

IR Site Inspections – 3rd Quarter 2006

St. Juliens Creek Annex, Chesapeake, Virginia

PREPARED FOR: Agnes Sullivan/NAVFAC Mid-Atlantic

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DATE: September 29, 2006

Introduction

This technical memorandum summarizes the results of the inspections conducted at the active Installation Restoration (IR) sites at St. Juliens Creek Annex (SJCA) on September 20, 2006. The active sites include:

Site 2 – Waste Disposal Area B

Site 4 – Landfill D

Site 5 – Burning Grounds

Site 19 – Building 190

Site 21 – Industrial Area

The following sections summarize the results of the inspections, identify the potential concerns observed, and provide recommendations for resolution by site. The site-specific inspection checklists are included as an attachment.

Site 2 – Waste Disposal Area B

At the time of the inspection, there were no signs of intrusive activities within the site or in the immediate vicinity. The soil disturbances caused by tire ruts in the field adjacent to monitoring wells SJS02-MW05S and SJS02-MW05D, noted during previous inspections, were no longer noticeable. Vegetative re-growth in the area has been successful.

The site was free of Investigation Derived Waste (IDW) and signs of dumping of chemicals. However, two wooden beams, also observed during previous inspections, remain on site near monitoring well SJS02-MW11S. Four wood pallets utilized during previous field investigation activities were observed adjacent to the site, near the southeastern corner of previously demolished Building 130. They will be utilized during upcoming activities at Site 21 and taken off-site at the demobilization of the project.

All of the Site 2 monitoring wells, including casings and bollards, were in good condition. Furthermore, the signs indicating the site boundary were in good condition. Decals updating the contact phone number were applied to the site signs on July 10, 2006.

Site 4 – Landfill D

At the time of the inspection, there were no signs of intrusive activities, IDW storage, or dumping within the site or in the vicinity. The eastern and western drainage ditches were in good condition, free of sediment buildup and blockage. The signs depicting the site boundaries were in good condition, although the sign south of the site within the wetland was hidden by the vegetation. The monitoring wells, including casings and bollards, were in good condition and locked.

The soil cover was free of notable defects that would require corrective action to ensure the effectiveness of the remedy. Vegetation on the soil cover is sufficient; any visible bare spots are minimal and will not affect the integrity of the cover. Therefore, reseeded is not required. The fence was in good condition and the gate functioning properly.

Site 5 – Burning Grounds

At the time of the inspection, there were no signs of intrusive activities and no IDW storage was observed within the site or in the vicinity. The area was free of identifiable concerns. All of the Site 5 monitoring wells, including casings and bollards, were in good condition. Furthermore, the signs indicating the site boundary were in good condition. Decals updating the contact phone number were applied to the site signs on July 10, 2006.

Site 19 – Building 190

At the time of the inspection, there were no signs of intrusive activities and no IDW storage was observed within the site or in the vicinity. Vegetation has been fully established in the removal action areas; therefore, the safety fencing present during the previous inspection has been removed. No identifiable concerns were observed during the inspection.

Site 21 – Industrial Area

At the time of the inspection, evidence of intrusive activities was observed within the site boundary. Two open excavations, also noted during previous site inspections, were present in the vicinity of former Building 201. The northern excavation (approximately 12' x 8' x 5') and southern excavation (approximately 4' x 4' x 8') appeared to be in similar condition as during the previous inspection, although the northern excavation contained standing water. Facility Operations personnel have indicated that the excavations are a result of ongoing storm sewer line repairs and will be backfilled when repairs are complete. The extent of the northern excavation will not change, but the southern excavation will be extended approximately 20 feet west into the parking lot towards Building 1556 to repair the drop inlet and connected piping. The excavations are located in an area of potential groundwater contamination. The existing groundwater and storm water analytical data, and a comparison of the groundwater data to non-hazardous disposal criteria were provided to the NAVFAC Mid-Atlantic Remedial Project Manager (RPM). The RPM will coordinate with Facilities Operations as necessary through the remaining repair activities.

