EA Engineering, Science, and Technology, Inc.

FINAL

MANAGEMENT ACTION PLAN FOR THE FORMER LAKE ONTARIO ORDNANCE WORKS (LOOW) NIAGARA COUNTY, NEW YORK

U.S. Army Corps of Engineers
Baltimore District
Buffalo District

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FINAL

MANAGEMENT ACTION PLAN
FOR THE FORMER LAKE ONTARIO ORDNANCE WORKS,
NIAGARA COUNTY, NEW YORK

REVISION 0.1_2009

Prepared for:

U.S. Army Corps of Engineers
Baltimore District
Contract W912DR-05-D-0008
Delivery Order 0023

Prepared by:

EA Engineering, Science, and Technology, Inc.
15 Loveton Circle
Sparks, Maryland 21152
(410) 771-4950

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Sandra Staigerwald — Date
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COMPLETION OF SENIOR TECHNICAL REVIEW

This document has been produced within the framework of EA's total quality management system. As such, a senior technical review has been conducted. This included review of the overall design addressed within the document, proposed or utilized technologies and alternatives and their applications with respect to project objectives and framework of USACE regulatory constraints under the current DERP-FUDS HTRW project within which this work has been completed.

Gordy Porter 2/20/08

Gordy Porter, Date
Senior Technical Reviewer

COMPLETION OF INDEPENDENT TECHNICAL REVIEW

This document has been produced within the framework of EA's total quality management system. As such, an independent technical review, appropriate to the level of risk and complexity inherent in the project, has been conducted. This included review of assumptions (methods, procedures, and material used in analyses), alternatives evaluated; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the project objectives. Comments and concerns resulting from review of the document have been addressed and corrected as necessary.

Barbara C Roeper 2/21/08

Barb Roeper P.E. Date
Independent Technical Reviewer

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LIST OF ACRONYMS

ACM	Asbestos-containing materials
ACSIM	Assistant Chief of Staff for Installation Management
AEC	Atomic Energy Commission
AOC	Area of Concern
ASA (I&E)	Assistant Secretary of the Army for Installations and Environment
AST	Aboveground Storage Tank
BD/DR	Building Demolition/Debris Removal
CDD	Central Drainage Ditch
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEMP	Directorate of Military Programs
CNAD	North Atlantic Division
CON/HTRW	Containerized/Hazardous, Toxic, and Radioactive Waste
CX	Center for Excellence
DASA (ESOH)	Deputy Assistant Secretary of the Army for Environment, Safety, and Occupational Health
DD	Decision Document
DEP	Director of Environmental Programs
DERP	Defense Environmental Restoration Program
DPC	Defense Plant Corporation
DOD	Department of Defense
DODI	Department of Defense Instruction
DOE	Department of Energy
DOJ	Department of Justice
EDR	Environmental Data Resources
EE/CA	Engineering Evaluation/Cost Analysis
ER	Engineering Regulation
FDE	Findings and Determination of Eligibility
FUDS	Formerly Used Defense Sites
FUSRAP	Formerly Utilized Sites Remedial Action Program
FS	Feasibility Study
FYDP	Future Years Defense Plan
GOCO	Government-Owned Contractor Operated
HQDA	Headquarters, Department of the Army
HQUSACE	Headquarters, USACE
HTRW	Hazardous, Toxic, and Radioactive Waste
IDW	Investigative Derived Waste
INPR	Inventory Project Report

LIST OF ACRONYMS

IRP	Installation Restoration Program
LOOW	Lake Ontario Ordnance Works
LTM	Long-Term Monitoring
MAC	Modern Affiliated Companies
MAP	Management Action Plan
MC	Munitions Constituents
MEC	Munitions and Explosives of Concern
MM	Military Munitions
MMRP	Military Munitions Response Program
MOU	Memorandum of Understanding
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NDAI	No DOD Action Indicated
NFSS	Niagara Falls Storage Site
NPL	National Priorities List
NTCRA	Non-Time Critical Action
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
ODUSD	Office of the Deputy Under Secretary of Defense
O&M	Operations & Maintenance
OSD	Office of the Secretary of Defense
PA	Preliminary Assessment
PCO	Project Close Out
PDT	Project Delivery Team
PM	Project Manager
PMAP	Property Management Action Plan
PMP	Project Management Phase
POL	Petroleum, Oil or Lubricants
PRP	Potentially Responsible Party
PRG	Preliminary Remediation Goals
RA	Remedial Action
RA-C	Remedial Action – Construction
RA-O	Remedial Action – Operations
RAC	Risk Assessment Code
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RCWM	Recovered Chemical Warfare Materiel
RD	Remedial Design
RI	Remedial Investigation
SARA	Superfund Amendments and Reauthorization Act

