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REMEDATION PLAN NS GREAT LAKES IL  
12/16/2005  
MACTEC ENGINEERING AND CONSULTING, INC

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## **REMEDIATION PLAN**

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Table 1      Summary of Remediation Scope

## INTRODUCTION

This Remediation Plan ("Plan") was prepared by MACTEC Engineering and Consulting, Inc. (MACTEC) on behalf of Midwest Military Communities, LLC and the Design-Builder. The proposed activities described in this Remediation Plan are based upon findings of a Phase I Environmental Site Assessment (ESA) and Phase II ESA performed by MACTEC at the following properties:

1. NAVSTA Great Lakes in Great Lakes, Illinois
2. Glenview NAS in Glenview, Illinois
3. Fort Sheridan in Highland Park, Illinois
4. NSA Crane in Crane, Indiana

The Design-Builder shall update from time to time as required by changes to Environmental Law or at the reasonable request of the Owner with the approval of the Government.

All activities performed under this Plan shall be performed in accordance with Environmental Laws. "Environmental Laws" means any past, present or future federal, state, or local law, regulation, ordinance, code, plan, order, permit, grant, restriction, certification, or agreement issued, entered, promulgated or approved thereunder, relating to (a) the generation, manufacture, presence, release, discharge, use, storage, handling, transportation or disposal of Environmental Hazard, including CERCLA and Solid Waste Disposal Act, 42 U.S.C. § 6901, et seq., as amended, (b) pollution, (c) environmental protection, (d) human health or occupational safety, (e) endangered or threatened species or (f) the environment. To the extent this Plan is attached to the Design-Build Agreement, this plan shall be followed Design-Builder, by the Contractor and all Sub-contractors as defined therein during all Work. For the purpose of the Plan, the term "Manager of Maintenance and Facilities" shall mean Design-Builder under the Design-Build Agreement and "Lessee" under the Lease. Unless defined separately herein, the terms used in this Plan shall be the same as used and defined in the Design-Build Agreement or Lease, as applicable. Any conflicts between this Plan and the Lease, shall be governed by the Lease.

The remediation to be performed was determined from contaminant concentrations and property end use. Soil sample analytical results were compared to Illinois Environmental Protection Agency (IEPA) residential soil objectives found in Illinois Administrative Code, Title 35, Part 742, Tiered Approach to Corrective Action Objectives (TACO). This Remediation Plan summarizes the proposed remediation for each of the locations where contaminant concentrations in soil samples exceed applicable Tier 1 TACO soil remediation objectives to which they were compared. In some cases, where contaminant concentrations were above TACO objectives, locations will be addressed either with an IEPA-approved risk assessment or with an appropriate engineered barrier allowable under TACO. Risk assessment and installation/maintenance of the engineered barrier are

considered remedial activities for the purposes of this Plan. The remedial activities for each site are described in the sections that follow and are summarized on Table 1.

## NAVSTA GREAT LAKES

Remedial activities are required at three (3) communities at NAVSTA Great Lakes: Hospital Cove, Mainside, and Forrestal Village. Drawings attached to this Plan show the locations of areas discussed below.

### HOSPITAL COVE

Concentrations of lead were detected above applicable TACO soil objectives (ingestion pathway) in surficial soil samples collected at Buildings 202H, 204H, and 209H at Hospital Cove. The age and condition of the buildings suggests that the lead-contaminated soil is due to lead-based paint from the exterior of the buildings and is therefore, assumed to be limited to the area immediately adjacent to the buildings. Remediation at these locations entails excavation of approximately 4 cubic yards of soil adjacent to the buildings to an assumed depth of 0.5 feet below ground surface (bgs). The detected lead concentrations in soil samples suggest that the excavated material may need to be handled and disposed as hazardous waste. The excavated material will be transported by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material. Following removal of the required quantity of soil, post-excavation samples will be collected along the sidewalls and the bottom of the excavated area for lead analysis. Sample results will be obtained on a 24-hour turnaround time basis so that if additional excavation is required, it can be implemented expeditiously. Steel fence posts and orange safety fencing will be erected around the perimeter of the excavation when work is deferred to await soil sample results. The soil sample analytical results will be compared with applicable TACO soil objectives to determine whether additional soil excavation is warranted. When comparison of sample results to TACO soil objectives indicates that the lead-contaminated soil has been removed, the excavated areas will be backfilled with clean topsoil and the disturbed ground surfaces will be restored.

### MAINSIDE

Concentrations of lead were detected above applicable TACO soil objectives (ingestion pathway) in surficial soil samples collected at Quarters D, I, K, and 64 at Mainside. The age and condition of the buildings suggests that the lead-contaminated soil is due to lead-based paint from the exterior of the buildings and is therefore, assumed to be limited to the area immediately adjacent to the buildings. Remediation at these locations entails excavation of approximately 9 cubic yards of soil adjacent to the buildings to an assumed depth of 0.5 feet bgs. The detected lead concentrations in soil samples suggest that the excavated material may need to be handled and disposed as hazardous waste. The excavated material will be transported by a properly licensed trucking company and

disposed of at a facility with the appropriate permits to accept such material. Following removal of the required quantity of soil, post-excavation samples will be collected along the sidewalls and the bottom of the excavated area for lead analysis. Sample results will be obtained on a 24-hour turnaround time basis so that if additional excavation is required, it can be implemented expeditiously. Steel fence posts and orange safety fencing will be erected around the perimeter of the excavation when work is deferred to await soil sample results. The soil sample analytical results will be compared with applicable TACO soil objectives to determine whether additional soil excavation is warranted. When comparison of sample results to TACO soil objectives indicates that the lead-contaminated soil has been removed, the excavated areas will be backfilled with clean topsoil and the disturbed ground surfaces will be restored.

### FORRESTAL VILLAGE

Previous soil sample analytical results for lead were detected above applicable TACO soil objectives (ingestion pathway) in surficial soils at Buildings 3028, 3156, and 3160D at Forrestal Village. The age and condition of the buildings suggests that the lead-contaminated soil is due to lead-based paint from the exterior of the buildings and is therefore, assumed to be limited to the area immediately adjacent to the buildings. The precise location and depth of the previous samples is not known, therefore, additional sampling will be performed at these buildings to verify the previous results. In the event that the previously elevated lead levels are confirmed at these locations, remedial action will be performed. Remediation at these locations entails excavation of approximately 6 cubic yards of soil adjacent to the buildings to an assumed depth of 0.5 feet bgs. The excavated material will be transported by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material. Following removal of the required quantity of soil, post-excavation samples will be collected along the sidewalls and the bottom of the excavated area for lead analysis. Sample results will be obtained on a 24-hour turnaround time basis so that if additional excavation is required, it can be implemented expeditiously. Steel fence posts and orange safety fencing will be erected around the perimeter of the excavation when work is deferred to await soil sample results. The soil sample analytical results will be compared with applicable TACO soil objectives to determine whether additional soil excavation is warranted. When comparison of sample results to TACO soil objectives indicates that the lead-contaminated soil has been removed, the excavated areas will be backfilled with clean topsoil and the disturbed ground surfaces will be restored.

### GLENVIEW NAS

A risk assessment may be implemented at Glenview NAS to address most of the soil impacts. If risk assessment cannot be used, then remediation will be performed at several locations at Glenview NAS. Drawings attached to this Remediation Plan show the locations of areas discussed below. Remedial activities proposed for each location are discussed separately in the sections below.