An unidentifiable steel drum, approximately 20 gallons, was observed near the southeast corner of former Building 201. The drum was sitting directly on the ground surface without containment. Although the drum was labeled, the label was not legible. Facility Operations personnel, Kim Mazur, was contacted and arrived on site to inspect the drum. The drum will be removed by Base Environmental and its contents will be made available to the RPM. A drum identified as containing diesel fuel and three bags of soiled rags were observed on the ramp outside of Building T134. The Facility Operations personnel was also informed of the diesel fuel drum. Construction debris, consisting of concrete rubble, metal cable, and bricks was present near demolished Building 13 and a gravel pile (approximately 2' x 2' x 2') was present near former Building 54. Approximately seven wooden pallets were observed stacked up in the corner of the parking lot located southeast of demolished Building 356.

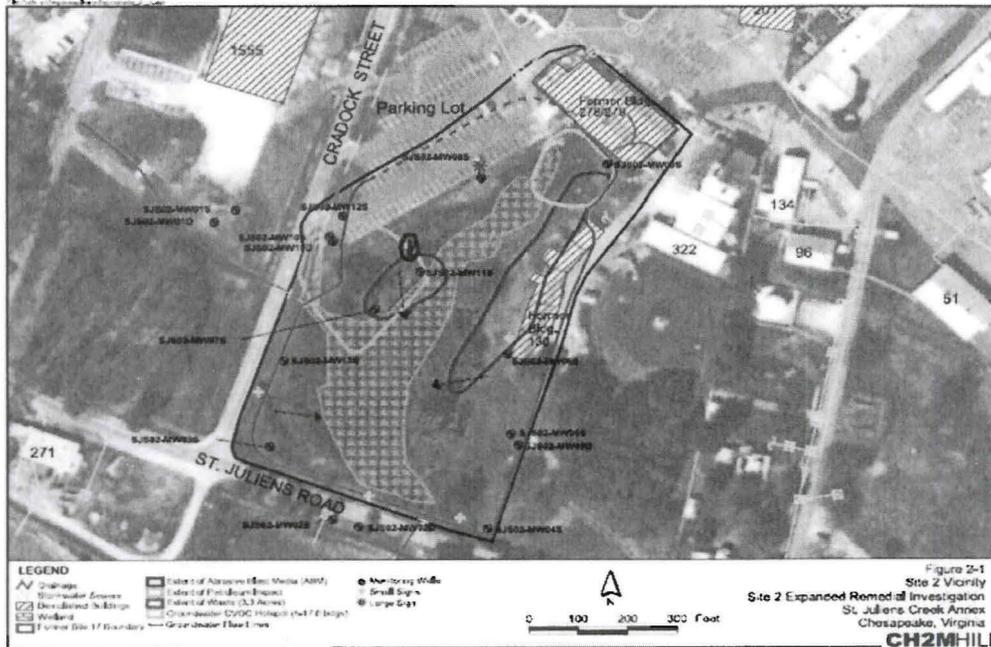
During the inspections, the RPM identified locations for signs to be placed in areas of concern indicating the presence of an environmental site. The signs will be installed during the field investigation at Site 21 planned in October 2006. All site monitoring wells, including casings and bollards, were in good condition.

Site 2 - Waste Disposal Area B

St. Juliens Creek Annex, Chesapeake, Virginia

Description: Site 2 is an unlined waste disposal area, covering approximately 4.4 acres, located at the corner of St. Juliens Drive and Cradock Street in the southwestern portion of the Annex. The waste disposal area began operating in 1921. Initially, refuse was burned onsite and was used to fill an adjacent swampy area. In 1942, an incinerator was installed and replaced the open burning practices. The waste disposal area was closed sometime after 1947. Garbage, acids, and waste ordnance were reportedly disposed at Site 2. Site 2 also contains abrasive blast media (ABM) from ship overhaul and repair operations. In 1989, the site was used for storage of heavy equipment and machinery, including storage of tools, tires, and machinery in sheds and trailers. In the north, Site 2 encompasses the former Site 17, which consisted of a concrete storage pad located just outside Building 279. The building was used as a fork lift maintenance shop. Buildings 278/279 were demolished in 2003 and the concrete slab remains in-place.