LIST OF ACRONYMS

SBC	Small Bermed Clearing
SDWA	Safe Drinking Water Act
SI	Site Investigation
SLERA	Screening Level Ecological Risk Assessment
SWDD	Southwest Drainage Ditch
TAGM	Technical and Administration Guidance Memorandum
TCRA	Time Critical Removal Action
TEC	Topographic Engineering Center
TNT	Trinitrotoluene
TSCA	Toxic Substances Control Act
USACE	U.S. Army Corps of Engineers
USACHPPM	U.S. Army Center for Health Promotion and Preventative Medicine
USO	United Services Organization
USEPA	U.S. Environmental Protection Agency
UST	Underground Storage Tank
VP	Vicinity Property
YTA	Youngstown Test Annex
WETS	Weekend Training Site
WWTP	Wastewater Treatment Plant

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EXECUTIVE SUMMARY

This Management Action Plan (MAP) and attached Property Management Action Plans (PMAPs) present a summary of the U.S. Army Corps of Engineers (USACE) strategy for completing and closing, on a real property basis, the parcels comprising the former Lake Ontario Ordnance Works (LOOW) that meet the definition of a Formerly Used Defense Site (FUDS) under the Department of Defense (DOD) Defense Environmental Restoration Program (DERP). The USACE is responsible for FUDS environmental restoration program management and execution. To date, the environmental response at LOOW has been performed at several areas of concern (AOC) on properties owned by various property owners, which has presented challenges for project prioritization, funding, and closure. Due to the size and complexity of the former LOOW site, the USACE developed a strategy, presented in this MAP, to break the LOOW site down into manageable units based on property parcels, or groups of parcels, and to address the history, impacts, and environmental response based on current property ownership. This MAP presents a strategy for closure of the LOOW site by presenting a summary of the information gathered to support the USACE position on the response strategy for each parcel (or group of parcels with similar characteristics), thereby treating the parcel as an operable unit. The intent is to present a concise representation of the past DOD activities and impacts on the parcel (or parcel group), the strategy for addressing those impacts, and the current status of the environmental response at the parcel. It also provides a vehicle for presentation of project declaration statements (such as "no further DOD action indicated" [NDAI]) to the lead regulator for eventual regulatory concurrence and closure. The USACE intent is to periodically update the MAP to capture changes in available information regarding past DOD use of the property, response strategy, and status of the response. This is a working document and the content contained herein is likely to change over time.

Currently there are over 550 parcels (as defined by the Niagara County Department of Real Property Tax) comprising the former LOOW. Many of the parcels have similar attributes with regard to land use and past DOD activities. Therefore, the parcels were grouped based on the hierarchy and parameters discussed in Section 1.4. The methodology resulted in 33 parcel groupings. For each parcel group, evaluation of the eligibility of potential hazards from past DOD use was made with regard to the five project types under FUDS:

- Hazardous, toxic, and radiological wastes (HTRW) project eligible hazards.
- Containerized hazardous, toxic, and radiological wastes (CON/HTRW) project eligible hazards.
- Military munitions response program (MMRP) project hazards.

EXECUTIVE SUMMARY

- Building demolition and debris removal (BD/DR) eligible project hazards.
- The possibility of impact from other potentially responsible parties (PRP).

The status, with regard to each project type, was categorized as listed below. Additional detail for the definition of each status group is presented in Section 1.4.2.

- Ineligible – the parcel group was either comprised of a parcel or parcels that were not an eligible FUDS property, or there are no FUDS eligible projects at an eligible FUDS property. For example, in the case of a BD/DR project, the parcel group is described as "ineligible" if the parcel(s) did not meet the requirements for a BD/DR project. For HTRW, MMRP, CON/HTRW, and HTRW-PRP project status determination, all parcel groups that met the definition of a FUDS were considered eligible for those projects types, although specific hazards may not be present and action within the project may not be required.
- Inactive – eligible hazards have been identified and an environmental response is required, but no response action has been initiated under DERP-FUDS to date.
- Active/Ongoing – environmental response has already been initiated to address eligible hazards under an authorized FUDS project.
- NDAI Category I - After completion of Inventory Project Report (INPR) efforts, the USACE determined that hazards were not attributable to the DOD, or the project is not approved for policy reasons.
- NDAI Category II - After completion of a Site Investigation the USACE determined that hazards do not pose a risk to human health or the environment or pose an explosives safety hazard.
- NDAI Category III - After completion of a Remedial Investigation/Feasibility Study the USACE determined that hazards do not require further response actions.
- NDAI Category IV - A response action, including the full period required for long term monitoring, has been completed.
- NDAI/PRP - The only remaining areas of possible past DOD impacts that have not been fully addressed under the HTRW environmental response process are areas with a high likelihood of impacts by non-DOD parties, and the policy decision has been made to

discontinue the investigation/response action under HTRW due to those non-DOD impacts.