**IR SITE #1 – FIRE FIGHTING TRAINING AREA**

Concentrations of polynuclear aromatic hydrocarbons (PNAs) were detected above applicable TACO soil objectives (ingestion pathway) in one (1) sample at a depth of 2.5 to 3 feet bgs at IR Site #1 – Former Fire Fighting Training Area at Glenview NAS. It is anticipated that the risk assessment can address the contaminated soil at this location and that no remediation will be required. Approval by the IEPA will be sought for the risk assessment if the results support leaving the soil in place. If the risk assessment determines that the PNA-contaminated soil cannot remain in place, then excavation of approximately 133 cubic yards of soil to an assumed depth of 4 feet will be performed. The excavated material will be transported by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material. Following removal of the required quantity of soil, post-excavation samples will be collected along the sidewalls and the bottom of the excavated area for analysis of PNAs. Sample results will be obtained on a 24-hour turnaround time basis so that if additional excavation is required, it can be implemented expeditiously. Steel fence posts and orange safety fencing will be erected around the perimeter of the excavation when work is deferred to await soil sample results. The soil sample analytical results will be compared with applicable TACO soil objectives to determine whether additional soil excavation is warranted. When comparison of sample results to TACO soil objectives indicates that the PNA-contaminated soil has been removed, the excavated areas will be backfilled with clean fill material and the disturbed ground surfaces will be restored.

**IR SITE #2 – FORMER HOUSEHOLD WASTE LANDFILL AREA**

Concentrations of PNAs were detected above applicable TACO soil objectives (ingestion pathway) in one (1) sample at a depth of 3 feet bgs at IR Site #2 – Former Household Waste Landfill Area at Glenview NAS. Since the contaminated soil in this area will not be disturbed by site grading and the contaminated soil at this location is at 3 feet bgs, it is anticipated that risk assessment can address the contaminated soil at this location and that no remediation will be required. Approval by the IEPA will be sought for the risk assessment if the results support leaving the soil in place. If risk assessment determines that the PNA-contaminated soil cannot remain in place, then excavation of approximately 133 cubic yards of soil to an assumed depth of 4 feet will be performed. The excavated material will be transported by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material. Following removal of the required quantity of soil, post-excavation samples will be collected along the sidewalls and the bottom of the excavated area for PNA analysis. Sample results will be obtained on a 24-hour turnaround time basis so that if additional excavation is required, it can be implemented expeditiously. Steel fence posts and orange safety fencing will be erected around the perimeter of the excavation when work is deferred to await soil sample results. The soil sample analytical results will be compared with applicable TACO soil objectives to determine whether additional soil excavation is warranted. When comparison of sample results to TACO soil objectives indicates that the PNA-

contaminated soil has been removed, the excavated areas will be backfilled with clean fill material and the disturbed ground surfaces will be restored.

### **SWALE EAST OF IR SITE #2**

Concentrations of PNAs were detected above applicable TACO soil objectives (ingestion pathway) in one (1) sample at a depth of 0.25 foot bgs at the swale east of IR Site #2 at Glenview NAS. It is anticipated that risk assessment can address the contaminated soil at this location and that no remediation will be required. Approval by the IEPA will be sought for the risk assessment if the results support leaving the soil in place. If risk assessment determines that the PNA-contaminated soil cannot remain in place, then excavation of approximately 111 cubic yards of soil to an assumed depth of 1 foot bgs will be performed. The excavated material will be transported by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material. Following removal of the required quantity of soil, post-excavation samples will be collected along the sidewalls and the bottom of the excavated area for analysis of PNAs. Sample results will be obtained on a 24-hour turnaround time basis so that if additional excavation is required, it can be implemented expeditiously. Steel fence posts and orange safety fencing will be erected around the perimeter of the excavation when work is deferred to await soil sample results. The soil sample analytical results will be compared with applicable TACO soil objectives to determine whether additional soil excavation is warranted. When comparison of sample results to TACO soil objectives indicates that the PNA-contaminated soil has been removed, the excavated areas will be backfilled with clean fill material and the disturbed ground surfaces will be restored.

Two (2) other areas at Glenview NAS will also undergo remedial action regardless of the outcome of risk assessment at the three (3) areas described above. These other areas are discussed separately in the sections below.

### **NAVFAC HOUSING MAINTENANCE BUILDING**

Inspection of the interior of the NAVFAC Housing Maintenance Building (Building 1990) indicated the suspected presence of an oil/water separator and former hydraulic lift. Soil samples were collected adjacent to both of these features, but no soil contaminants were detected in these samples that exceeded applicable TACO soil objectives. Therefore, it appears that the presence of the oil/water separator (OWS) and lift have not affected the subject property. As part of the demolition of this building, the subfloor components (if present) of the OWS and hydraulic lift will be removed and disposed of offsite. During lift removal, if any hydraulic oil remains in the lift, it will be removed and transported offsite by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material. Also during removal of the lift and OWS, additional visual soil assessment will be performed of the resultant excavation. Depending on the depth and extent of the visible evidence of soil impact observed during lift and OWS removal, the impacted soil may be immediately excavated

and disposed offsite. The excavated material will be transported by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material. In that case, post-excavation soil samples will be collected along the sidewalls and the bottom of the excavated area for analysis. If the potential of more extensive impacted soil is indicated, additional soil sampling may be performed to help characterize the extent of the soil impacts prior to further excavation.

Soil samples collected in the lift area will be analyzed for hydraulic oil indicator parameters as specified in the IEPA Leaking Underground Storage Tank (LUST) regulations: benzene, toluene, ethylbenzene, and xylenes (BTEX), PNA, and barium. Soil samples collected in the OWS area will be analyzed for the volatile and semi-volatile organic and metal parameters as specified in the IEPA LUST regulations for used oil. Sample results will be obtained on a 24-hour turnaround time basis so that if excavation is required, it can be implemented expeditiously. Steel fence posts and orange safety fencing will be erected around the perimeter of the excavation when work is deferred to await soil sample results. The soil sample analytical results will be compared with applicable TACO soil objectives to determine whether additional soil excavation is warranted. When comparison of sample results to TACO soil objectives indicates that the contaminated soil has been removed adequately, then the excavated areas will be backfilled with clean, imported fill material and the disturbed ground surfaces will be restored.

#### **HOUSING OFFICE (BUILDING 901)**

Concentrations of PNAs were detected above applicable TACO soil objectives (ingestion pathway) in a soil sample collected at a depth of 0.25 foot in an oil-stained area adjacent to the Glenview Housing Office (Building 901). Because of the assumed limited quantity of soil affected in this area, remediation of this soil will be performed. Remediation at this location entails excavation of approximately 4 cubic yards of soil adjacent to a concrete pad and sidewalk to an assumed depth of 1 foot. The excavated material will be transported by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material. Following removal of the required quantity of soil, post-excavation samples will be collected along the sidewalls and the bottom of the excavated area for analysis of PNAs. Sample results will be obtained on a 24-hour turnaround time basis so that if additional excavation is required, it can be implemented expeditiously. Steel fence posts and orange safety fencing will be erected around the perimeter of the excavation when work is deferred to await soil sample results. The soil sample analytical results will be compared with applicable TACO soil objectives to determine whether additional soil excavation is warranted. When comparison of sample results to TACO soil objectives indicates that the PNA-contaminated soil has been removed, the excavated areas will be backfilled with clean topsoil and the disturbed ground surfaces will be restored.

## **FORT SHERIDAN**

Areas identified with contaminated soil are differentiated into two (2) categories at Fort Sheridan. The first category includes areas where a risk assessment may be implemented to address soil impacts. The second category includes areas where contaminated soils will be disturbed due to site grading activities and the contaminated soil will therefore be remediated. Drawings attached to this Remediation Plan show the locations of areas discussed below.

### **RISK ASSESSMENT AREAS**

#### **IR Site #3A - Coal Storage Area No. 3**

Concentrations of PNAs and lead in subsurface soils were detected above applicable TACO soil objectives (ingestion pathway) in two (2) soil samples collected at a depths of 2 and 3.25 feet bgs at IR Site #3A – Coal Storage Area No. 3 at Fort Sheridan. It is anticipated that risk assessment can address the contaminated soil at this location and that no remediation will be required. Approval by the IEPA will be sought for the risk assessment if the results support leaving the soil in place. If risk assessment determines that the PNA- and lead-contaminated soils cannot remain in place, then excavation of approximately 133 cubic yards of soil to an assumed depth of 4 feet will be performed at each location. The excavated material will be transported by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material. Following removal of the required quantity of soil, post-excavation samples will be collected along the sidewalls and the bottom of the excavated area for analysis of PNAs. Sample results will be obtained on a 24-hour turnaround time basis so that if additional excavation is required, it can be implemented expeditiously. Steel fence posts and orange safety fencing will be erected around the perimeter of the excavation when work is deferred to await soil sample results. The soil sample analytical results will be compared with applicable TACO soil objectives to determine whether additional soil excavation is warranted. When comparison of sample results to TACO soil objectives indicates that the PNA-contaminated soil has been removed, the excavated areas will be backfilled with clean fill material and the disturbed ground surfaces will be restored.