Site 2 is currently a swampy area covered with brush, trees, and grass. A water body directly connected to St. Juliens Creek is located in the center of Site 2. This inlet from the creek is tidally influenced and drains surface water from adjoining land, including Site 2, into the creek. Construction debris (concrete and brick), as well as ABM, are visible at the site. There are signs posted around the perimeter of the site.



Comments: (Provide related question number for each comment)

① - two large wood beams - Quest. #3

General Questionnaire

- | | Yes | No |
|--|-------------------------------------|-------------------------------------|
| 1 Is the area free of any indication of recent and/or current intrusive activities within the site boundary, as depicted on the figure, or in the immediate vicinity of the site? If no, mark location of intrusive activities on figure, note extent and purpose. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2 Is the area free of storage of any investigative derived waste (IDW) on site? If no, mark location of IDW on figure, note its condition in the comment section below, and notify activity coordinator. Indicate if IDW is properly labeled, per example below. Investigative Derived Waste Purge water from Site 2 January 28, 2003 Do not handle, analysis pending Contact Agnes Sullivan, NAVFAC MID LANT, (757) 444-4120 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3 Is the area free of identifiable concerns, such as, signs of dumping of chemicals or debris, with regards to this site? If no, annotate these concerns in the comments section above, mark location of concern on map, and notify activity coordinator. | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Site Specific Questionnaire | | |
| 4 Are site monitoring wells, as depicted on the figure, in good condition and appear to be locked? (i.e. damaged protective posts and/or well head/casing) If no, describe condition of the deficient monitoring well(s), mark location of deficient monitoring well(s). | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5 Are the signs, in good condition (letters visible, and standing upright)? If no, describe condition of the signs, mark location(s) on map, and notify activiv coordinator. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

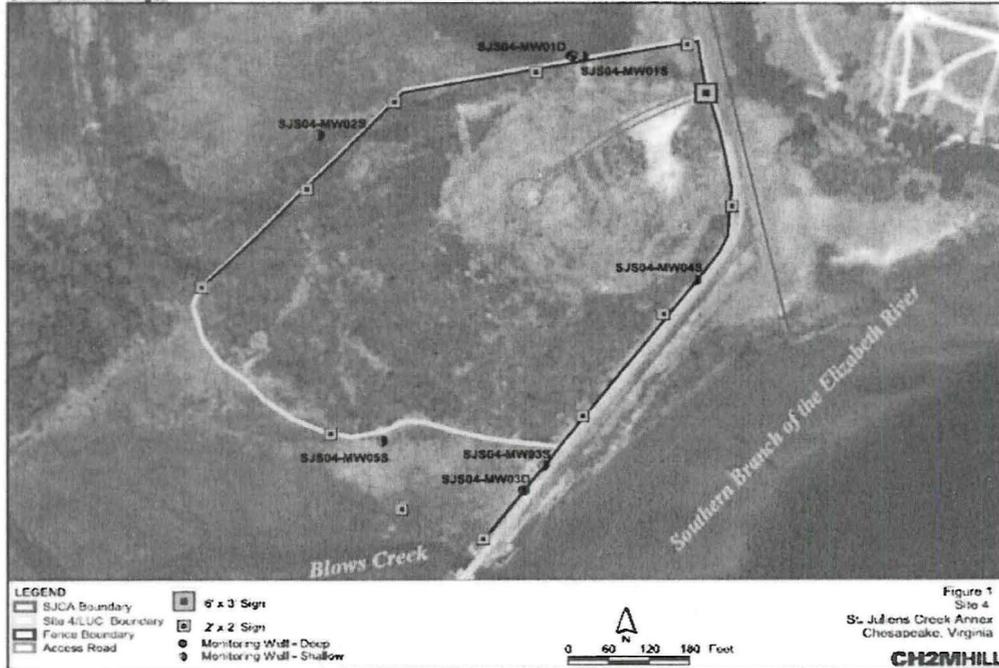
Inspection performed by: (Print and sign) Rebekah Ives Rebekah Ives
 Date: 9/20/06

