5/21/2007

Dale

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
PRAP/ROD ROUTING SLIP

TO: Sal Ervolina, Assistant Division Director

FROM: The attached is submitted for your approval by:

NAME	INITIAL	DATE
Project Manager: Kevin Sarnowicz	KS	5/21/07
Section Chief/RHWRE: James Quinn	JQ	5/24/7
Bureau Director: P. David Smith	PDS	5/25/07

DATE: 5/21/2007

RE: **Site Name** Camp Georgetown **Site Code** 727010
City Georgetown **County** Madison

☐ **PRAP**

- ☒ Draft PRAP
- ☐ Clean copy of the PRAP
- ☐ Redline/Strikeout version of the PRAP
- ☐ Copies of edits to PRAP (Sal's/Dale's)
- ☒ Site Briefing Report
- ☐ NYSDOH concurrence letter
- ☐ USEPA concurrence letter

PRAP Release Approvals

Ass't Div Director: _____
Sal Ervolina

Division Director: _____
Dale Desnoyers

☐ **ROD**

ROD Amendment
S10337

- ☐ Draft ROD
- ☐ Signature-ready copy of the ROD
- ☐ Redline/Strikeout version of the ROD
- ☐ Copies of edits to ROD (Sal's/Dale's)
- ☐ Site Briefing Report
- ☒ NYSDOH concurrence letter
- ☐ USEPA concurrence letter

ROD Signoff

Ass't Div Director: _____
Sal Ervolina 6/4/07

☐ **BRIEFING**
Date:_____ **Time:**_____ **Room:**_____

c: Dale Desnoyers
Other reviewers who are invited to Briefing

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
Site Briefing Report

Site Code	727010	**Site Name**	Camp Georgetown		
Classification	02	**Address**	Crumb Hill Road		
Region	7	**City**	Georgetown	**Zip**	13072
Latitude	42:43:45:0	**Town**	Georgetown	**Project Manager**	Kevin Sarnowicz
Longitude	75:47:00:0	**County**	Madison		
Site Type				**Estimated Size**	6.6000

Site Description

Camp Georgetown is an active prison located in a rural part of the Town of Georgetown which is approximately 10 miles south of Morrisville. The prison is operated by the NYS Department of Correctional Services (NYSDCS), but is located on property owned by the NYS Department of Environmental Conservation (NYSDEC). The area of concern is south of Crumb Hill Road where a wood treatment facility operated from around 1970 to 1991. Pentachlorophenol was used to treat the wood until 1983. The area now consists of former buildings that were used for this process and a wooded area. The treating process consisted of soaking poles and lumber in dip tanks that were filled with a mixture of fuel oil and pentachlorophenol. From 1983 to 1991 a chromated copper arsenate pressure treatment process was used for wood treating. Fieldwork for the Remedial Investigation was completed and a Record of Decision was signed in March 2003. A remedial design is under development.

Materials Disposed at Site	**Quantity Disposed**
PENTACHLOROPHENOL (F032 Waste)	UNKNOWN

Analytical Data Available for :

Applicable Standards Exceeded for:

Assessment of Environmental Problems

There is a potential threat to the environment from on-site pentachlorophenol contamination in the on-site soils and sediments. Contaminated groundwater could potentially migrate to nearby Mann Brook, which is a class C trout stream.

Assessment of Health Problems

Though not contaminated, the well serving the treatment building was taken out of service and bottled water provided. The well serving the
Corrections Camp is not vulnerable to site-related contamination. Three private wells in the vicinity were sampled and no contamination was detected. Levels of pentachlorophenol in surface soils are not at levels of concern for exposure.

RECORD OF DECISION AMENDMENT
CAMP GEORGETOWN SITE

Camp Georgetown / Madison County / Registry No. 7-27-010 May 2007

Prepared by the New York State Department of Environmental Conservation
Division of Environmental Remediation

1.0 INTRODUCTION

On March 29, 2004, the New York State Department of Environmental Conservation (NYSDEC) signed a Record of Decision (ROD) which selected a remedy for the Camp Georgetown Site. The ROD signed in March 2004 chose a "Modified Part 360 Multi Layered Synthetic Cap" (Capping) as the remedy for the site based on the evaluating criteria presented in the Remedial Feasibility Study. However, since the remedy selection, revised cost estimates have become available through the remedial design for the Camp Summit site, another incarceration facility contaminated with the same type of waste. Camp Summit's remedial design showed that excavation and disposal costs were not as high for the type of waste found at Camp Georgetown as was originally estimated. Therefore, updated cost estimates have been developed for two remedial alternatives originally evaluated in the Remedial Feasibility Study: Capping and Excavation with Off-Site Disposal. Based on the evaluation of alternatives and the acceptance by the public the NYSDEC has amended the remedy for the Camp Georgetown site to "Excavation and Off-Site Disposal."

A public comment period ran from March 26, 2007 to April 27, 2007 and a public meeting was held on April 11, 2007 at the Georgetown Town Hall.

2.0 SITE INFORMATION

2.1 Site Description

The Camp Georgetown site is one of three New York State Department of Correctional Services (NYSDCS) facilities in the State currently under investigation or remediation by the NYSDEC due to former wood treatment operations. Each of the three sites is an active incarceration facility operated by the NYSDCS, and located on property under the jurisdiction of the NYSDEC.

Camp Georgetown is a large complex consisting of a NYSDEC crew headquarters in addition to the active incarceration facility, located in the Town of Georgetown, Madison County (Figure 1). The NYSDCS occupies the property north of Crumb Hill Road and does not include any past wood treatment operations associated with the contamination. The NYSDEC occupies the property south of Crumb Hill Road, which includes the area defined as the Class 2 inactive hazardous waste disposal site. The site occupies approximately 6.6 acres (Figure 2). The site is bordered on the northeast by Crumb Hill Road, south by private property, and west by State Reforestation Land.

The area around the site is typified by a mature and eroded plateau that is dissected by a series of valleys several hundred feet deep. This plateau has a rolling, rugged appearance. Approximately 45 percent of Madison County is classified as commercial forest.

2.2 Site History

A sawmill and wood treatment operation was operated at the facility to provide lumber and round poles for NYSDEC construction and maintenance projects. The wood treatment plant was operated from approximately 1970 to 1983 as a dip tank process using the chemical biocide pentachlorophenol (PCP). Untreated poles were stored in drying sheds northwest of the treatment building. The poles were moved into the treatment building by rail and then hoisted into one of two empty dip tanks. The dip tank would then be filled with a PCP mixture, which would come from one or both of the two 2,000 gallon above ground storage tanks (AST) by gravity flow. Wood was treated using a PCP solution consisting of approximately one part PCP to eleven parts fuel oil. Unused treatment solution would be pumped back into one of the storage tanks for PCP/fuel oil mixtures between treatment batches.