Of the 33 parcel groups, two do not meet the definition of a FUDS and therefore do not have a response strategy outline in this MAP. A third parcel group does not contain any individual properties, as the properties were placed into other parcel groups based on the hierarchy explained in Section 1.4. One parcel group that was originally eligible for FUDS programs is no longer eligible because CERCLA liability was resolved through Judicial Consent Decree. Of the remaining 29 parcel groups comprised of parcels meeting the requirements of a FUDS, three were identified as having eligible BD/DR hazards. Thirteen were categorized as active/ongoing for a MMRP project. Two were categorized as active/ongoing for a CON/HTRW project.

With regard to HTRW hazards, of the 29 parcel groups meeting the requirement of a FUDS with potentially eligible hazards, one parcel group was characterized as having only areas of combined past DOD and non-DOD potential hazards (i.e., impact from both past DOD and non-DOD site use combined, no areas had DOD impact only). This parcel group has a HTRW project status of NDAI-Category III and a PRP project status of Inactive. Nine have been categorized as requiring no action (NDAI Category I, with no known areas of combined past DOD and non-DOD impacts). One has been categorized as having eligible hazards, but initial evaluation has indicated no expected impact, or the impact has been removed. Therefore, this group was categorized as "closed" (NDAI Category II with no known areas of combined past DOD and non-DOD impacts). Eighteen have ongoing/active federal projects. One of these is the Niagara Falls Storage Site (NFSS). The investigations at the NFSS are being performed under the Formerly Used Sites Remedial Action Program (FUSRAP).

Table ES-1 lists each parcel group abbreviation, a description of the parcel group, and the general status with regard to the FUDS projects.

RECORD OF REVISIONS

This is the final version of the preliminary Management Action Plan (MAP). As such, it is revision number 0.1_2009 dated October, 2009.

Revision number format represents the following:

- First digit – the revision number. The first MAP will be revision 0. The first annual revision will be 1, etc.
- Second digit – represents version of that revision. For example, a preliminary draft will be ".0". A draft may be ".1". A final may be ".2". Any reissue due to an important policy change that could not wait until the annual revision may be ".3".
- Year – the year in which the revision is submitted.

Subsequent record of revisions shall list:

- Each Property Management Action Plan (PMAP) parcel group
- Number of parcels in each PMAP parcel group- including which (if any) parcels have been added or deleted from the group.
- Last date of changes in property or project eligibility for each parcel group.
- Last date of changes in response strategy (if any) for each parcel group.
- Last date of change in status, including issuance of project declaration statements, regulatory concurrence for each parcel group.

Furthermore, the database developed for this MAP has been designed to capture changes made, the type of change, and the date on which the change was made. Forms capturing these changes shall be incorporated into subsequent annual versions of the MAP.

DEFINITIONS

Throughout the course of this document, several words or phrases are used that have become recognized idioms when discussing Lake Ontario Ordnance Works (LOOW). To assist the reader who may be unfamiliar with the site, the following definitions are presented.

Buffer Zone	Also referred to as the "undeveloped area (or zone)". It refers to that area of the former LOOW where no manufacturing took place. It is generally considered to consist of approximately 5,000 acres of the western, northern, and southern portion of LOOW. No significant former Department of Defense (DOD) structures are located in this area, with the exception of an open shed formerly used as part of the transportation area, and a fenced storage area. However, various types of disturbances are visible on aerial photographs of the buffer zone taken during the timeframe of DOD use.
DERP	Defense Environmental Restoration Program (DERP). A program developed to address environmental response at active, inactive, and formerly used DOD sites.
Developed Zone	Also referred to as the "developed area". It refers to that area of the former LOOW where the majority of the manufacturing took place. It is generally considered to consist of approximately 2,500 acres of the eastern portion of LOOW, and is comprised of the former trinitrotoluene (TNT) storage bunkers (north of Balmer Road), the nitration area (north of M Street), the wastewater treatment plant (WWTP) (on property currently owned by the Town of Lewiston), the shops and acid concentration area (on property currently owned by the Department of Energy for the Niagara Falls Storage Site [NFSS]), and the administrative area (north of Pletcher Road, on property currently owned by Modern Disposal).
DOD Activities	Refers to activities conducted by the DOD that are known or presumed to have occurred. Note that anecdotal information (such as memories and recollections, stories for which the source is not clear, old newspaper articles, etc.) is considered evidence of possible DOD activity.