#### **IR Sites #13, #15, & #16 – Bartlett, Van Horne, & Schenck Ravines**

Concentrations of PNAs were detected above applicable TACO soil objectives (ingestion pathway) in soil samples collected at a depth of less than 1 foot bgs at in each ravine at Fort Sheridan. In addition, concentrations of a pesticide were detected above its applicable TACO soil objective (ingestion pathway) in soil samples collected at a depth of less than 1 foot bgs at Schenck Ravine at Fort Sheridan. It is anticipated that risk assessment can address the contaminated soil at the ravines and that no remediation will be required. Approval by the IEPA will be sought for the risk assessment if the results support leaving the soil in place. If risk assessment determines that the PNA- and pesticide-contaminated soils cannot remain in place, then excavation of approximately 700 cubic yards of soil to an assumed depth of 2 feet at ten (10) distinct locations will be

performed in the ravines. The excavated material will be transported by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material. Following removal of the required quantity of soil, post-excavation samples will be collected along the sidewalls and the bottom of the excavated area for analysis of PNAs. Sample results will be obtained on a 24-hour turnaround time basis so that if additional excavation is required, it can be implemented expeditiously. Steel fence posts and orange safety fencing will be erected around the perimeter of the excavation when work is deferred to await soil sample results. The soil sample analytical results will be compared with applicable TACO soil objectives to determine whether additional soil excavation is warranted. When comparison of sample results to TACO soil objectives indicates that the PNA- and/or pesticide-contaminated soil has been removed, the excavated areas will be backfilled with clean fill material and the disturbed ground surfaces will be restored.

#### Building 162 – Underground Storage Tank Area

Concentrations of PNAs were detected above applicable TACO soil objectives (ingestion pathway) in one (1) soil sample collected at 5 to 7 feet bgs in the vicinity of the Building 162 underground storage tank (UST) area at Fort Sheridan. It is anticipated that risk assessment can address the contaminated soil at this location and that no additional activity will be required. Approval by the IEPA will be sought for the risk assessment if the results support leaving the soil in place. If risk assessment is above health protective levels, an engineered barrier consisting of 3 feet of clean soil as allowed under TACO would be used to prevent exposure to the PNA-contaminated soil.

The contaminated soil at this location is at 3 feet bgs or deeper and site grading is not planned for this area. If necessary, additional soil samples will be collected at depths less than 3 feet at this location and will be analyzed for PNAs to determine if the 3 feet of clean soil specified by IEPA as an engineered barrier is present at this location. If the concentrations of PNAs in these soil samples are below applicable TACO soil objectives for residential properties, then no additional activity is required for this area. Clean fill will then be placed over this area to create an engineered barrier.

#### Shallow PNA-Contaminated Soil at Various Areas

Concentrations of PNAs were detected above applicable TACO soil objectives (ingestion pathway) in soil samples collected at depths less than 3 feet bgs at eight (8) areas at Fort Sheridan including: AST areas at Buildings 336, 375, and 378; an area adjacent to Landfill No. 5; IR Sites #7 & 37; IR Site #17; IR Site #35; and IR Site #36. It is anticipated that risk assessment can address the contaminated soil at these locations and that no remediation will be required. Approval by the IEPA will be sought for the risk assessment if the results support leaving the soil in place. If risk assessment does not address the contaminated soil at these locations, then clean fill will be placed over this area to create an engineered barrier of at least 3 feet of clean soil overlying the contaminated soil.

### IR Site #11 – Vehicle Equipment Storage Area No. 7

Concentrations of PNAs were detected above applicable TACO soil objectives (ingestion pathway) in one (1) previously collected soil sample from 0 to 2 feet bgs at IR Site #11 - Vehicle Equipment Storage Area No. 7 at Fort Sheridan. It is anticipated that risk assessment can address the contaminated soil at this location and that no additional activity will be required. Approval by the IEPA will be sought for the risk assessment if the results support leaving the soil in place. If risk assessment is not possible to address the contaminated soil, site grading in this area is planned to place 5 feet of clean soil over this area thereby creating an engineered barrier consisting of at least 3 feet of clean soil to eliminate the soil ingestion pathway as allowed by the TACO regulations.

### Wells Ravine Tributary – North

Concentrations of PNAs were detected above applicable TACO soil objectives (ingestion pathway) in one (1) soil sample collected at 1.5 feet bgs at the Wells Ravine Tributary – North site at Fort Sheridan. In addition, concentrations of PNAs and lead were detected above applicable TACO soil objectives (ingestion pathway) and volatile organic compounds (VOCs) were detected above applicable TACO soil objectives (inhalation pathway) in one (1) soil sample collected at 6.5 feet bgs at the Wells Ravine Tributary – North. Site grading in this area is planned to place 6 to 8 feet of clean soil over these sample locations thereby creating an engineered barrier consisting of at least 3 feet of clean soil for the PNA and lead contamination and 10 feet of clean soil for the VOC contamination allowed under TACO. In addition, an asphalt-paved roadway will be constructed over the sample collected at 6.5 feet bgs which will also serve as an engineered barrier under TACO.

## REMEDIATION AREAS

### Aboveground Storage Tanks

Fifty (50) aboveground storage tanks are present adjacent to or inside of various commercial buildings at Fort Sheridan. These ASTs will be removed and disposed of offsite as part of the commercial building demolition activities at Fort Sheridan. Any oil/liquids remaining in the tanks will first be pumped out of the tanks for offsite disposal. The residual oil product will be transported by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material. Following removal of the any residual liquids, the tanks will be opened and their interiors will be cleaned with absorbent rags, water spray, or other means to render them suitable for offsite transport and disposal. The cleaned tanks will be transported by a properly licensed trucking company and disposed of/recycled at a facility with the appropriate permits to accept such material. Wastes generated during the cleaning of the tank interiors will be properly containerized into 55-gallon drums and transported by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material.

### Building 493 – AST Area

Concentrations of PNAs were detected above applicable TACO soil objectives (ingestion pathway) in one (1) sample at a depth of 3 to 4 feet bgs adjacent to the AST area at Building 493 at Fort Sheridan. Although, the contaminated soil at this location is currently at a depth of at least 3 feet bgs, site grading in this area is planned to remove approximately 0.5 to 1 foot of soil. Therefore, the contaminated soil at this area would not have the required 3 feet of clean soil overlying it to constitute an engineered barrier. Therefore, excavation of approximately 500 cubic yards of soil to an assumed depth of 5 feet will be performed in this area. The excavated material will be transported by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material. Following removal of the required quantity of soil, post-excavation samples will be collected along the sidewalls and the bottom of the excavated area for analysis of PNAs. Sample results will be obtained on a 24-hour turnaround time basis so that if additional excavation is required, it can be implemented expeditiously. Steel fence posts and orange safety fencing will be erected around the perimeter of the excavation when work is deferred to await soil sample results. The soil sample analytical results will be compared with applicable TACO soil objectives to determine whether additional soil excavation is warranted. When comparison of sample results to TACO soil objectives indicates that the PNA-contaminated soil has been removed, the excavated areas will be backfilled with clean fill material and the disturbed ground surfaces will be restored.