After treatment, the poles were hoisted from the dip tanks and allowed to drip back into the dip tank for a period of time. The poles were then moved by rail to the drip pad, located on the southeast end of the building. The poles would remain in this uncovered area for another 24 hours. Finally, the poles were moved to one of the designated "treated material storage areas." These areas were located around the outside of the treatment building and also along the southwest side of the service road serving the treatment plant and storage buildings.

In 1983 the PCP treatment process was discontinued. From 1983 until 1991, the treatment plant was operated as a pressure treatment process using chromated copper arsenate (CCA) solution. The CCA solution used at Camp Georgetown was comprised of 23.75% chromic acid, 17% arsenic pentoxide, 9.25% cupric oxide, and 50% water. Unlike the dipping process employed for PCP, this process involved placement of the wood in a pressurized vessel for treatment.

In October of 1997 the NYSDEC Division of Operations requested that the Division of Environmental Remediation (DER) perform an environmental investigation at Camp Georgetown.

The DER completed a Preliminary Investigation (PI) at Camp Georgetown in 1999. Based on the PI findings, in December of 1999, the NYSDEC listed the Camp Georgetown site on the State's Registry of Inactive Hazardous Waste Disposal Sites. The site, consisting of the property on the south side of Crumb Hill road, was designated a Class 2 site, which is defined as a site which "presents a significant threat to public health or the environment."

In 2001, the NYSDEC initiated a Remedial Investigation/Feasibility Study (RI/FS) for the Camp Georgetown site. The RI was developed to build on the information generated during the PI and to help fully delineate the extent of contamination at the site. The RI field work was conducted between October 2001 and November 2002. The field activities and findings of the investigation are summarized in Section 2.3 and are fully described in the RI report. The FS report identified, screened and evaluated potential remedial alternatives for the Camp Georgetown Site.

The Record of Decision for the site, calling for on-site capping of the waste, was issued by the New York State Department of Environmental Conservation in March 2004.

2.3 Nature and Extent of Site Contamination

As described in the original ROD and other site documents, many soil and groundwater samples were

collected at the site to characterize the nature and extent of contamination. The primary contaminants of concern include the semi-volatile organic compounds (SVOCs) pentachlorophenol (PCP) and fuel oil, dioxins/furans, and metals.

A Preliminary Investigation (PI) was conducted to assess the conditions at the site and determine if additional investigation was warranted. The investigation found PCP in the soil directly below the treatment building and the area extending to the west of the building. The soil under the building was also tested for dioxin, a common impurity in PCP, which was found above an applicable standard, criteria, or guidance value (SCG). Discussions that follow this section include the data generated during both the PI and the RI.

Much of the soil sample data from the PI presented below is from immunoassay testing. Immunoassay testing is a screening procedure that allows for efficient and cost effective analysis of the sample for a specific compound, in this case PCP. A percentage of the samples collected were split, with one half undergoing the immunoassay testing, the other half sent to a contract laboratory for verification that the immunoassay tests were producing reliable results and therefore usable data. All immunoassay testing was found to be reliable based on this verification method.

Chemical concentrations are reported in parts per billion (ppb) for water, and parts per million (ppm) for soil and sediment. For comparison purposes, where applicable, SCGs are provided for each medium.

Surface Soil

A total of 88 surface soil samples were collected during the PI and RI from approximately 0 to 2 inches below ground surface (bgs). PCP was the only SVOC detected above the 1.0 ppm SCG. The SCG was exceeded in 8 samples at concentrations ranging from 1 ppm to 130 ppm.

PCP was also detected in several surface soil samples in the drip pad area, the former AST area, and the area southwest of the former treatment building, but at levels well below the SCG. PCP was not detected in any of the other surface soils collected from across the site.

The highest concentration of total SVOCs (approximately 5 ppm) was observed in surface soil sample SS-19. This sample was collected from an apparent drainage area southwest of the former Post Peeler building.

Thirty nine (39) of the 88 surface soil samples were also sent for analysis of dioxins. Dioxins and furans were detected at low concentrations, below 1 ppm, in all the samples but two. Samples (SS-5 and SS-8), that were collected from the former drip pad area contained 2,3,7,8-tetra chloro dibenzo dioxin (TCDD) equivalence above the 1.0 ppb SCG with concentrations of 1.09 ppm and 1.16 ppm, respectively.

A total of 40 of the 88 surface soil samples that were collected from "on site" locations were sent to the laboratory for analysis of metals. Additionally, 10 samples were collected from "background" areas (areas where former treatment operations did not appear to have existed). Of the three metals of concern (chromium, copper, arsenic), 1 out of 40 surface soil samples across the site exhibited chromium concentrations above background levels, 2 out of 40 surface soil samples analyzed for metals showed copper at concentrations above background, and 27 out of 40 soil samples analyzed for metals possessed arsenic above the average background concentration.

Two (2) soil samples (SEEP-1 and SEEP-2) were collected from a seep that was located near the end of the south footer drain (downgradient) of the former treatment building. Both samples were sent for analysis of SVOCs and dioxins. PCP was detected above the SCG in SEEP-1. No PCP was detected in SEEP-2. The two seep samples were also analyzed for dioxins. SEEP-1 possessed a 2,3,7,8-TCDD equivalence of 3.29 ppb, while sample SEEP-2 possessed a 2,3,7,8-TCDD equivalence of 2.18 ppb. Both of these values were above the 1.0 ppb SCG.

Subsurface Soil

Subsurface soil samples were collected from both soil borings and test pits conducted at the site. Results from the soil boring samples are discussed first, followed by the results for the samples collected from the test pits.

A total of 68 soil samples were collected from 34 soil borings across the site during the PI and RI.

The 68 samples were analyzed for SVOCs, 34 of 68 samples were analyzed for dioxins and 11 of 68 samples were analyzed for metals.

The SVOC PCP was detected in 10 samples above the guidance value, located 1-6 feet bgs under the former treatment building. PCP was also detected in the area immediately surrounding the former treatment plant, including the former drip pad area, and former AST area.

Forty-seven (47) immunoassay samples were collected from test pits. PCP was detected above the SCG in 7 test pits, 3 located near the former treatment building, 2 located southwest of the former treatment plant within a grid of surface soil samples collected during the PI, and 2 located west of Drying Shed #1.

While several other SVOCs were detected in samples collected from the test pits, none exceeded SCGs.

Toxicity Equivalence Factors are tools for estimating the combined risks from exposure to complex mixtures of polychlorinated dioxins (PCDDs) and furans (PCDFs). Dioxins were analyzed in 20 of the 47 samples collected, however, no sample exceeded the 1 ppb 2,3,7,8-TCDD equivalence SCG. The toxicity equivalence methodology reduces uncertainties and is less likely to underestimate risks than are methods based on a single compound (e.g., 2,3,7,8-TCDD) or a class of compounds.

Sediments

Four (4) sediment samples were collected from Mann Brook and sent for analysis of SVOCs and dioxins.

No PCP or any other SVOCs were detected above the SCG in any of the four sediment samples collected.