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DOD Impacts	Defined as elevated concentrations of chemical constituents in soil, sediment, surface water, ground water or air that exceed health-based risk criteria developed by regional U.S. Environmental Protection Agency (USEPA) offices or the New York State Department of Environmental Conservation (NYSDEC) and that can be attributed to the DOD with reasonable confidence. Anecdotal information (such as memories and recollections, stories for which the source is not clear, old newspaper articles, etc.) does not indicate possible DOD impact.
Eligibility	For the purpose of this document, refers to the enabling authority under DOD regulations for formerly used defense sites (FUDS) environmental response. A property and/or a project may be deemed eligible or ineligible for funding and/or response under DERP FUDS.
Exposure Unit	An area comprised of similar history, contaminants, routes of exposure, and/or regulatory constraints, etc., such that the potential risk to a receptor (human or ecological) can be defined within that unit.
FUDS	Formerly used defense site (FUDS). A legal term that is defined as real property that was under the jurisdiction of the Secretary of Defense and owned by, leased by, or otherwise possessed by the United States (including governmental entities that are the legal predecessors of DOD or the Components, such as Air Force, Navy, etc.) and those real properties where accountability rested with DOD but where the activities at the property were conducted by contractors (i.e., government-owned, contractor operated [GOCO] properties) that were transferred from DOD control prior to 17 October 1986.
FUSRAP	Formerly Utilized Sites Remedial Action Program (FUSRAP). FUSRAP is an environmental cleanup program established in March 1974 by the Atomic Energy Commission (AEC) (predecessor of the Department of Energy [DOE]) under the authority of the Atomic Energy Act of 1954. This program was created to identify, investigate and take appropriate cleanup action at sites with radioactive contamination from the nation's early atomic energy program. In October 1997, the management of the program was transferred from the DOE to the U. S. Army Corps of Engineers (USACE). The program is important to the LOOW site because the Niagara Falls Storage Site (NFSS), a FUSRAP site, is located within the boundary of the former LOOW.

	Investigations on FUSRAP and neighboring Vicinity Properties (VPs) are conducted under FUSRAP and not DERP FUDS.
Investigative Area	An area identified during the Phase I and Phase II Remedial Investigations (RI) comprised of similar history, contaminants, routes of exposure, and/or regulatory constraints. Exposure Unit designations used in later RIs and in risk assessments were based on these Investigative Areas.
Modern Affiliated Companies (MAC)	Those companies owned by any of the following: Modern Disposal Corporation, Modern Landfill, Inc., Modern Recycling.
NFSS	Niagara Falls Storage Site (NFSS), a 191-acre FUSRAP site located within the former LOOW developed area. Environmental response for both radiological and FUDS eligible hazards at the NFSS is being conducted under the FUSRAP and not under FUDS.
Operable Unit	A term developed by the U.S. EPA to describe environmental responses addressing geographic portions of a site, specific site problems, or initial phases of an action, or any set of actions that are concurrent but located in different parts of a site. The determination of an operable unit may vary over time as a result of change in activity or need.
LOOW Boundary	Refers to that area of the main contiguous acreage acquired for construction of LOOW. The area loosely bound by Youngstown-Lockport Road (Route 93) to the north, Porter Center Road to the east, Creek Road (Route 18) to the east and a former east-west trending right of way located approximately 1,000 feet (ft) south of Swann Road that was used by the DOD in support of LOOW, for example easements, the freshwater intake pump house, and the 30-in. outfall discharge to the Niagara River.
Parcel	An area of real property as identified and described by Niagara County Department of Real Property Tax.
Parcel Group	A single parcel or multiple parcels with similar characteristics with regard to FUDS property eligibility requirements, location relative to the developed area of LOOW, ownership, known or suspected DOD impacts, and land use. It is the unit for which each Property Management Action Plan (PMAP) was

	developed.
PMAP	Property Management Action Plan (PMAP), a management plan for each parcel group that presents the environmental impacts, response strategy, and response status for a parcel or group of parcels with similar characteristics.
Wastewater Treatment Plant (WWTP)	A WWTP built during the initial construction of LOOW to treat sanitary sewer and acidic wastes, and to dilute wastewater used in manufacturing of trinitrotoluene (TNT). Subsequently used by other Federal agencies after the closing of LOOW. It is currently owned by the Town of Lewiston.
30-in. Outfall Line	The discharge line from the WWTP to the Niagara River.