### Lead-Contaminated Surficial Soil Areas

Concentrations of lead were detected above applicable TACO soil objectives (ingestion pathway) in surficial soil samples collected adjacent to commercial buildings (400 and 600 series) located west of Patten Road at Fort Sheridan. The age and condition of the buildings suggests that the lead-contaminated soil is due to lead-based paint from the exterior of the buildings and is therefore assumed to be limited to the area immediately adjacent to the buildings. The portion of Fort Sheridan where the 600 series commercial buildings are located will be sold and remediation of the lead-contaminated soil in these areas will be the responsibility of the new owner. However, site grading in the area near the 400 series commercial series buildings is planned which is likely to disturb the lead-contaminated surficial soil in this area. Therefore, remediation of the lead-contaminated surficial soil will be performed prior to site grading at these locations. Remediation entails excavation of approximately 55 cubic yards of soil adjacent to the buildings to an assumed depth of 0.5 feet bgs adjacent to the buildings. The detected lead concentrations in soil samples suggest that the excavated material may need to be handled and disposed as hazardous waste. The excavated material will be transported by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material. Following removal of the required quantity of soil, post-excavation samples will be collected along the sidewalls and the bottom of the excavated area for analysis of lead. Sample results will be obtained on a 24-hour turnaround time basis so that if additional excavation is required, it can be implemented expeditiously. Steel fence posts

and orange safety fencing will be erected around the perimeter of the excavation when work is deferred to await soil sample results. The soil sample analytical results will be compared with applicable TACO soil objectives to determine whether additional soil excavation is warranted. When comparison of sample results to TACO soil objectives indicates that the lead-contaminated soil has been removed, the site grading and construction planned for this area will proceed.

#### Building 368 – Hydraulic Vehicle Lifts

Inspection of the interior of Building 368 at Fort Sheridan indicated the presence of three (3) hydraulic vehicle lifts. Soil samples were collected adjacent to the lifts, but no soil contaminants were detected in these samples that exceeded applicable TACO soil objectives. Therefore, it appears that the presence of the lifts has not affected the subject property. As part of the demolition of this building, the subfloor components of the hydraulic lifts will be removed and disposed of offsite. During lift removal, if any hydraulic oil remains in the lift troughs or lift cylinders, it will be removed and disposed offsite by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material. Also during removal of the lifts, additional visual soil assessment will be performed of the resultant excavation. Depending on the depth and extent of any visible evidence of soil impact observed during lift removal, the impacted soil may be immediately excavated and disposed offsite. The excavated material will be transported by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material. In that case, post-excavation soil samples will be collected along the sidewalls and the bottom of the excavated area for analysis. If the potential of more extensive impacted soil is indicated, additional soil sampling may be performed to help characterize the extent of the soil impacts prior to further excavation.

Soil samples will be analyzed for hydraulic oil indicator parameters as specified in the IEPA LUST regulations: BTEX, PNAs and barium. Sample results will be obtained on a 24-hour turnaround time basis so that if excavation is required, it can be implemented expeditiously. Steel fence posts and orange safety fencing will be erected around the perimeter of the excavation when work is deferred to await soil sample results. The soil sample analytical results will be compared with applicable TACO soil objectives to determine whether additional soil excavation is warranted. When comparison of sample results to TACO soil objectives indicates that the contaminated soil has been removed, the excavated areas will be backfilled with clean fill material and the disturbed ground surfaces will be restored.

#### Building 378 – Hydraulic Vehicle Lifts

Inspection of the interior of Building 378 at Fort Sheridan indicated the suspected presence of a hydraulic lift and apparently related subfloor troughs. Concentrations of PNAs were detected above applicable TACO soil objectives (ingestion pathway) in soil samples collected at 1 and 3 feet bgs in the vicinity of the lift area at Building 378. Therefore, it appears that the presence of the lifts has affected the subject property. As

part of the demolition of this building, the subfloor components of the hydraulic lifts will be removed and disposed of offsite. During lift removal, if any hydraulic oil remains in the lift troughs or lift cylinders, it will be removed and disposed offsite by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material. Also during removal of the lifts, additional visual soil assessment will be performed of the resultant excavation. Depending on the depth and extent of any visible evidence of soil impact observed during lift removal, the impacted soil may be immediately excavated and disposed offsite. The excavated material will be transported by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material. In that case, post-excavation soil samples will be collected along the sidewalls and the bottom of the excavated area for analysis. If the potential of more extensive impacted soil is indicated, additional soil sampling may be performed to help characterize the extent of the soil impacts prior to further excavation.

Soil samples will be analyzed for hydraulic oil indicator parameters as specified in the IEPA LUST regulations: BTEX, PNAs and barium. Sample results will be obtained on a 24-hour turnaround time basis so that if excavation is required, it can be implemented expeditiously. Steel fence posts and orange safety fencing will be erected around the perimeter of the excavation when work is deferred to await soil sample results. The soil sample analytical results will be compared with applicable TACO soil objectives to determine whether additional soil excavation is warranted. When comparison of sample results to TACO soil objectives indicates that the contaminated soil has been removed, the excavated areas will be backfilled with clean fill material and the disturbed ground surfaces will be restored.

#### OTHER AREAS

Twenty-eight (28) 2,000-gallon heating oil USTs are located at Buildings 800 through 806 at the south end of Fort Sheridan. These USTs were reportedly abandoned in place. This portion of Fort Sheridan will be sold and removal of the USTs will be the responsibility of the new owner.

#### NSA CRANE

Remedial activities are required at three (3) sites at NSA Crane. Each involves the same activity so they will be discussed together in this section. These sites are Farmhouse No. 3, Quarters X, and Quarters Y. Drawings attached to this Remediation Plan show the locations of areas discussed below.

#### FARMHOUSE NO. 3, QUARTERS X, AND QUARTERS Y

Abandoned in-place heating oil USTs are located at Farmhouse No. 3, Quarters X, and Quarters Y. Soil samples were collected adjacent to each UST location, but no soil contaminants were detected in these samples that exceeded applicable Indiana

Department of Environmental Management (IDEM) soil objectives. Therefore, it appears that the presence of the USTs has not affected the subject property. As part of the demolition of each of these residences, the USTs will be removed and disposed of offsite. During UST removal, additional visual soil assessment will be performed of the resultant excavation. Although not anticipated, if visible evidence of soil impact of limited extent is observed during UST removal, the impacted soil will be immediately excavated and disposed offsite. The excavated material will be transported by a properly licensed trucking company and disposed of at a facility with the appropriate permits to accept such material. In that case, post-excavation soil samples will be collected along the sidewalls and the bottom of the excavated area for analysis. If the potential of more extensive impacted soil is indicated, additional soil sampling may be performed to help characterize the extent of the soil impacts prior to further excavation.

Soil samples will be analyzed for IDEM heating oil UST parameters PNAs and BTEX. Sample results will be obtained on a 24-hour turnaround time basis so that if excavation is required, it can be implemented expeditiously. Steel fence posts and orange safety fencing will be erected around the perimeter of the excavation when work is deferred to await soil sample results. The soil sample analytical results will be compared with applicable TACO soil objectives to determine whether additional soil excavation is warranted. When comparison of sample results to TACO soil objectives indicates that the contaminated soil has been removed, the excavated areas will be backfilled with clean fill material and the disturbed ground surfaces will be restored.