Several dioxin and furan congeners were detected in each sample, however, the total 2,3,7,8-TCDD equivalence concentrations were well below the SCG.

Groundwater

Groundwater samples were collected in three separate sampling events. Samples were collected in 1998 during the PI as well as during the RI in November 2001 and December 2002. Additional monitoring wells

were installed after each round of sampling, as needed based on the evaluation of the data. A total of 8 wells were sampled during the PI, 17 wells during the first round of the RI, and 19 wells during the final round of the RI. The NYSDEC potable water supply well located east of the treatment building was also sampled during the PI.

PI Groundwater Results

Samples were collected from MW-1 through MW-8 and were analyzed for SVOCs, VOCs, pesticides/PCBs, metals and dioxins. Analytical results were below SCGs except for PCP, metals, and dioxin.

PCP was detected in 5 of 8 monitoring wells above the 1.0 ppb SCG ranging from 30ppb to 1700 ppb during the PI sampling event.

Dioxins were also detected above the 0.0007 parts per trillion (ppt) 2,3,7,8-TCDD equivalence SCG in all wells except MW-7 during the PI sampling event.

Chromium was the only metal related to wood treatment activities detected above SCGs. Chromium concentrations above the SCG were detected in 4 wells. Copper was detected in every well, however, detections didn't exceed the 0.2 ppb SCG in any sample analyzed. Arsenic was detected in only one well, but was detected at a concentration below the SCG.

No SVOCs, VOCs, pesticides/PCBs, metals or dioxins were detected in the NYSDEC potable water supply well above SCGs.

RI Groundwater Results 2001

A second round of groundwater samples was collected in December 2001as part of the RI. The 8 wells that were installed during the PI were analyzed for fuel oil, SVOCs and dioxins. Nine newly installed wells were analyzed for pesticides/PCBs, VOCs and SVOCs. The new wells were not analyzed for dioxins during this sampling event.

Fuel components, including diesel fuel, were not detected in any of the eight previously installed monitoring wells that were sampled.

PCP was detected above the SCG for water in 5 monitoring wells, ranging from 44 ppb to 160 ppb.

Concentrations of dioxins were found in five of the wells sampled. However only three wells exhibited a 2,3,7,8-TCDD equivalence concentration over the 0.0007 ppt SCG. These wells are located radially around the former drip pad area and were identified to have dioxins in the PI. Note all water dioxin results are reported in ppt. Concentrations ranged from 0.000009 ppt to 1.6694 ppt.

The PCB Aroclor 1254 was found in three of the nine wells sampled. Concentrations of Aroclor 1254 in MW-9 (15 ppb), MW-12 (1.7 ppb), and MW-15 (2.7 ppb) were above SCGs. Aroclor 1254 concentrations appeared randomly distributed near the outer perimeter of the site; MW-9 is north and upgradient, MW-12 is located downgradient to the southeast, and MW-15 is downgradient to the southwest. PCBs were not found in surface and sub-surface soil at the site and are not known to be a site-related contaminant of concern. No pesticides were detected in any of the monitoring wells.

RI Groundwater Results 2002

A third round of groundwater samples were collected in November 2002. Unfiltered samples were collected from 19 wells for analysis of SVOCs, fuel oil, dioxins and pesticides/PCBs. Six (6) of the 19 wells were filtered and analyzed for the same parameters to determine if high turbidity in groundwater was a contributing factor in elevated concentrations of contaminants. Groundwater from MW-5, MW-9, MW-12, MW-15, MW-18 and MW-19 was filtered via a 0.45 micron in-line filter.

No PCBs were detected in any of the monitoring wells. Bis(2-ethylhexyl)phthalate was detected above the 0.6 ppb SCG value in all samples collected except MW-15 (filtered). Bis(2-ethylhexyl) phthalate is believed to be a laboratory artifact and not reflective of groundwater quality.

PCP was detected above the 1.0 ppb SCG in MW-2, MW-3, MW-4, MW-5, MW-5 filtered, MW-6, MW-7 and MW-11. Concentrations ranged from 1 ppb to 370 ppb .

Fuel oil components (e.g. diesel range compounds) were detected in MW-4, MW-6 and MW-7.

Groundwater samples collected from MW-4, MW-7 and MW-8 exhibited 2,3,7,8-TCDD equivalence concentrations above the 0.0007 ppt SCG, ranging from 0.0009 ppt in MW-8 to 0.0215 ppt in MW-4.

Biota (Fish)

A total of 22 fish samples were collected from upstream and downstream locations within Mann Brook, located west and hydraulically down gradient of the site. Fish samples were collected by electroshock sampling methods and were submitted for laboratory analysis of dioxins.

Eleven of the fish samples were collected upstream of the site. Another eleven samples were collected downstream of the site.

2,3,7,8-TCDD equivalence concentrations are reported as wet weight concentrations in parts per trillion (ppt) and ranged from below detection limits (BDL) to 0.12 ppt, all below the SCG of 2.3 ppt.

Summary

Evaluation of the analytical data generated during the PI and RI resulted in the identification of several areas of concern with soil and localized groundwater contamination exceeding the SCGs. The sample locations are shown on Figure 3 and the areas of concern include:

1. Entire area beneath the former treatment building and immediately to the south of the building;

2. The area of the former above ground storage tanks;

3. The area across the access road to the southwest of the former treatment building, and;

4. An area across the access road to the northwest of the former treatment building associated with a staging area for the drying of treated logs.

2.4 Summary of Human Exposure Pathways

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the human exposure pathways can be found in Section 3.3 of the RI report.

An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.

The source of contamination is the location where contaminants were released to the environment (any waste disposal area or point of discharge). Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

There are no complete exposure pathways currently at the site. Potential pathways include:

- Direct contact with contaminated surficial soils in the former drip pad area and seepage areas of footer drains of the former treatment building. There is currently an engineering control, in the form of fencing, which serves to alert personnel to avoid impacted areas. Inmate access of these portions of the site has been restricted since the Preliminary Investigation.

- Direct contact with contaminated subsurface soils by construction or utility workers in the future.

- Ingestion of potentially contaminated shallow groundwater in the immediate area of the former treatment building is a potential future pathway should a well be installed.

2.5 Summary of Environmental Assessment

This section summarizes the existing and potential future environmental impacts presented by the site. Environmental impacts include existing and potential future exposure pathways to fish and wildlife receptors, as well as damage to natural resources such as aquifers and wetlands.

The Fish and Wildlife Impact Analysis, which is included in the RI report, presents a detailed discussion of the existing and potential impacts from the site to fish and wildlife receptors. The following potential environmental exposure pathways and ecological risks have been identified:

- Terrestrial animal contact with chemicals present in the surface soil, groundwater (at seep areas);

- Ingestion of chemicals from surface soil, groundwater and food sources, and;

- Direct uptake of chemicals in soil or groundwater by terrestrial and aquatic plants

Samples of the creek sediments and biota in Mann Brook, which receives drainage from the site, did not contain elevated levels of any site related contaminants, therefore a completed exposure pathway to fish and wildlife receptors within the stream was not identified.