TABLE ES-1 SUMMARY OF PARCEL GROUPING AND STATUS FOR LOOW FUDS PROJECTS

Parcel Group Database Code[1]	Parcel Grouping Decision Pathway Abbreviation	HTRW Project Status	CON/HTRW Project Status	MMRP Project Status	BDDR Project Status	PRP Project Status
01: PostOct86Trans/SthprtRail TrnLLC-P1	FUDS Ineligible - Post 10/17/86 Transfer-Southport Rail Transfer LLC. POC: Michael Young -P1	Ineligible	Ineligible	Ineligible	Ineligible	Ineligible
01: USA-P1-DoD-WETS	FUDS Ineligible/DOD-Owned/United States Of America -P1-DoD-WETS	Ineligible	Ineligible	Ineligible	Ineligible	Ineligible
02: ChemWstMngmnt - P1	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: Chemical Waste Management Inc. - P1	Active/Ongoing	Active/Ongoing	Active/Ongoing	Ineligible	Inactive
02: LwstnTown - P2	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: Town Of Lewiston - P2	Response Complete NDAI – Cat. II)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. II)	Ineligible	Response Complete NDAI – Cat. I)
02: LwstnTown - P4	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: Town Of Lewiston - P4	Active/Ongoing	Active/Ongoing	Active/Ongoing	Ineligible	Inactive
02: ModernAffCo - P2	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: Modern Affiliated Companies - P2	Active/Ongoing	Response Complete NDAI – Cat. I)	Active/Ongoing	Ineligible	Inactive
02: PorterTown - P2	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: Town Of Porter - P2	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)
02: SomersetGrp - P1	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: Somerset Group Inc - P1	Response Complete NDAI – Cat. III and PRP)	Closed - PRP	Closed - PRP	Ineligible	Closed - PRP
02: USA_LakeOntOrd - P1	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: US Government (Lake Ont. Ord) - P1 (NFSS)	Active/Ongoing	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)
03:SpecCons-Occidental	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Special Consideration: Occidental	Active/Ongoing	Response Complete NDAI – Cat. I)	Active/Ongoing	Ineligible	Inactive
03:SpecCons-School	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Special Consideration: School	Active/Ongoing	Response Complete NDAI – Cat. I)	Active/Ongoing	Ineligible	Inactive
04-1: SupprtFcltyLOOW Administrative Offices	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/Support Facility/LOOW Administrative Offices	Active/Ongoing	Response Complete NDAI – Cat. I)	Active/Ongoing	Ineligible	Response Complete NDAI – Cat. I)

TABLE ES-1 SUMMARY OF PARCEL GROUPING AND STATUS FOR LOOW FUDS PROJECTS

Parcel Group Database Code[1]	Parcel Grouping Decision Pathway Abbreviation	HTRW Project Status	CON/HTRW Project Status	MMRP Project Status	BDDR Project Status	PRP Project Status
04-1: SupprtFcltyLOOW Slurry Pond	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/Support Facility/LOOW Slurry Pond	Active/Ongoing	Response Complete NDAI – Cat. I)	Active/Ongoing	Ineligible	Inactive
04-1: SupprtFcltyLOOW Transportation Center	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/Support Facility/LOOW Transportation Center	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Ineligible	Response Complete NDAI – Cat. I)
04-2: Group R	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/30-Inch Outfall	Active/Ongoing	Response Complete NDAI – Cat. I)	Active/Ongoing	Ineligible	Inactive
04-3: Group P	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/42-inch Intake	Active/Ongoing	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Ineligible	Inactive
04-4: Group N	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/4-MileCreek	Active/Ongoing	Response Complete NDAI – Cat. I)	Active/Ongoing	Ineligible	Inactive
04-5: Group L	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/Central Drainage Ditch	Active/Ongoing	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. II)	Ineligible	Inactive
04-6: Group K	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/Southwest Drainage Ditch	Active/Ongoing	Response Complete NDAI – Cat. I)	Active/Ongoing	Ineligible	Inactive
04-8: Group I	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/6MileCreek	Active/Ongoing	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. II)	Ineligible	Inactive
04-9: TEC Group B	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/TEC Aerial Anomaly/SBC	Active/Ongoing	Response Complete NDAI – Cat. I)	Active/Ongoing	Ineligible	Response Complete NDAI – Cat. I)
04-9: TEC Group C	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/TEC Aerial Anomaly/disturbed ground/scar	Active/Ongoing	Response Complete NDAI – Cat. I)	Active/Ongoing	Ineligible	Inactive
04-9: TEC Group D	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/TEC Aerial Anomaly/material/ mounded material	Active/Ongoing	Response Complete NDAI – Cat. I)	Active/Ongoing	Ineligible	Response Complete NDAI – Cat. I)
05: LandUse Group A01	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/No DOD Impact/Land Use: Residential	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Ineligible	Response Complete NDAI – Cat. I)