**TABLE 1  
SUMMARY OF REMEDIATION SCOPE  
MIDWEST MILITARY COMMUNITIES, LLC**

<b>SITE</b>	<b>ENVIRONMENTAL ISSUE</b>	<b>REMEDICATION SCOPE</b>
Hospital Cove	Lead Contaminated Surficial Soils Assumed From Lead-Based Paint at Bldgs 202H & 204H.	Excavation and offsite disposal of contaminated soil.
Mainside	Lead Contaminated Surficial Soils Assumed From Lead-Based Paint at Quarters D, E, K, & 64.	Excavation and offsite disposal of contaminated soil.
Forrestal Village	Lead in soil at Bldg 3028G	Additional confirmatory soil sampling. Possible excavation and offsite disposal of contaminated soil.
Forrestal Village	Lead in soil at Bldg 3156D	Additional confirmatory soil sampling. Possible excavation and offsite disposal of contaminated soil.
Forrestal Village	Lead in soil at Bldg 3160D	Additional confirmatory soil sampling. Possible excavation and offsite disposal of contaminated soil.
Glenview	IR Site #1, Fire Fighting Training Area – soil sample at 2.5 feet with PNA above TACO Tier I Residential Objective.	Possible risk assessment; or excavation and offsite disposal of contaminated soil.
Glenview	Landfill Area – soil sample at 3 feet with PNA above TACO Tier I Residential Objective.	Possible risk assessment; or excavation and offsite disposal of contaminated soil.
Glenview	Swale samples at <1' with PNA above TACO Tier I Residential Objective	Possible risk assessment; or excavation and offsite disposal of contaminated soil.
Glenview	NAVFAC Housing Maintenance Building	Vehicle lift and oil water separator removal and visual soil assessment. Possible excavation and offsite disposal of contaminated soil, if present.

**TABLE 1  
SUMMARY OF REMEDIATION SCOPE  
MIDWEST MILITARY COMMUNITIES, LLC**

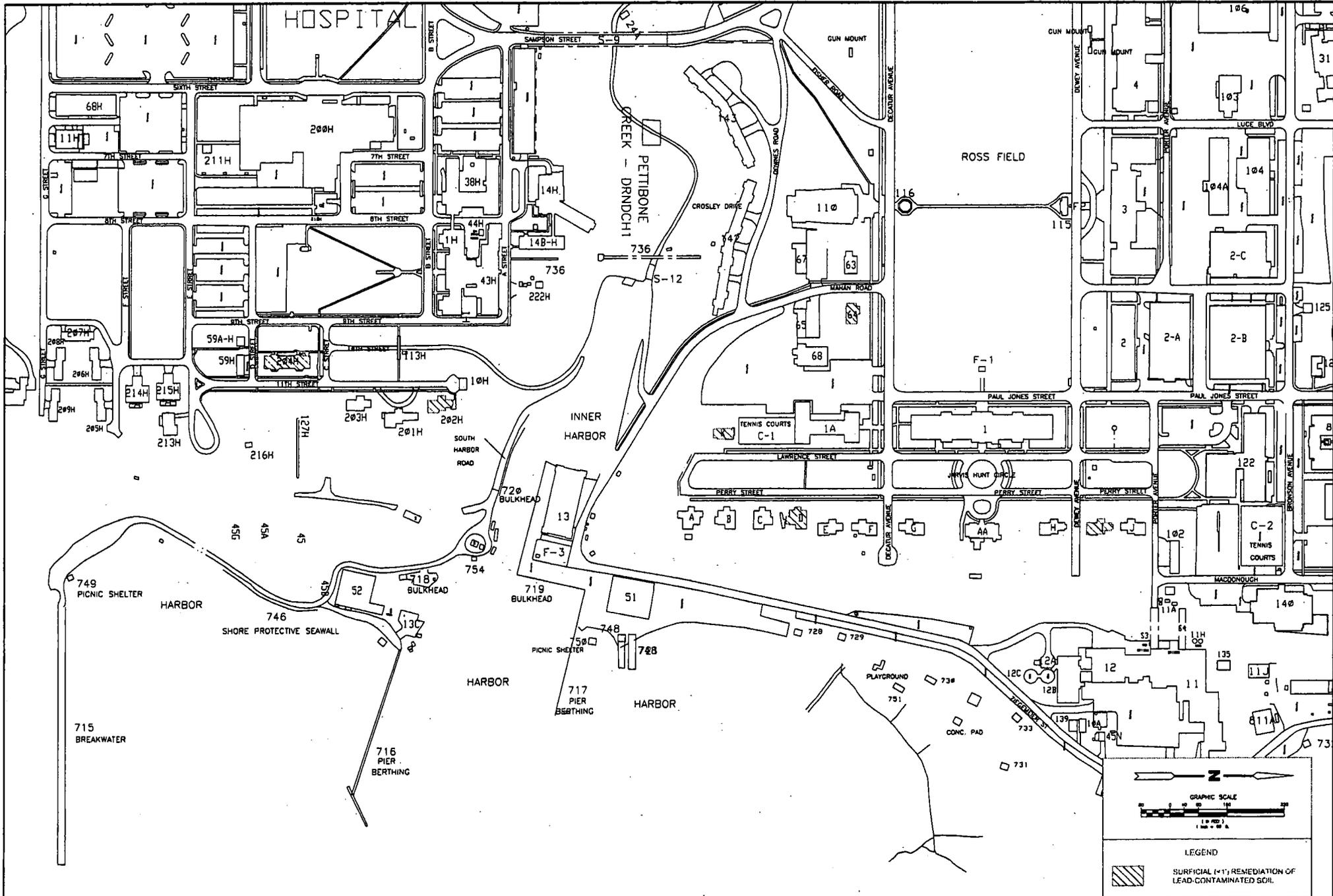
SITE	ENVIRONMENTAL ISSUE	REMEDATION SCOPE
Glenview	Housing Office (901) – Used oil area - soil sample at <1 feet with PNA above TACO Tier I Residential Objective.	Excavation and offsite disposal of contaminated soil.
Ft. Sheridan	IR Site 3A - CSA #3 – Soil samples to 3.25 feet with PNA above TACO Tier I Residential Objective.	Possible risk assessment; or excavation and offsite disposal of contaminated soil.
Ft. Sheridan	IR Sites 13, 16, & 15 - Bartlett, Vanhome, Shenck ravines. Soil samples at <1' with pesticide and PNA above objectives.	Possible risk assessment; or excavation and offsite disposal of contaminated soil.
Ft. Sheridan	Bldg 162 – Soil sample at 5 - 7 feet with PNA above TACO Tier I Residential Objective.	Additional sampling to verify soil above 5 feet is clean. Possible risk assessment; and engineered barrier.
Ft. Sheridan	Bldg 336 (AST Soil) – Soil sample at <3' with PNA above TACO Tier I Residential Objective.	Possible risk assessment; and engineered barrier consisting of at least 3 feet of clean soil.
Ft. Sheridan	Bldg 375 (AST Soil) – Soil sample at <3' with PNA above TACO Tier I Residential Objective.	Possible risk assessment; and engineered barrier consisting of at least 3 feet of clean soil.
Ft. Sheridan	Bldg 378 (AST Soil) – Soil sample at <3' with PNA above TACO Tier I Residential Objective.	Possible risk assessment; and engineered barrier consisting of at least 3 feet of clean soil.
Ft. Sheridan	Bldg 378 - 3 soil samples at <3' with PNA above TACO Tier I Residential Objective.	Possible risk assessment; and engineered barrier consisting of at least 3 feet of clean soil.
Ft. Sheridan	IR Site 2 - Landfill No. 5 – Soil samples at <3' with PNA above TACO Tier I Residential Objective.	Possible risk assessment; and engineered barrier consisting of at least 3 feet of clean soil.
Ft. Sheridan	IR Sites 7 & 37 - VES#3/Bldg 377 – 1 soil sample at <3 feet with PNA above TACO Tier I Residential Objective.	Possible risk assessment; and engineered barrier consisting of at least 3 feet of clean soil.