2.6 Original Remedy

Upon signing the March 2004 ROD, the NYSDEC had selected Alternative 3A, Multi-layer geomembrane cap, as the remedy for this site. The elements of this remedy were as follows:

1. A remedial design program would have been implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program.

2. Demolition and off-site disposal of the former treatment building and its contents.

3. Excavation of several areas and consolidating the material for covering with the cap.

5. Placement of a multi-layer geomembrane cap including: (a) Vegetative Layer – approximately 6 inches of topsoil that serves to reduce erosion, (b) Frost Protection/Drainage Layer – approximately 24 inches of permeable soil (sand) to promote drainage and frost protection, and (c) Impermeable Geomembrane - a geosynthetic liner to serve as a impermeable containment barrier between the clean and contaminated materials.

6. The site would have been restored by grading to insure proper drainage, placement of additional topsoil as necessary, and seeding.

7. To address the identified groundwater contamination, and since the remedy would result in untreated hazardous waste remaining at the site, a long term monitoring program would have been instituted. Groundwater samples would be collected annually for a period of at least 30 years. This program would allow the effectiveness of the cap to be monitored and would be a component of the operation, maintenance, and monitoring for the site.

8. Development of a site management plan to: (a) maintain the capped area (mowing, erosion repairs, etc); (b) restrict use of shallow groundwater in the area subject to long term monitoring; and (c) prohibit redevelopment or use of the capped area.

9. The property owner would have provided an annual certification, prepared and submitted by a professional engineer or environmental professional acceptable to the Department, which would certify that the institutional controls and engineering controls put in place, are unchanged from the previous certification and nothing has occurred that would impair the ability of the control to protect public health or the environment or constitute a violation or failure to comply with any operation an maintenance or soil management plan.

10. Imposition of an institutional control in the form of an environmental easement that would have: (a) require compliance with the approved site management plan, (b) prohibit use and development of the capped area; (c) restrict use of groundwater as a source of potable or process water; and, (d)

require the property owner to complete and submit to the NYSDEC an annual certification to insure compliance with the use restrictions.

3.0 DESCRIPTION OF PROPOSED CHANGES

3.1 New Information

The Camp Georgetown site is one of three NYSDCS facilities in the State being addressed by the NYSDEC due to former wood treatment operations. The other two facilities are Camp Summit and Camp Pharsalia. During the remedial design of the remedy for the Camp Summit site, which was completed in 2005, excavation and off-site disposal of wastes similar to those found at Camp Georgetown was determined to be significantly less expensive then originally estimated. This new information has led the NYSDEC to perform a new cost analysis for the Camp Georgetown site. The cost for excavation and off-site disposal is now estimated to be significantly less then what was originally determined and, therefore, excavation and off-site disposal now appears to be a more favorable remedy. The significant decrease in the estimated cost of the excavation and off-site disposal, increased protection of human health and the environment, and cost savings in future operation monitoring & maintenance (OM&M) have caused the NYSDEC to change the remedy.

3.2 ROD Changes

The excavation and off-site disposal remedy will address the PCP and dioxin impacted soil by excavation and off-site disposal. The areas of concern delineated in Figure 4 will be excavated using conventional methods and equipment. The treatment building will be demolished as part of remedial activities. This differs from the original remedy that would have consolidated the areas of contamination and cover them with a modified part 360 multi-layer cap system.

The estimated removal volume will be 6,270 cubic yards of soil, measured in place. A 20% bulking factor yields roughly 7,530 cubic yards of soil that will be managed. Additionally, stabilization of saturated soils will be necessary (estimated 30% by volume), which will require approximately 1,520 cubic yards of ash or similar product. The slab under the former treatment building will be removed and crushed as part of this remedial alternative. The slab will produce roughly 180 cubic yards of waste that will require disposal. Consequently, the total volume requiring disposal will be approximately 9,230 cubic yards. Excavated soils will be transported off-site to an approved disposal facility and may require pretreatment prior to disposal due to the presence of dioxin. This differs from the original remedy that would have left the waste on-site to be capped. The new cost estimate for the original (capping) remedy also assumes that 1000 cubic yards of grossly contaminated soil would have needed to be taken off-site for disposal. This was not included in the original remedy's cost estimate, but has been included due to knowledge gained through design of the remedy for the Camp Summit site.

Because the water table at the site is typically at 2 to 5 feet bgs, excavation operations would require dewatering. Groundwater would be treated on-site by a temporary treatment system.

4.0 EVALUATION OF ROD CHANGES

4.1 Remedial Goals

Goals for the cleanup of the site were established in the original ROD. Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-2.8. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The remediation goals for this site are to eliminate or reduce to the extent practicable:

- exposures of persons at or around the site to PCP, dioxins/furans and metals in soil and groundwater;
- environmental exposures of flora or fauna to PCP, dioxins, and metals in surface soil and groundwater;
- erosional transport of contaminated soil; and
- the release of contaminants from soil into groundwater that may create exceedances of groundwater quality standards.

Further, the remediation goals for the site include attaining to the extent practicable:

- ambient groundwater quality standards, and ;
- compliance with all applicable standard, criteria, or guidance values (SCGs) and cleanup goals.

4.2 Evaluation Criteria

The criteria used to compare the remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste disposal sites in New York State (6 NYCRR Part 375). For each criterion, a brief description is provided. A detailed discussion of the evaluation criteria and comparative analysis is contained in the original Feasibility Study.

The first two evaluation criteria are called threshold criteria and must be satisfied in order for an alternative to be considered for selection.

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

Excavation and Off-Site Disposal will be protective of human health and the environment since contaminated soil will be removed from the site. Capping alternative would have been protective of human health and the environment by covering the contamination with a protective cover. However, the Capping alternative would have left the contaminated media in place and therefore be less protective of human health and the environment.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

The primary soil SCGs are based on the NYSDEC "Technical and Administrative Guidance Memorandum (TAGM) 4046; Determination of Soil Cleanup Objectives and Cleanup Levels." and 6 NYCRR Subpart 375-6 - Remedial Program Soil Cleanup Objectives). For dioxins/furans a 1 ppb SCG of 2,3,7,8-TCDD equivalence has been developed. Sediment SCGs are based upon the NYSDEC "Technical Guidance for Screening Contaminated Sediments" guidance document.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

Both alternatives would have short-term impacts. The impacts associated with construction will be more significant with the Excavation and Off-Site Disposal alternative, which requires significantly more handling of the contaminated media. The Capping alternative would have left the contaminated media in place and would have had considerably fewer short-term impacts.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

Achieving long-term effectiveness will best be accomplished by Excavation and Off-Site Disposal, which removes the contaminated media. Capping the contamination in place should be effective in the long term, although contingent on long-term monitoring. Excavation and Off-Site Disposal will eliminate the potential for human and environmental exposure to contaminated soil. Capping the contaminated soil and leaving it on site would have significantly reduced the potential for human and environmental exposure, however, this would have required long term maintenance of the cap and groundwater monitoring.

5. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

Excavation and Off-Site Disposal will greatly reduce if not eliminate the mobility, toxicity and volume of contaminants at the site. Constructing a modified Part 360 cap would not have reduced the toxicity and volume of contaminants, but would have greatly reduced the mobility of contaminants.

6. Implementability. The technical feasibility and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the

necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

Excavation and Off-Site Disposal will be easily implemented by using conventional excavation techniques. The contamination identified at this site may require disposal as hazardous waste and, depending on the contaminant concentration, pre-treatment may be required. This alternative requires a pre-design sampling program to identify which material will be disposed as hazardous waste, which material will require pre-treatment (e.g. incineration), and which material will be disposed as non-hazardous waste.

Constructing a modified Part 360 cap would have been implemented using standard construction techniques and the cap design would have been straightforward.

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis (Table 1). Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

The cost of the alternatives varies significantly. Although Excavation and Off-Site Disposal results in greater reduction in toxicity, mobility and volume of contaminated soils, constructing a modified Part 360 cap could be implemented at lower cost.

Excavation and Off-Site Disposal is a permanent remedy, but it is also the more costly remedy. The present worth cost to implement the excavation and off-site disposal remedy would range from $3,783,000 to $4,720,000. It is likely that this remedy will favor the low side of this estimate due to the assumption that most of the contaminated material will be disposed off-site, without pre-treatment, by direct landfilling. The higher side of the cost of this alternative is based on a conservative estimate that will assume half of the contaminated material will be disposed by direct landfilling, one quarter of the material will require pretreatment, and the remaining quarter of the material will require incineration. The estimated present worth cost to construct the modified Part 360 cap alternative is $1,871,000. However, this cost estimate would probably be more costly due to the excavation and off-site disposal of an unknown amount of grossly contaminated material that would not be allowed by Resource Conservation and Recovery Act (RCRA) to be consolidated and capped on-site. (Note the original present worth cost estimate for excavation and off-site disposal was $13,125,000 and a modified Part 360 cap was $2,287,000.)

Excavation and Off-Site Disposal will not leave a source of contamination on-site, which will greatly reduce and eventually eliminate operation, maintenance and monitoring (OM&M) costs. OM&M for capping is estimated for a 30 year period and would cost $422,000. OM&M for Excavation and Off-Site Disposal is estimated for a 5 year period and will cost $58,000, a savings of $364,000.

The 2004 cost estimate for Excavation and Off-Site Disposal was the evaluation criterion that originally disqualified this alternative from being selected. However, the revised present worth of the alternatives are now $3,783,000 for Excavation and Off-Site Disposal compared with $1,871,000 for a Modified Part 360 multi- layer cap. The present worth cost for Excavation and Off-Site Disposal is greater then a modified Part 360 multi layer cap, however significantly lower then originally estimated.

Table 1

Record of Decision - March 2004 Cost Esitmates

Remedial Alternative	Capital Cost	Annual OM&M	Total Present Worth
Excavation and Off-Site Disposal (March 2004 original estimate)	$12,701,000	$28,000	$13,125,000
Modified Part 360 Multi Layer Cap (March 2004 original estimate)	$1,845,000	$29,000	$2,287,000

Record of Decision Amendment - September 2006 Cost Estimates

Remedial Alternative	Capital Cost	Annual OM&M	Total Present Worth
Excavation and Off-Site Disposal (September 2006 revised estimate)	$3,725,000	$14,000	$3,783,000
Modified Part 360 Multi Layer Cap (September 2006 revised estimate)	$1,448,000	$27,000	$1,871,000

This final criterion is considered a modifying criterion and is considered after evaluating those above. It is focused upon after public comments on the proposed ROD amendment have been received.

8. Community Acceptance. Concerns of the community regarding the proposed changes were evaluated during the public comment period for the proposed amendment. A responsiveness summary has been prepared that describes public comments received and the manner in which the Department addressed the concerns raised.

5.0 Summary of ROD Changes

The Department has amended the Record of Decision (ROD) for the Camp Georgetown Site.

The elements of the amended remedy are as follow:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program;

2. Demolition and off-site disposal of the former treatment building and its contents;

3. Excavation and off-site disposal of areas A through G (Figure 4). Localized groundwater contamination will be extracted and treated as part of the dewatering process during soil excavation;

4. Site restoration by bringing in approved backfill, grading to insure proper drainage, placement of additional topsoil as necessary, and seeding;

5. Implementation of a ground water monitoring program will be instituted to observe the attenuation

of residual ground water contamination . Groundwater samples will be collected periodically for at least 5 years. This program will allow the effectiveness of the remedy (source removal) to be monitored;

6. Development of a site management plan to provide the details of the groundwater monitoring plan;

7. Imposition of an institutional control in the form of an environmental easement that will require (a) compliance with the approved site management plan; (b) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (c) the property owner to complete and submit to the Department a periodic certification of institutional controls;

8. The property owner will provide a periodic certification of institutional controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submittal will: (a) contain certification that the institutional controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site; and (c) state that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

6.0 HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the Camp Georgetown Site environmental restoration process, a number of Citizen Participation activities were undertaken in an effort to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site:

1. A repository for documents pertaining to the site was established.

2. A site mailing list was established which included nearby property owners, local political officials, local media and other interested parties.

3. A Factsheet was mailed to the nearby property owners announcing the availability of the proposed ROD amendment and the public meeting.

4. A public meeting was held on April 11, 2007 at the Georgetown Town Hall.

5. A public comment period for the propose ROD amendment was established, beginning on March 26, 2007 and ending on April 27, 2007.

6. A Responsiveness Summary (Appendix A) was prepared and included as part of this document, to address the comments received during the public comment period for the proposed ROD amendment.

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Camp Georgetown
Proposed Record of Decision Amendment
Town of Georgetown, Madison County
Site No. 7-27-010

The Proposed Record of Decision Amendment for the Camp Georgetown site, was prepared by the New York State Department of Environmental Conservation (NYSDEC) in consultation with New York State Department of Health (NYSDOH) and issued to the local document repository on March 19, 2007. The document outlined the preferred remedial measure proposed for the remediation of the contaminated soil at the Camp Georgetown site. The preferred remedy is excavation of the PCP and dioxin contaminated soils, building demolition, and institutional controls.

The release of the Proposed Record of Decision Amendment was announced via a notice to the mailing list, informing the public of the document's availability.

A public meeting was held on April 11, 2007 which included a presentation of the proposed amendment. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed amendment. These comments have become part of the Administrative Record for this site.

The public comment period for the Proposed Record of Decision Amendment ended on April 27, 2007.