TABLE ES-1 SUMMARY OF PARCEL GROUPING AND STATUS FOR LOOW FUDS PROJECTS

Parcel Group Database Code[1]	Parcel Grouping Decision Pathway Abbreviation	HTRW Project Status	CON/HTRW Project Status	MMRP Project Status	BDDR Project Status	PRP Project Status
05: LandUse Group A02	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/No DOD Impact/Land Use: Industrial	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Ineligible	Response Complete NDAI – Cat. I)
05: LandUse Group A03	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/No DOD Impact/Land Use: Agricultural/Rural	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Ineligible	Response Complete NDAI – Cat. I)
05: LandUse Group A04	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/No DOD Impact/Land Use: Commercial/Municpal/Community Service	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Ineligible	Response Complete NDAI – Cat. I)
05: LandUse Group A05	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/No DOD Impact/Land Use: Undeveloped/parks/rec/wildlife	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Ineligible	Response Complete NDAI – Cat. I)
06: FormerDOD_RealProp	FUDS Eligible/Outside LOOW/Former DOD Real Property/LOOW Freshwater Intake Pump House	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)
07-1: Group Q	FUDS Eligible/Outside LOOW/Former DOD Easement/30-Inch Outfall	Response Complete NDAI – Cat. III and PRP)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Ineligible	Inactive
07-2: Group O	FUDS Eligible/Outside LOOW/Former DOD Easement/42-inch Intake	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Ineligible	Response Complete NDAI – Cat. I)
07-3: Group M	FUDS Eligible/Outside LOOW/Former DOD Easement/4-Mile Creek	Active/Ongoing	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Ineligible	Inactive

Note that parcels were placed into parcel groups based on a heirarchy of DOD activity and land use as described in Section 1.4, and a parcel may only be included into a single parcel group. Therefore, there may be some parcels included into one parcel group, with some of the attributes of another parcel group. For example, the 03:SepcCons-School parcel group was traversed by both the Southwest Drainage Ditch (SWDD) and the 30-in. outfall line, but was included into a special considerations group because of potentially sensitive receptors (school children) and was therefore not included into the 30-in. outfall or SWDD parcel groupings.

[1]Parcels along Twelve Mile Creek were targeted for inclusion into parcel group 04-7: Group J. However, due to the hierarchy used in placing parcels into parcel groups, this group currently has no parcels.

1 INTRODUCTION

1.1 BACKGROUND

The original Lake Ontario Ordnance Works (LOOW) was constructed as an explosives production plant during World War II. After the war, the site was subdivided and owned and/or operated by a variety of federal and non-federal landowners. Ongoing Remedial Investigations (RIs) have begun to assess the nature and extent of contamination associated with process areas and underground utility lines of the former trinitrotoluene (TNT) plant and subsequent DOD operations that are fully eligible for investigation within the approved and ongoing Defense Environmental Restoration Program (DERP)-Formerly Used Defense Sites (FUDS) Hazardous, Toxic, and Radiological Waste (HTRW) project.

Due to the size of the former LOOW (7,567.46 acres), the number of current parcels (over 550), and variability in site use (e.g., school to a Subtitle C landfill), the planning, funding, and execution of environmental response activities (including closure of those areas not adversely impacted) has been challenging.

1.2 PROJECT SCOPE

The LOOW Management Action Plan (MAP) is intended to integrate and evaluate information from prior United States Army Corps of Engineers (USACE) reports and relevant non-USACE sources to establish a single comprehensive agency planning document in which USACE formally communicates findings, conclusions, and a framework to achieve the objectives of the USACE Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) responsibilities at the former LOOW site. The LOOW MAP is not intended to replace or serve as a formal CERCLA decision document (i.e. Proposed Plan or Record of Decision), but rather as a planning document with an anticipated path forward for completion of the DERP-FUDS mission at the property parcels comprising the former LOOW. The LOOW MAP addresses the original 7,453.28 acres of real property and 114.18 acres in easements, including both FUDS eligible and ineligible properties, comprising the LOOW site.