Site 4 - Landfill D

St. Juliens Creek Annex, Chesapeake, Virginia

Description: Site 4 (Landfill D) covers an estimated 10.1 acres in the northeastern portion of the Annex just north of the confluence of Blows Creek and the Southern Branch of the Elizabeth River. The site is located on fill material that reportedly originated from the Southern Branch of the Elizabeth River. The first indication of activity at Site 4 is a trench identified on a historical aerial photograph from 1961. The original trench and others were filled with trash, wet garbage, and soil from subsequent trenches. It is not known how many trenches were eventually dug, but based on a review of historical aerial photographs, there appear to be only two. Around 1970, sanitary landfill operations began at Site 4 in the marshes of Blows Creek. Disposal included primarily trash and wet garbage. Sanitary landfill operations continued until 1978, at which time trash and garbage were hauled to an off-site facility and inert construction material was continued to be disposed of at Site 4 until 1981. The wastes managed were primarily trash, wet garbage, construction material, and out-dated civil defense materials. Some solvents, acids, bases, and polychlorinated biphenyls (PCBs) were reportedly disposed. Wastes dis

The Selected Remedy for Site 4; soil cover, surface and wetland debris removal, and eastern drainage ditch removal; was completed in 2005. Fencing is installed around the perimeter of the site with signs posted.



Comments: (Provide related question number for each comment)