This Responsiveness Summary responds to all questions and comments raised at the April 11, 2007 public meeting and to the written comments received.

The following are the comments received at the public meeting, with the NYSDEC's and NYSDOH's responses:

COMMENT 1: Has the drainage swale and creek been sampled? What time of year was the sampling done? Is the NYS Department of Environmental Conservation and Health confident that arsenic contamination is not being transported by the creek and contaminating down gradient homeowner wells?

RESPONSE 1: The drainage swale and creek were sampled in October 1998 and November 2002 during the preliminary investigation and remedial investigation. Several groundwater, swale, soil, sediment, creek water, and residential water samples were collected during the remedial investigation. Based on the analysis of these samples and the fact that the contaminants of concern do not readily dissolve and flow with groundwater, the NYSDEC and NYSDOH are confident that the site was adequately sampled and contamination is not migrating to the creek and downgradient to homeowner wells.

COMMENT 2: When will the remedy be implemented?

RESPONSE 2: The remedy is anticipated to begin to be implemented in September 2007. The Record of Decision must be finalized before the project can proceed then a design will be developed, reviewed and

Remedy Description and Cost

Remedy Description for Operable Unit 01

A Modified Part 360 Multi-layer Sythetic Cap over primary contamination area, other areas of concern to be excavated and consolidated beneath the cap. Installation of a groundwater monitering system. Development of a site management plan. Annual certification by property owener. Imposition of an institutional control in the form of an environmental easement.

Total Cost	$2,287,000
Capital Cost	$1,845,000
OM&M Cost	$29,000

Issues / Recommendations

Based upon recent information, the NYSDEC is considering changing the remedy called for by the March 2003 ROD.

A remedial design has been completed for Camp Summit, another correctional facility contaminated with the same waste. During the design for Camp Summit, it was learned that actual costs for excavation and disposal of this waste stream is significantly less than estimated during the feasibility study.

Using the information gathered during the Camp Summit design, the cost estimate for excavation and off-site disposal of the waste at Camp Georgetown was recalculated. Rather than the $13,125,000 estimated in the FS, the cost is now estimated to be approximately $3,783,000 to $4,720,000 depending upon the volume of grossly contaminated soil encountered. This new cost estimate compares more favorably to the ROD-selected remedy for consolidation and capping of the waste on site, originally estimated to cost $2,287,000.

It should be noted that even if the waste is consolidated and capped on site, as called for in the ROD, there will be additional costs above the estimate for capping. These additional cost will be associated with the disposal of grossly contaminated material that the ROD cost estimate didn't consider but is necessary to comply with RCRA. This makes the cost for complete excavation and disposal of the waste even more competitive.

Furthermore, off-site disposal would not require long term site management. Therefore, a short term groundwater monitoring program would be implemented to monitor the effectiveness of the remedy. The only institutional control associated with site would be to restrict groundwater use. It is recommended that a ROD amendment requiring excavation and off-site disposal of the contamination be approved.

approved, then a remedial construction contract is drafted, reviewed, and approved before the contractors are allowed to bid. After a contractor wins the bid the bid is awarded and the work can begin.

COMMENT 3: How will this project impact the property values of the property surrounding the site?

RESPONSE 3: The remedy should not negatively impact the value of the properties surrounding the site.

COMMENT 4: Is groundwater impacted by the contamination and is it migrating off-site?

RESPONSE 4: On-site groundwater is impacted with pentachlorophenol (PCP) and chromium contamination. PCP does not readily dissolve in groundwater and prefers to adhere to soil particles. As a result the PCP contamination is localized in groundwater under the site. The chromium is also localized in groundwater in areas near the source of contamination. By removing the contaminated soil, which is the source of the groundwater contamination, the groundwater contamination will naturally attenuate over time.

COMMENT 5: What was done with the lumber that was treated at the site?

RESPONSE 5: The lumber that was treated at the site was used throughout New York State at State run camp grounds and parks to build bridges, docks, decks, walkways, etc.

COMMENT 6: How often would the monitoring wells be sampled after the remedy is implemented?

RESPONSE 6: The monitoring well will be sampled on a quarterly basis for the first three years. After three years the sampling frequency may be reevaluated and changed.

COMMENT 7: Is there anything else we need to know?

RESPONSE 7: This remedy is simple and would be easy to implement. Trucks will be seen traveling to and from the site hauling the contaminated soil away. The contaminated soil will be covered and will not be spilling out of the trucks. Dust would be monitored to keep it to a minimum. Precautions will be in place to ensure that dust will not be a problem.

COMMENT 8: What chemicals was water analyzed for?

RESPONSE 8: The groundwater was analyzed for semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs), pesticides/PCBs , metals and dioxins.

COMMENT 9: Where will the contaminated soil be taken to?

RESPONSE 9: Most of the contaminated soil will be disposed off-site at a landfill that accepts hazardous waste. Some of the waste may need pretreatment before it can be taken to the landfill that accepts the hazardous waste and some soil may be grossly contaminated that it will need to be taken to an incineration facility.

STATE OF NEW YORK
DEPARTMENT OF HEALTH

JMR

Flanigan Square, 547 River Street, Troy, New York 12180-2216

June 6, 2007

Mr. Dale Desnoyers, Director
Division of Environmental Remediation
NYS Dept. of Environmental Conservation
625 Broadway – 12th Floor
Albany, NY 12233-7011

RE: Final ROD Amendment
Camp Georgetown
Site #727010
Georgetown (T), Madison County

Dear Mr. Desnoyers,

Staff reviewed the May 2007 Final Record of Decision Amendment for the Camp Georgetown site. I understand that the selected remedy will be modified from capping of waste materials on-site to excavation and off-site disposal. The site will be restored by bringing in approved backfill, placing additional topsoil as necessary, and seeding. I also understand that a groundwater monitoring program will be implemented to monitor the natural attenuation of residual groundwater contamination. A Site Management Plan will be developed and implemented to restrict future use of groundwater at the site. Furthermore, an institutional control in the form of an environmental easement will be imposed that would require: (a) compliance with the approved site management plan; (b) restricting the use of groundwater as a source of potable or process water; and (c) submission of a periodic certification to the NYSDEC. Based on this information, I believe the Record of Decision Amendment is protective of public health and concur with it.

If you have any questions, please call Mark VanValkenburg at (518) 402-7860.

