more than one acre.	Any water discharged to surface water bodies during remedial activities such as sediment dewatering will comply with this regulation. Best management practices will be used to meet stormwater standards during the remedial action.
Clean Water Act; General Pretreatment Regulations for Existing and New Sources of Pollution	33 U.S.C. § 1251 et seq. 40 CFR. Part 403	Applicable	Standards for direct discharge of waste water into a Publicly Owned Treatment Works (POTW).	These standards will apply if water from the remedial action such as from dewatering is discharged to a POTW.
Management of Undesirable Plants on Federal Lands	7 U.S.C. 2814	Relevant and Appropriate	Requires federal agencies to establish integrated management systems to control or contain undesirable plant species on federal lands under the agency's jurisdiction.	Measures will be taken to control the establishment of *Phragmites*, purple loosestrife or other invasive plants within all remediated areas. An invasive species control plan will be developed as part of the long-term O&M for this site. The responsibility of control will be transitioned to NAVSTA after (1) the remedy is in place, and (2) NAVSTA develops a base-wide program for controlling undesirable plants.
State				
Clean Air Act -Emissions Detrimental to Persons or Property	RIGL 23-23 *et seq.*; CRIR 12-31-07	Applicable	Prohibits emissions of contaminants which may be injurious to humans, plant or animal life or cause damage to property or which reasonably interferes with the enjoyment of life and property.	Monitoring of air emissions during excavation/dredging and dewatering will be used to assess compliance with these standards if threshold levels are reached.

TABLE 6-12

ACTION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD4 – SEDIMENT REMOVAL AND OFF-SITE DISPOSAL
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 3 OF 4

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Clean Air Act –Air Toxics	RIGL 23-23 *et seq.*; CRIR 12-31-22	Applicable	Prohibits the emission of specified contaminants at rates which would result in ground level concentrations greater than acceptable ambient levels or acceptable ambient levels as set in the regulations.	Monitoring of air emissions during excavation/dredging and dewatering will be used to assess compliance with these standards if threshold levels are reached.
Water Pollution Control - Pollution Discharge Elimination Systems	RIGL 42-16 *et seq.*; CRIR 12-190-003	Applicable	Contains discharge limitations, monitoring requirements and best management practices. Substantive requirements under NPDES are written such that state and federal national recommended water quality criteria (NRWQC) are met. Permits are required for off-site discharges, RI Standards apply to POTWs. Includes storm water requirements for construction projects that disturb over one acre.	Discharge of any water from remedial activities during sediment excavation/dredging into surface waters or POTW will meet applicable standards. Stormwater standards for construction projects over one acre will also be met.
Water Pollution Control - Water Quality	RIGL 42-16 *et seq.*; CRIR 12-190-001	Applicable	Establishes water use classification and water quality criteria for waters of the state.	Water quality standards will be used to develop monitoring standards during the sediment excavation/dredging and dewatering.
State (Continued)				
Pretreatment Regulations	RIGL 46-12, 4217.1, 42-45	Applicable	Rhode Island standards for discharge to POTWs.	These standards will apply if water from the remedial action such as from dewatering is discharged to a POTW.
Hazardous Waste Determination	RIGL 23-19.1 et seq.; CRIR 12-030-003, Rule 5.8	Applicable	Defines the listed and characteristic hazardous wastes.	These regulations would apply when determining whether or not a solid waste is hazardous, either by being listed or by exhibiting a hazardous characteristic.

TABLE 6-12

ACTION-SPECIFIC ARARs AND TBCs
SEDIMENT ALTERNATIVE SD4 – SEDIMENT REMOVAL AND OFF-SITE DISPOSAL
SITE 8 – NUSC DISPOSAL AREA FEASIBILTY STUDY
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND
PAGE 4 OF 4

Requirement	Citation	Status	Synopsis of Requirement	Action to Be Taken to Attain ARAR
Hazardous Waste Management Standards for Generators	RIGL 23-19.1 et seq.; CRIR 12-030-003, Rule 5.0	Applicable	Sets standards for handling, design, operation, and monitoring of hazardous waste. The standards of 40 CFR Part 264 are incorporated by reference.	Wastes generated would be tested to determine if they constitute hazardous waste. Any hazardous waste identified will be handled and disposed according to these standards.
Rules and Regulations for Dredging and Management of Dredge Materials	DEM-OWR-DR-0203	Applicable	Addresses dredging activities and disposal of dredge spoils.	Any dredging/excavation of sediment and dewatering will comply with the requirements of the regulations.