No comments

General Questionnaire

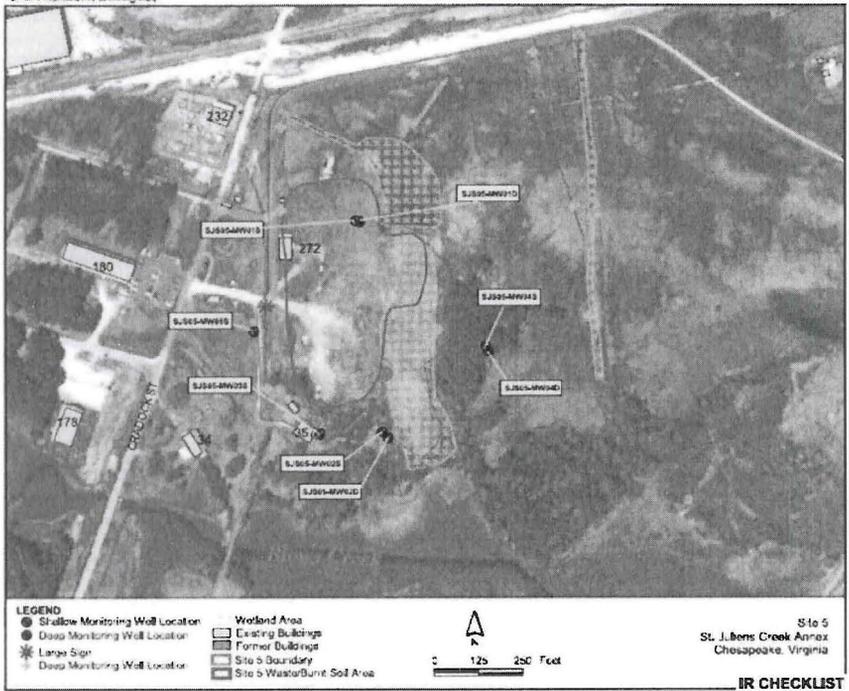
- | | Yes | No |
|--|-------------------------------------|--------------------------|
| 1 Is the area free of any indication of recent and/or current intrusive activities within the site boundary, as depicted on the figure, or in the immediate vicinity of the site? If no, mark location of intrusive activities on figure, note extent and purpose. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2 Is the area free of storage of any investigative derived waste (IDW) on site? If no, mark location of IDW on figure, note its condition in the comment section below, and notify activity coordinator. Indicate if IDW is properly labeled, per example below: Investigative Derived Waste Purge water from Site 4 January 28, 2003 Do not handle, analysis pending Contact Aqnes Sullivan, NAVFAC MID LANT, (757) 444-4120 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3 Is the area free of identifiable concerns, such as, signs of dumping of chemicals or debris, with regards to this site? If no, annotate these concerns in the comments section above, mark location of concern on map, and notify activity coordinator. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Site Specific Questionnaire | | |
| 4 Are the drainage ditches, as depicted on the figure, in good condition (free of sediment buildup and debris)? If no, describe condition of the drainage ditch, mark deficient location(s) on map, and notify activity coordinator. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5 Are the signs, depicted on the figure, in good condition (letters still visible, and standing upright)? If no, describe condition of the signs, mark location(s) on map, and notify activity coordinator. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 6 Are site monitoring wells, as depicted on the figure, in good condition and appear to be locked? (i.e. damaged protective posts and/or well head/casing) If no, describe condition of the deficient monitoring well(s), mark location of deficient monitoring well(s). | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 7 Is the soil cover free of notable defects that would require corrective action to ensure the effectiveness of the remedy? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 8 Is the site free of signs of stressed vegetation or bare spots that may lead to erosion of the soil cover? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 9 In the case of a severe weather event, is the integrity of the soil cover intact (no erosion by surface runoff)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Inspection performed by: (Print and sign) Rebekah Ives Rebekah Ives
Date: 9/20/06

Site 5 - Burning Grounds
St. Juliens Creek Annex, Chesapeake, Virginia

Description: Site 5 is the former Burning Grounds consisting of approximately 21 acres adjacent to Cradock Street in the northern portion of the Annex. The site is located on fill material that reportedly originated from the Southern Branch of the Elizabeth River. The exact start and closure dates of the Burning Grounds are unknown, although it reportedly operated between the 1930s and 1970s, during which time waste ordnance materials were disposed by open burning. In 1977, the ground surface at Site 5 was burned with straw, diced, and burned again in an effort to remediate the soil. Wastes disposed include ordnance materials such as black powder (mixture of charcoal, nitrate, and sulfur), smokeless powder (nitrocellulose), Explosive D (ammonium picrate), Composition A-3 (contains RDX and wax), tetryl, trinitrotoluene (TNT), and fuzes. Other wastes consisted of carbon tetrachloride, trichloroethene, paint sludge, pesticides, and various types of refuse. The amount of ordnance disposed of varied from year to year and there is insufficient information to calculate waste volume.

The site currently consists of an open field with the central portion overgrown with phragmites. A significant portion of the southwest area of the site is covered with a layer of gravel. Surface water at Site 5 drains either naturally or through unlined shallow man-made drainage ditches to tidally influenced Blows Creek, which eventually meets with the Southern Branch of the Elizabeth River. There are signs posted around the perimeter of the site.