Sincerely,

Steven M. Bates, Assistant Director
Bureau of Environmental Exposure Investigation

cc: G.A. Carlson, Ph.D./A. Grey, Ph.D.
Mr. G. Litwin/Mr. VanValkenburg/ File
Ms. H. Hamel - CNYRO
Mr. G. Snyder - MCHD
Mr. D. Smith - DEC
Mr. G. Townsend - DEC Region 7

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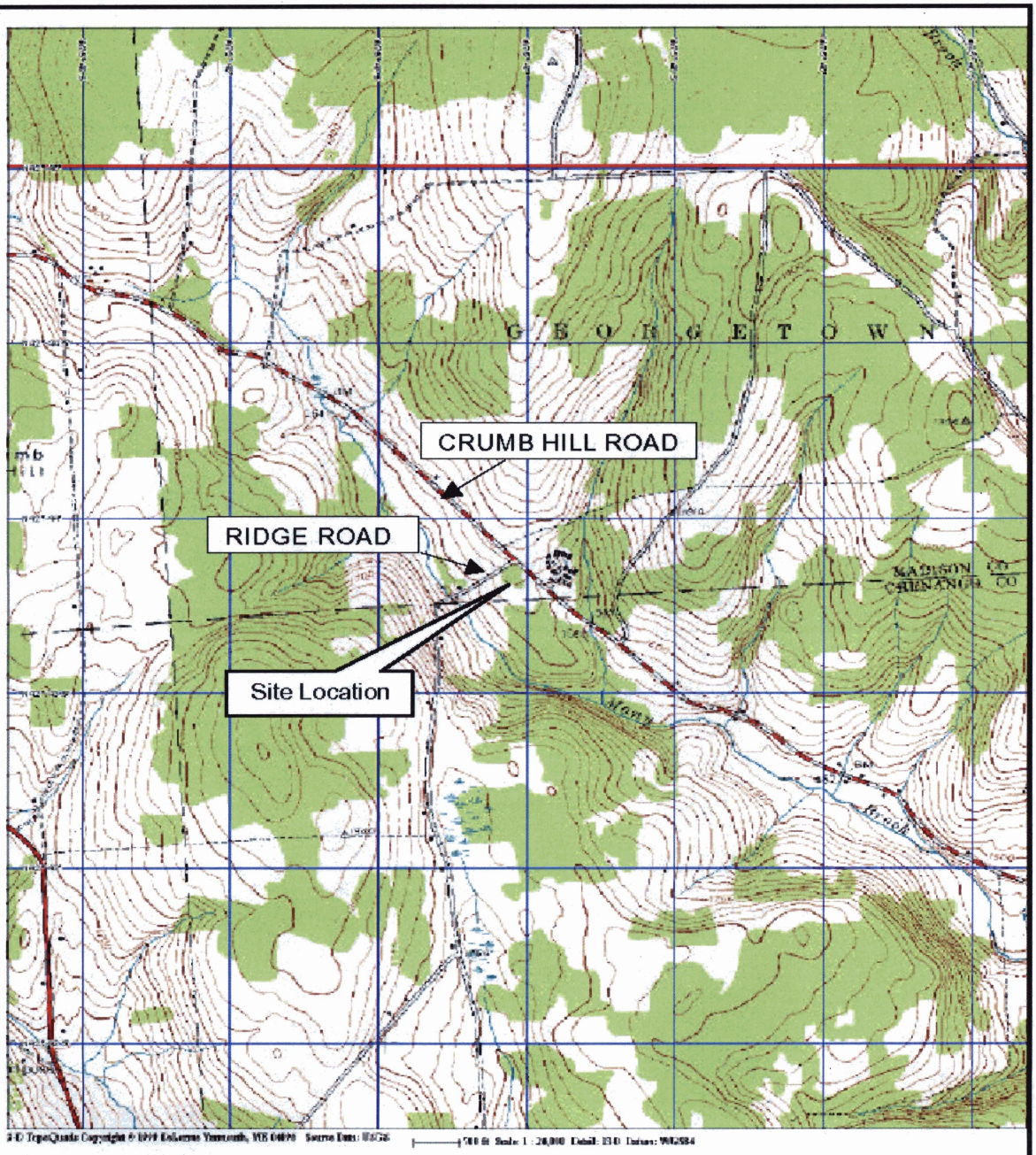