At FUDS eligible properties, USACE investigations have subdivided the former LOOW into real property parcels, process areas, operable units, and exposure units. The LOOW MAP is structured according to current real property parcels, as defined by Niagara County Department of Real Property Tax, as the primary subdivision of the former site. This MAP accumulates and integrates information from past USACE investigations and provides a property management action plan (PMAP) for each real property parcel (or group of parcels with the same owner)

within the "Developed Zone" of the former LOOW (Appendix A). In the "Undeveloped" or "Buffer Zone" of the former LOOW, the MAP addresses groups of properties based on site use, zoning, or other criteria. Separate PMAPs are developed for select high priority properties in the former "Buffer Zone" including the Lewiston-Porter School District Property, and each of the former DOD easements (water supply, wastewater discharge, and storm water discharge via 4-Mile Creek). Additional information on the methodology used in grouping parcels is discussed in Section 1.4.

Each PMAP has been developed as a complete document, such that the reader need not reference this forward portion of the MAP. However this has resulted in some reiteration between Sections 1 through 5 of the PMAP and Sections 1 through 4 of the MAP. Each PMAP follows the same outline as presented below:

- Executive Summary – a database populated summary sheet detailing which parcels (by tax parcel identification) are included in the PMAP parcel group, the eligibility of the parcels for inclusion into FUDS program and projects, and project status.
- Logic Diagram – a logic tree illustrating the parcel grouping process for parcels in that PMAP.
- Location Figure – a figure illustrating where the parcels included in the PMAP parcel group are located within the parcel boundary.
- Text – presents the rationale for eligibility for inclusion into a FUDS environmental response project, a summary of USACE decisions and documentation regarding each property's status with respect to DERP and Formerly Utilized Sites Remedial Action Program (FUSRAP), a strategy for closure within FUDS, and the general status of strategy implementation (e.g., does action need to be taken [if so, what are the recommended actions], is no DOD action identified [NDAI] such that the parcels included in that PMAP grouping can be closed) and non-FUDS environmental investigations at these properties (if applicable). Each text follows the same outline:
    - Introduction
    - Statutory Authority
    - Regulatory Context
    - Organizational Responsibility
    - Available Information
    - Property Activities
    - Environmental Impacts
    - Property Eligibility

- Project Eligibility
- Response Strategy
- Response Status

1.3 PROJECT OBJECTIVES

The primary project objective of the LOOW MAP is to establish a single written comprehensive agency planning document in which USACE formally communicates issues, findings, conclusions, and recommendations to achieve the objectives of the USACE CERCLA responsibilities at the former LOOW site. The intent is for USACE to publish regular updates to this plan based upon progress made on remedial issues, consideration of public input, and possible receipt of new information.

The LOOW MAP will be available to the public to communicate the status of existing and future USACE environmental response and decisions at each former LOOW property parcel with respect to DERP FUDS and FUSRAP. The LOOW MAP is not intended to replace or serve as a formal CERCLA decision document (i.e. Proposed Plan or Record of Decision). It is intended to integrate and summarize key facts, findings, and recommendations from numerous USACE and non-USACE investigations and information related to the former LOOW. The LOOW MAP shall serve to guide the overall USACE remedial planning, design, and execution requirements to achieve CERCLA requirements. In addition to the primary objective stated above, the supporting objectives of the project are:

- Articulating USACE positions in the context of current property ownership rather than program scope or environmental media (integrate issues, facts, findings, decisions, and recommendations for each property of the former LOOW in a common framework).
- Articulating USACE positions on federal authority and program/project scope and their objectives for DERP FUDS and FUSRAP at each property. Specifically indicate which environmental response activities the USACE is authorized (and not authorized) to execute at the former LOOW under each program for each property to include properties/areas deferred for potential Potentially Responsible Party (PRP) actions.
- Articulating USACE remedial objectives, their status, and their projected closure requirements to include historical events and impacts, federal/non-federal impacts, remedial investigation findings, risk assessment findings, feasibility for remedial alternatives, legal and regulatory issues, and community issues.

- Guiding USACE discussions with stakeholders to help capture and focus concerns, communicate USACE positions and recommendations, and provide a framework for outreach activities.

1.4 METHODOLOGY

This MAP presents an integration of the individual PMAP findings and recommendations. Appendix A presents the individual PMAPs upon which this MAP is based. As discussed above, PMAPs were developed for parcel groupings based upon certain property attributes, such as ownership, land use, for past DOD site use, etc. Section 1.4.1 describes the methodology used in assigning parcels into parcel groups for each PMAP. Section 1.4.3 describes the organization of and type of information presented in each PMAP.