Comments: (Provide related question number for each comment)

No comments

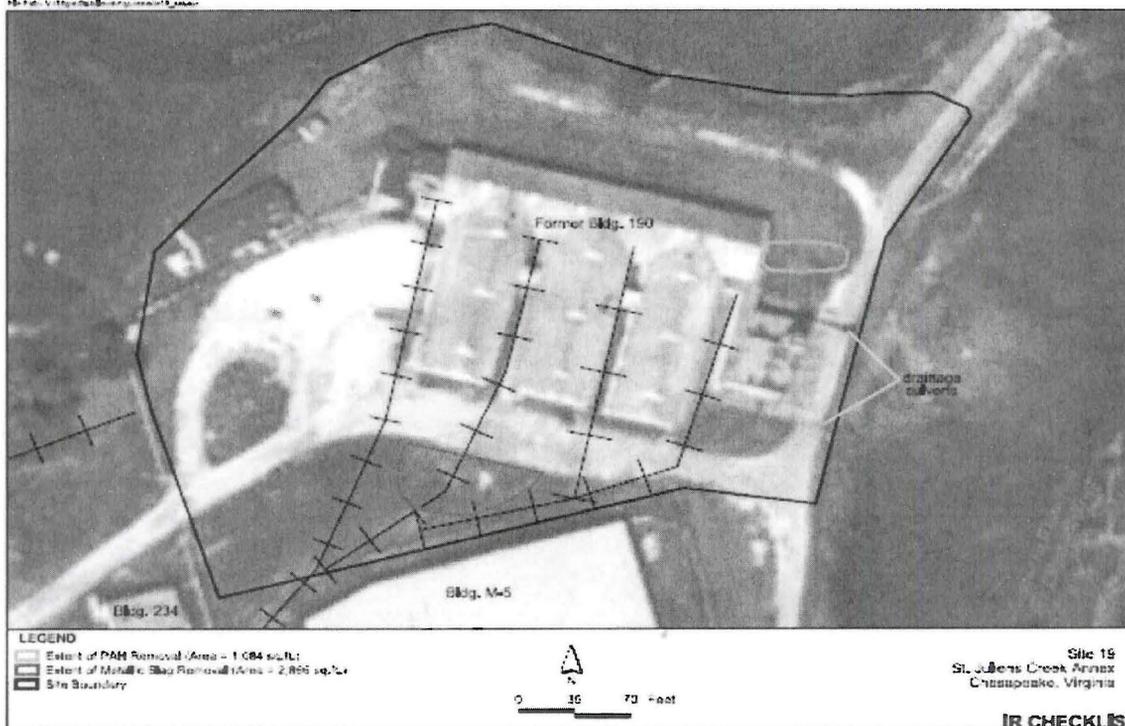
IR CHECKLIST

| General Questionnaire | | Yes | No |
|---|--|-------------------------------------|--------------------------|
| 1 | Is the area free of any indication of recent and/or current intrusive activities within the site boundary, as depicted on the figure, or in the immediate vicinity of the site? If no, mark location of intrusive activities on figure, note extent and purpose. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2 | Is the area free of storage of any investigative derived waste (IDW) on site? If no, mark location of IDW on figure, note its condition in the comment section below, and notify activity coordinator. Indicate if IDW is properly labeled, per example below: Investigative Derived Waste Purge water from Site 5 January 28, 2003 Do not handle, analysis pending Contact Agnes Sullivan, NAVFAC MID LANT, (757) 444-4120 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3 | Is the area free of identifiable concerns, such as, signs of dumping of chemicals or debris, with regards to this site? If no, annotate these concerns in the comments section above, mark location of concern on map, and notify activity coordinator. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Site Specific Questionnaire | | | |
| 4 | Are site monitoring wells, as depicted on the figure, in good condition and appear to be locked? (i.e. damaged protective posts and/or well head/casing) If no, describe condition of the deficient monitoring well(s), mark location of deficient monitoring well(s). | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Inspection performed by: (Print and sign) <i>Rebekah Ives</i> <i>Rebekah Ives</i> | | | |
| Date: <i>9/20/2006</i> | | | |

Site 19 - Building 190
St. Juliens Creek Annex, Chesapeake, Virginia

Description: Former Building 190 is located just south of the confluence of Blows Creek and the Southern Branch of the Elizabeth River. Building 190 was constructed in 1942 as the Integrated Logistics Overhaul and Outfitting building and was connected to a rail line. The building was reportedly used for loading explosives into ammunition; including Explosive D and Composition A-3; until the 1970s. Building 190 was demolished in 2000. There are two concrete drainage channels, originating from the former Building 190 location, leading to the Southern Branch of the Elizabeth River and a drainage to Blows Creek.