**TABLE 1  
SUMMARY OF REMEDIATION SCOPE  
MIDWEST MILITARY COMMUNITIES, LLC**

SITE	ENVIRONMENTAL ISSUE	REMEDIATION SCOPE
Ft. Sheridan	IR Site 17 - Bldg 384 – 1 soil sample to <3 feet with PNA above TACO Tier I Residential Objective.	Possible risk assessment; and engineered barrier consisting of at least 3 feet of clean soil.
Ft. Sheridan	IR Site 35 - Bldg 361 – Soil samples to 4 feet with PNA above TACO Tier I Residential Objective.	Possible risk assessment; and engineered barrier consisting of at least 3 feet of clean soil.
Ft. Sheridan	IR Site 36 - Bldg 368 Yard Area – Soil samples at <3 feet with PNA above TACO Tier I Residential Objective.	Possible risk assessment; and engineered barrier consisting of at least 3 feet of clean soil.
Ft. Sheridan	IR Site 36 - Bldg 368 Yard Area - Swale PNA above objectives at 6 inch depth	Possible risk assessment; and engineered barrier consisting of at least 3 feet of clean soil.
Ft. Sheridan	IR Site 11 - VES #7. Soil sample at <3 feet with PNA above TACO objective.	Possible risk assessment; and engineered barrier consisting of at least 3 feet of clean soil.
Ft. Sheridan	Wells Ravine Tributary – 1 soil sample at 6.5 feet with VOC and PNA above TACO Tier I Residential Objective.	Possible risk assessment and engineered barrier consisting of at least 10 feet of clean soil and paved roadway.
Ft. Sheridan	Wells Ravine Tributary – 1 soil sample at <3 feet with PNA above TACO Tier I Residential Objective.	Possible risk assessment and engineered barrier consisting of at least 3 feet of clean soil.
Ft. Sheridan	ASTs	Pump out and removal of 50 ASTs.
Ft. Sheridan	Bldg 493 (AST Soil) – Soil sample at 3 - 4' with PNA above TACO Tier I Residential Objective.	Excavation and offsite disposal of contaminated soil.
Ft. Sheridan	Lead Contaminated Surficial Soils (Worst Case all 50 Phase II locations above TACO)	Excavation and offsite disposal of contaminated soil.
Ft. Sheridan	Bldg 368 - Vehicle Lifts	Vehicle lift removal and visual soil assessment. Possible excavation and offsite disposal of contaminated soil, if present.

**TABLE 1  
SUMMARY OF REMEDIATION SCOPE  
MIDWEST MILITARY COMMUNITIES, LLC**

SITE	ENVIRONMENTAL ISSUE	REMEDATION SCOPE
Ft. Sheridan	Bldg 378 - Vehicle Lifts	Vehicle lift removal and visual soil assessment. Possible excavation and offsite disposal of contaminated soil, if present.
Ft. Sheridan	Abandoned UST Removals - Buildings 800 thru 806	Location is in disposition property. UST removal responsibility of the new owner.
NSA Crane	Abandoned UST Removals - Farmhouse No. 3, Quarters X, and Quarters Y	UST removal as part of structure demolition.



NO.	DATE	REVISIONS	BY	CHK

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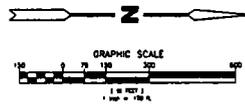
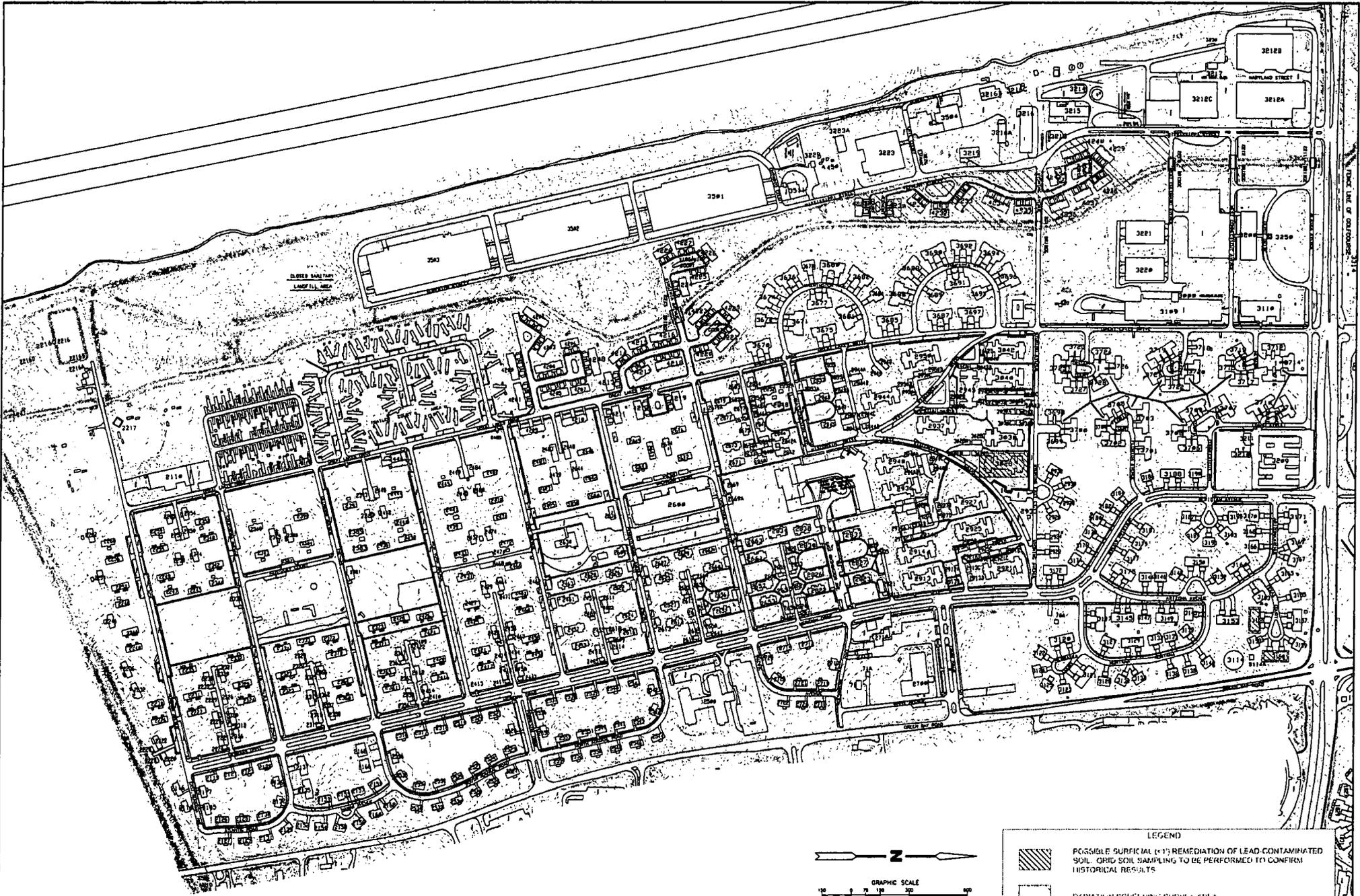
**FOURTH CITY MILITARY**  
 4000 S. MICHIGAN AVE.  
 CHICAGO, IL 60607

DRAWN: KJC	PROJECT NO: 3202050444
CHECKED: DCH	SCALE: 1"=50'
ENGINEER: DCH	DATE: 11/22/03
APPROVED: MEJ	DATE:

**HOSPITAL COVE / MAINSIDE  
 REMEDIATION PLAN**

SHEET NUMBER  
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LEGEND	
	POSSIBLE SURFICIAL (± 1") REMEDIATION OF LEAD-CONTAMINATED SOIL. GRID SOIL SAMPLING TO BE PERFORMED TO CONFIRM HISTORICAL RESULTS
	RADIATION SCREENING SURVEY AREA

NO.	DATE	REVISIONS	BY	CHK.