Scale: 1:24,000

Reference:
DeLorme 3-D Topo Quads, 1999
Yarmouth, Me.
Datum WGS84

NYSDEC

Figure 1
Site Location Map
Camp Georgetown

New York State
Department of Environmental Conservation

Division of Environmental Remediation

Figure 2

Camp Georgetown Site Boundary Map

Site No.:
727010

Site Name:
Camp Georgetown

Site Address:
Crumb Hill Road
Madison County

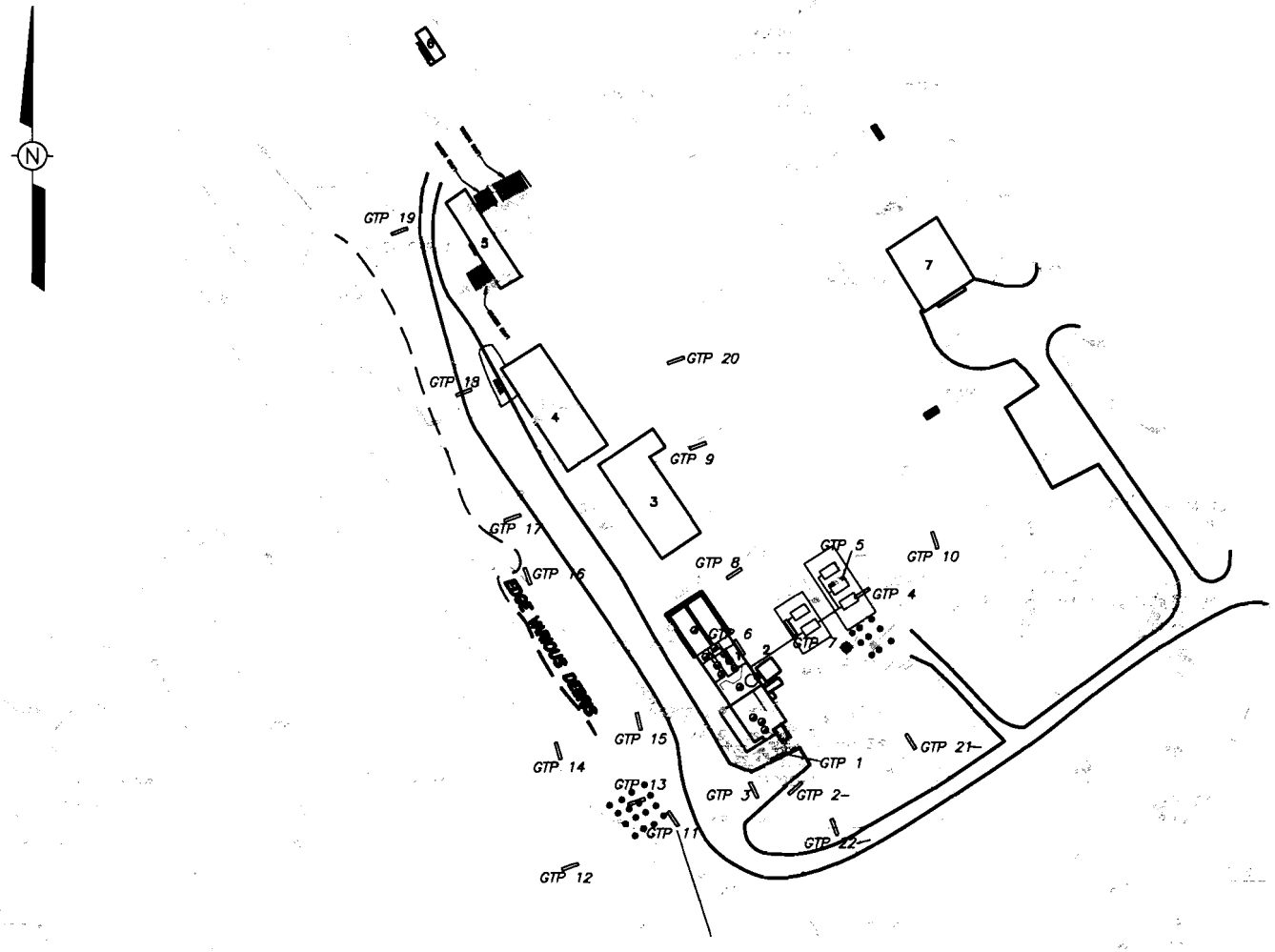
Created by: NYSDEC

Last Revision: 12/15/2006

Map Source: Orthophoto image, 2003. NYS Office of Cyber Security & Critical Infraestructure Coordination (OCSCIC).

0 50 100 150 200

Feet



NOTE:

HORIZONTAL AND VERTICAL DATUMS ARE BASED ON A PREVIOUS SURVEY DONE BY MODI ENGINEERS AND LAND SURVEYORS, AND ARE ASSUMED.

LEGEND:

- WATER SUPPLY WELL
- HISTORIC SURFACE SOIL SAMPLES
- HISTORIC SOIL BORING
- SOIL BORING
- SURFACE SOIL SAMPLES
- MONITORING WELL
- SEEP SAMPLES
- SURFACE SOIL BACKGROUND SAMPLES
- TEST PIT SAMPLES
- HISTORIC TEST PIT SAMPLES
- SEDIMENT SAMPLE
- 1 TREATMENT BUILDING
- 2 STORAGE SHED
- 3 DRYING SHED #1
- 4 DRYING SHED #2
- 5 POST PEELER AND ROLLWAYS
- 6 METEOROLOGY STATION
- 7 GARAGE / NYSDEC OFFICE

APPROXIMATE SCALE

0 100 200 300 FEET

REFERENCE:

BASE MAP SOURCE: SUSAN M. ANACKER NY STATE LICENSE #003321.

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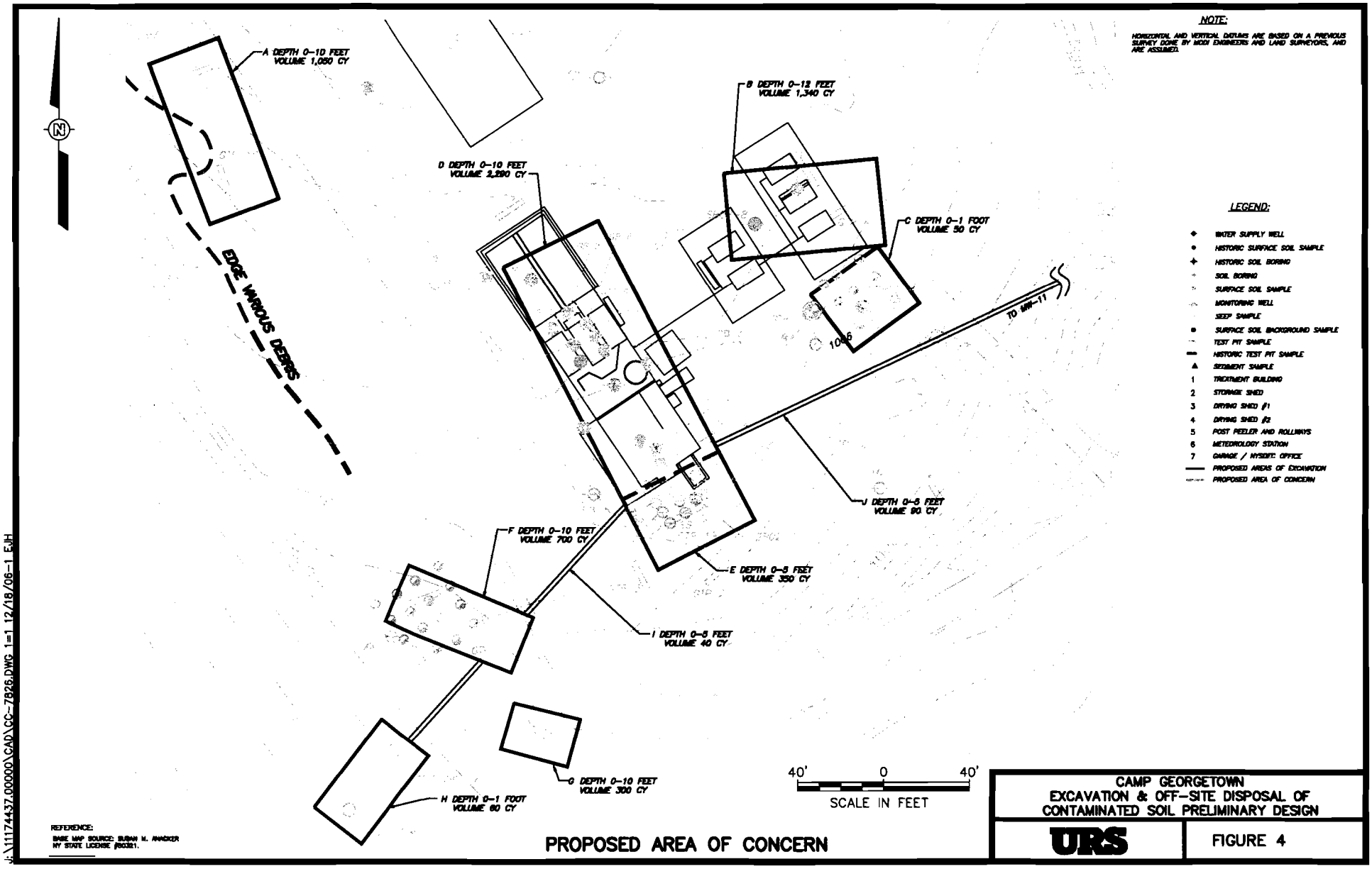
CAMP GEORGETOWN
SAMPLE LOCATION AND SITE MAP

URS

FIGURE 3



REFERENCE:
BASE MAP SOURCE: SUSAN M. ANACKER NY STATE LICENSE #60321.

PROPOSED AREA OF CONCERN

CAMP GEORGETOWN
EXCAVATION & OFF-SITE DISPOSAL OF CONTAMINATED SOIL PRELIMINARY DESIGN

URS

FIGURE 4

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