A Removal Action was conducted in May of 2006 to remove an area of metallic slag and an area of elevated polycyclic aromatic hydrocarbons. The excavations have been backfilled and seeded and are currently surrounded by safety fencing to prevent access while the vegetation is established. No environmental hazards remain on site and the site will be closed with No Further Action in 2006.



Comments: (Provide related question number for each comment)

No comments

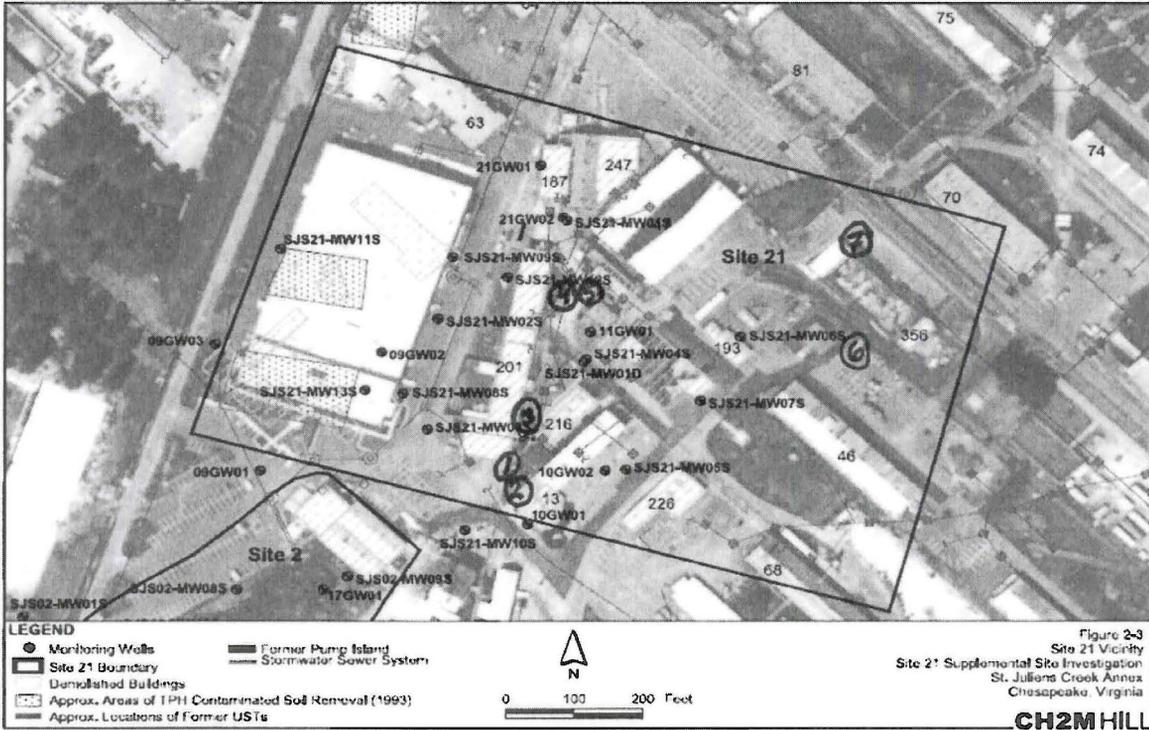
General Questionnaire

- | | Yes | No |
|---|-------------------------------------|----|
| 1 Is the area free of any indication of recent and/or current intrusive activities within the site boundary, as depicted on the figure, or in the immediate vicinity of the site? If no, mark location of intrusive activities on figure, note extent and purpose. | <input checked="" type="checkbox"/> | |
| 2 Is the area free of storage of any investigative derived waste (IDW) on site? If no, mark location of IDW on figure, note its condition in the comment section below, and notify activity coordinator. Indicate if IDW is properly labeled, per example below: Investigative Derived Waste Soil cuttings from Site 19 January 28, 2003 Do not handle, analysis pending Contact Agnes Sullivan, NAVFAC MID LANT, (757) 444-4120 | <input checked="" type="checkbox"/> | |
| 3 Is the area free of identifiable concerns, such as, signs of dumping of chemicals or debris, with regards to this site? If no, annotate these concerns in the comments section above, mark location of concern on map, and notify activity coordinator. | <input checked="" type="checkbox"/> | |

Inspection performed by: (Print and sign) *Rebekah Ives* *Rebekah Ives*
 Date: *9/20/06*

Site 21 - Industrial Area
St. Juliens Creek Annex, Chesapeake, Virginia

Description: Site 21 is located in a former industrial area in the central portion of the annex. Buildings at Site 21 were historically used as machine, vehicle, and locomotive maintenance shops; electrical shops; and munitions loading facilities. Outdoor areas at Site 21 were used for equipment and chemical storage. Several of these buildings and/or their surrounding areas were designated as former IR sites. Additionally, a fuel service station was previously located just south of Building 187. The existing buildings and the Site 21 area are currently used for storage and maintenance activities. Building 1556 was constructed