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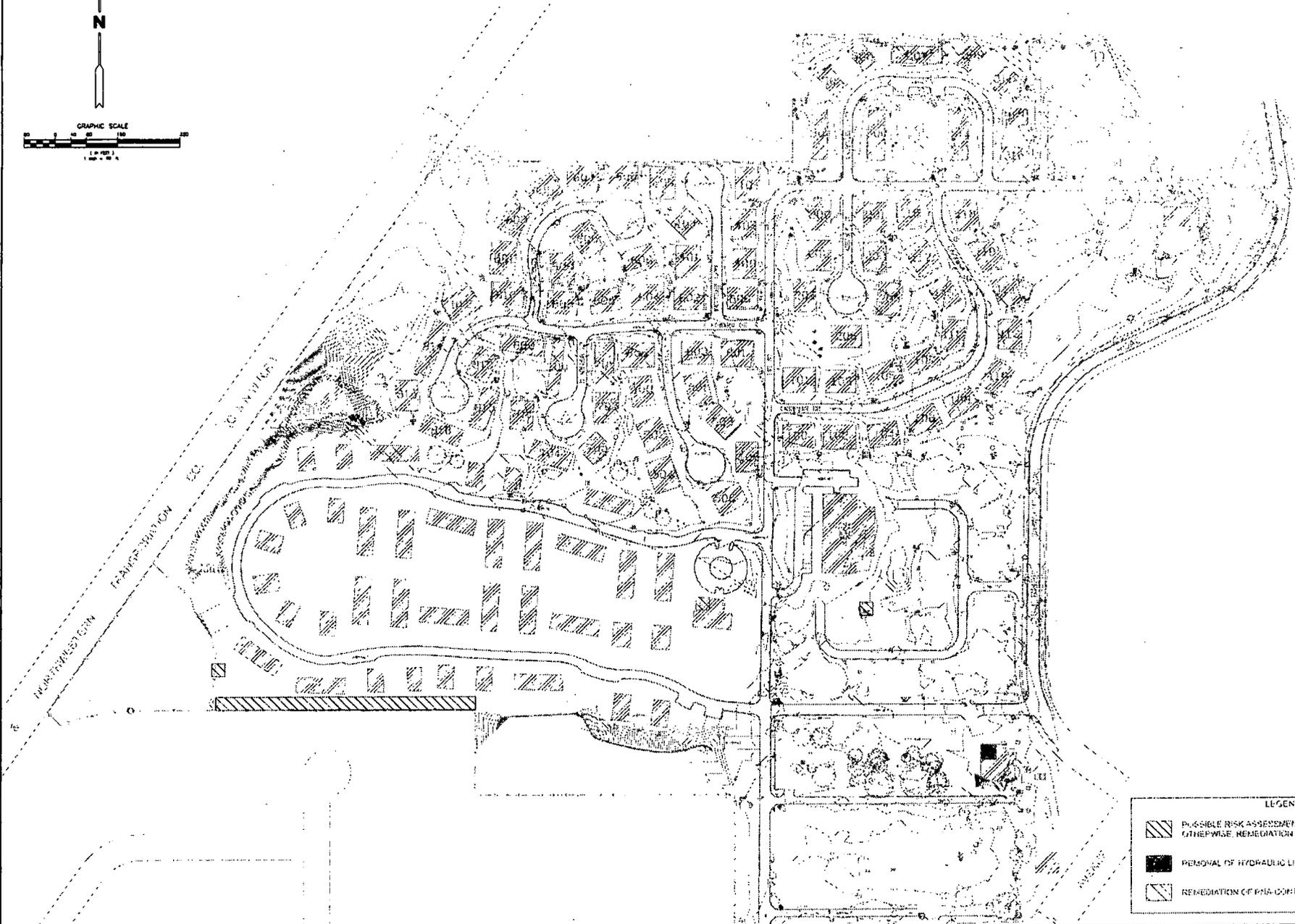
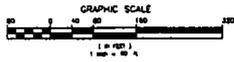


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CHECKED:	DEN	SCALE:	1" = 150'
ENGINEER:	DEN	DATE:	11/22/05
APPROVED:	MEJ	DATE:	

**FORRESTAL VILLAGE  
 REMEDIATION PLAN**

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LEGEND	
	PRELIMINARY RISK ASSESSMENT TO ADDRESS CONTAMINATION, OTHERWISE REMEDIATION OF PMA-CONTAMINATED SOILS
	REMOVAL OF HYDRAULIC LIFTS AND OIL/WATER SEPARATOR
	REMEDICATION OF PMA-CONTAMINATED SOIL

NO.	DATE	REVISIONS	BY	CHK

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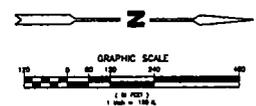
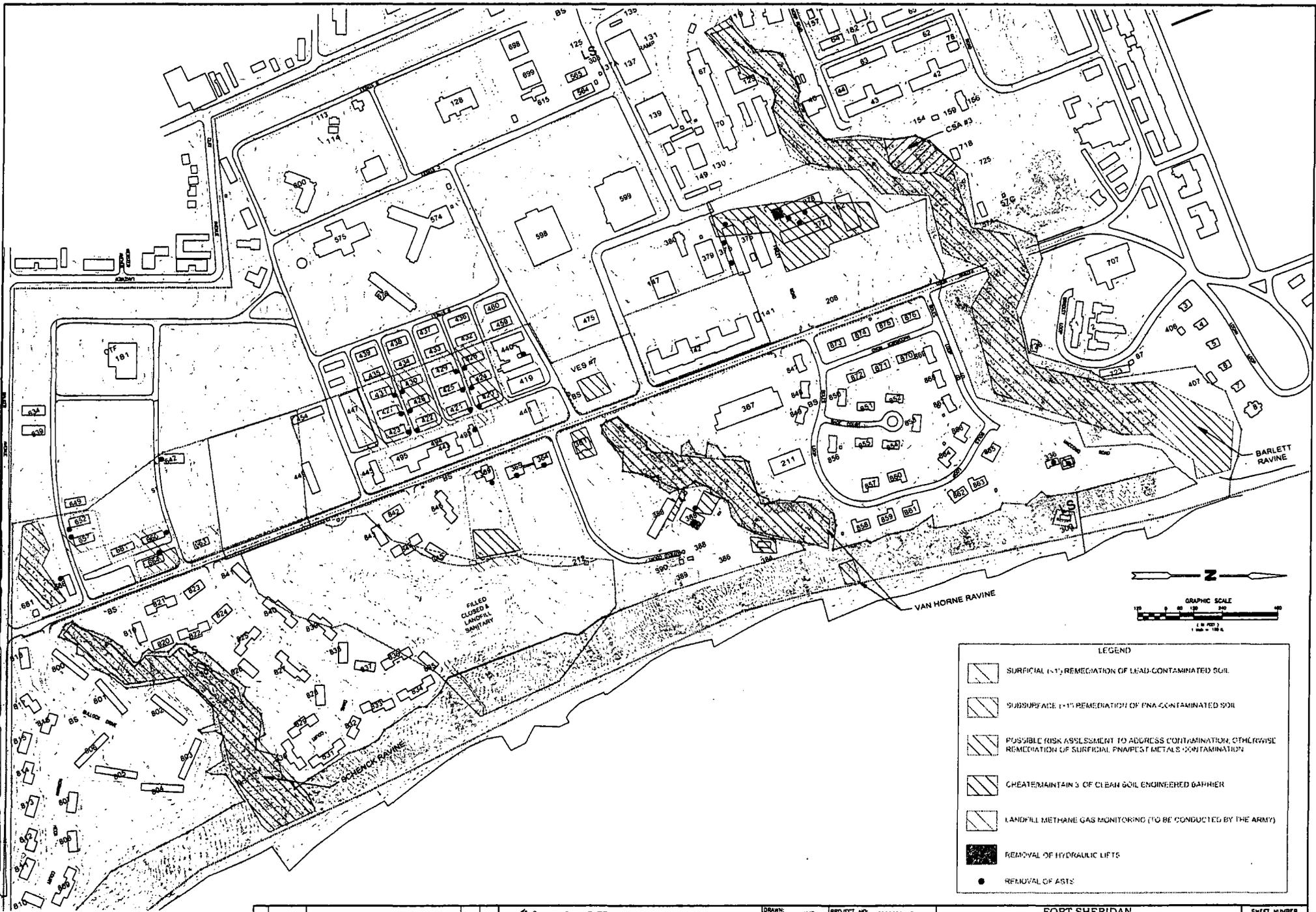
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 APPROVED: MEJ DATE:



**GLENVIEW  
 REMEDIATION PLAN**

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LEGEND

	SURFICIAL (0-12") REMEDIATION OF LEAD-CONTAMINATED SOIL
	SUBSURFACE (1-12") REMEDIATION OF PNA-CONTAMINATED SOIL
	POSSIBLE RISK ASSESSMENT TO ADDRESS CONTAMINATION, OTHERWISE REMEDIATION OF SURFICIAL PNA/PST METALS CONTAMINATION
	CREATE/MAINTAIN 3' OF CLEAN SOIL ENGINEERED BARRIER
	LANDFILL METHANE GAS MONITORING (TO BE CONDUCTED BY THE ARMY)
	REMOVAL OF HYDRAULIC LIFTS
	REMOVAL OF ASTS

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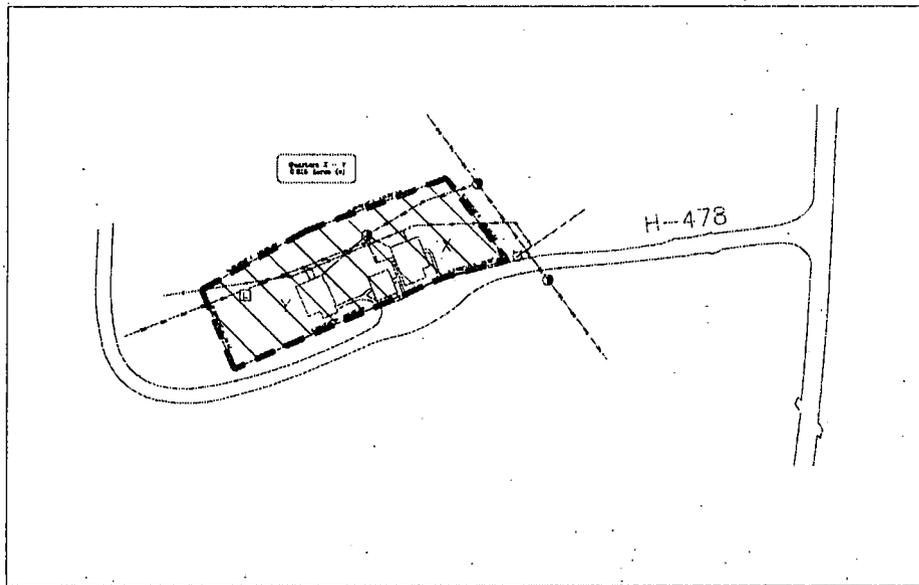
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 APPROVED: MEL

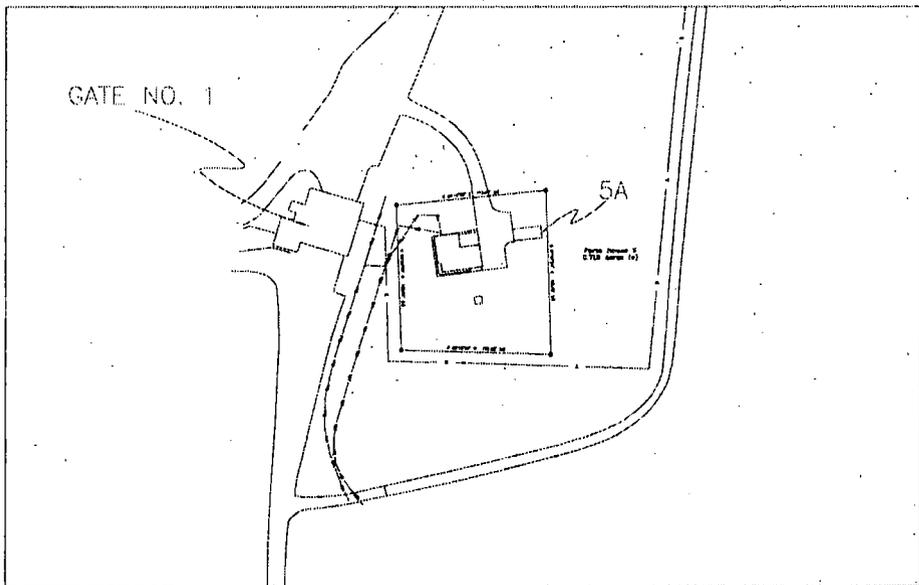


**FORT SHERIDAN  
 REMEDIATION PLAN**

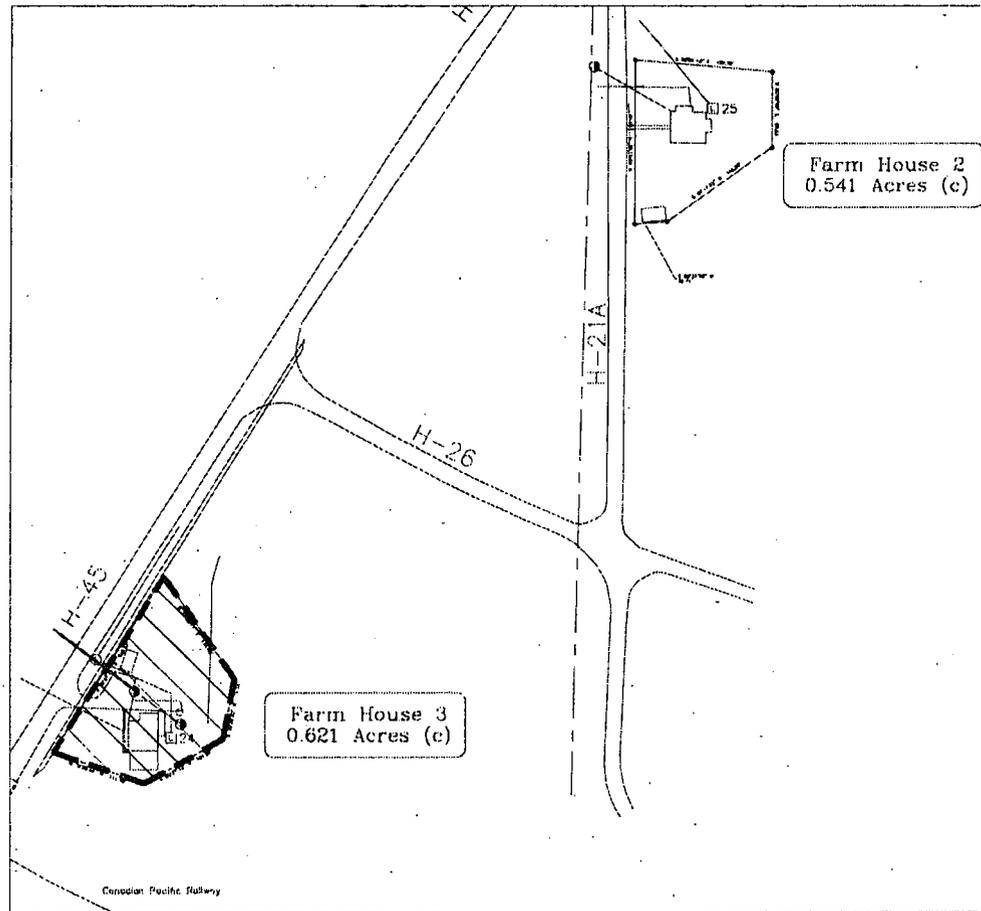
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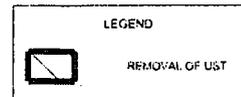
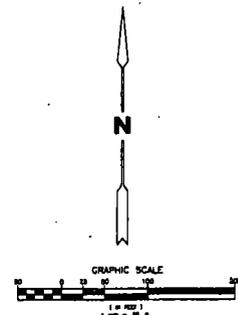
QUARTERS X & Y



FARM HOUSE 5



FARM HOUSES 2 & 3



NO.	DATE	REVISIONS	BY	CHK

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CHECKED:	GEN	SCALE:	1"=30'
ENGINEER:	GEN	DATE:	11/22/03
APPROVED:	MEJ	DATE:	



CRANE, INDIANA  
 REMEDIATION PLAN

SHEET NUMBER  
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 DRAWING NUMBER

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