in 1992 and is currently used as the MARMC warehouse. Many of the older buildings at the site have been demolished. A storm sewer system runs through the site and drains to a downstream inlet (IR Site 2) to St. Juliens Creek. The site currently consists of an industrial area, primarily asphalt-paved. Elevated concentrations of TCE are present in shallow groundwater and storm water in the Site 21 vicinity. There is currently no fencing or signs posted.



- Comments: (Provide related question number for each comment)
- 1- Unidentifiable steel drum, label corroded, ~ 20 gallons - Quest. 3
 - 2- Construction debris: concrete rubble, metal cable, bricks - Quest. 3
 - 3- Excavation for storm water: 5' x 5' x 8'; appears abandoned - Quest. 1
 - 4- Excavation for storm water: 12' x 7' x 5' upstanding H₂O; abandoned - Quest. 1
 - 5- Gravel pile: approximately 2' x 2' x 2' - Quest. 3
 - 6- Wood pallets (approx. 7) - Quest. 3
 - 7- Drum of diesel fuel + 3 bags of soiled rags outside T754 - Quest. 3

General Questionnaire

- | | Yes | No |
|---|-----|----|
| 1 Is the area free of any indication of recent and/or current intrusive activities within the site boundary, as depicted on the figure, or in the immediate vicinity of the site? If no, mark location of intrusive activities on figure, note extent and purpose. | | X |
| 2 Is the area free of storage of any investigative derived waste (IDW) on site? If no, mark location of IDW on figure, note its condition in the comment section below, and notify activity coordinator. Indicate if IDW is properly labeled, per example below: Investigative Derived Waste Purge water from Site 21 January 28, 2003 Do not handle, analysis pending Contact Agnes Sullivan, NAVFAC MID LANT, (757) 444-4120 | X | |
| 3 Is the area free of identifiable concerns, such as, signs of dumping of chemicals or debris, with regards to this site? If no, annotate these concerns in the comments section above, mark location of concern on map, and notify activity coordinator. | | X |

Site Specific Questionnaire

- | | | |
|--|---|--|
| 4 Are site monitoring wells, as depicted on the figure, in good condition and appear to be locked? (i.e. damaged protective posts and/or well head/casing) If no, describe condition of the deficient monitoring well(s), mark location of deficient monitoring well(s). | X | |
|--|---|--|

Inspection performed by: (Print and sign) Rebekah J. Ves Rebekah J. Ves
 Date: 9/20/06