1.4.1 Parcel Grouping

To streamline the strategy for eventual site closure of LOOW and to meet the project objectives, the first step involved grouping parcels with similar attributes. There are over 550 parcels within the former LOOW boundary and easements placed during the development of LOOW (Figure 1-1). Many of these parcels are similar with respect to former DOD activities (or lack of activity) conducted on the parcel, status with regard to DERP FUDS hazards, and current land use. These similarities were used to develop parcel groupings with similar strategies for closure within DERP FUDS. The following sections present the attributes and the general logic/order used to group parcels into specific PMAPs.

Each of the attributes discussed in the sections below were used in assigning the parcel into a parcel grouping. A database was developed to assist in tracking the individual attributes for each parcel. Some of the attributes are not mutually exclusive. In other words, a single parcel may be described as both "traversed by the Central Drainage Ditch", "traversed by the 30-in. outfall line", and is considered a "special consideration" parcel. Therefore, a hierarchy for assignment into a parcel group was established. The hierarchy is loosely represented by the order in which the following subsections appear.

Figure 1-2 presents an example logic diagram for establishing parcel groups. Each PMAP has a similar figure, edited with yellow highlighting to indicate the logic used for grouping the parcels in that PMAP. The figure is essentially a flow diagram that can be followed by determining whether or not the statement in the gray box applies to the parcel in question. For example, the first step in grouping parcels was to determine: is the parcel FUDS Ineligible or FUDS Eligible (Section 1.4.1.1). Parcels that are FUDS Ineligible were grouped based on the reason for

ineligibility (i.e. currently owned by the DOD or transferred from DOD ownership after 17 October 1986). Note that contiguous parcels were grouped by property owner.

Parcels that are FUDS eligible were further parsed based on whether or not they are located within the LOOW boundary or outside of the LOOW boundary (Section 1.4.1.2). If the parcel is located within the LOOW boundary, it was then examined with respect to whether or not it is located within the former LOOW developed zone or the undeveloped zone (Section 1.4.1.3). Contiguous parcels within the developed zone were grouped by property owner. Parcels located in the undeveloped zone were grouped based on certain parcel attributes, and the hierarchy of attributes is represented by the order in which they are listed on Figure 1-2 (see also Sections 1.4.1.4 and 1.4.1.5). The hierarchy was developed for assigning parcel groups only, and shouldn't be misconstrued as a "level of importance".

If a parcel is FUDS eligible, is located within the LOOW boundary, is located within the former LOOW undeveloped zone, and is considered a special consideration property based on one of its attributes (see Section 1.4.1.4), then that parcel was identified as a parcel group, regardless of the other attributes it might have (e.g. being traversed by a man made drainage ditch or underground utility line). If a parcel is FUDS eligible, is located within the LOOW boundary, is located within the former LOOW undeveloped zone, and does *not* have a special consideration attribute, then it would be grouped based on whether or not potential DOD impacts were present on the property and the other attributes it had (e.g. a former LOOW support facility, or being traversed by a former LOOW utility line). As mentioned earlier, the hierarchy used for defining parcel groups is represented by the order in which they are presented on Figure 1-2.

1.4.1.1 Parcel Grouping With Regard to FUDS Eligibility

Each parcel associated with LOOW was evaluated with regard to eligibility for inclusion into DERP FUDS. Only those parcels meeting required eligibility criteria can be considered for the FUDS program (see Section 2.1.1.1). The main criterion is that the parcel be formerly owned and/or used by the DOD and transferred from DOD ownership prior to 17 October 1986. Currently, only those parcels owned and used for the Army National Guard Weekend Training Site (WETS) and that parcel recently transferred by the U.S. Air Force (formerly the Youngstown Test Annex [YTA]) are ineligible (Figure 1-1). All other parcels and easements (see Section 1.4.1.2) were deemed eligible for DERP FUDS response action, if required.

1.4.1.2 Parcel Grouping With Regard to the LOOW Boundary, Real Property, and Easements

Each parcel associated with the LOOW MAP was evaluated with regard to where the parcel lies in reference to the "LOOW boundary". The LOOW boundary refers to the main portion of the approximately 7,500 acres of real property (as opposed to easements) acquired for LOOW that is bound by Creek Road to the west, Youngstown-Lockport Road (Route 93) to the north, Porter-Center Road to the east, and an east-west trending right-of-way approximately 1,000 ft south of Swann Road to the south. Although a portion of real property acquired for LOOW was outside of this area (namely, the fresh water intake pump house property), these remote parcels have been traditionally excluded from the definition of "inside the LOOW boundary" because they are not contiguous with the main portion of real property acquired for the site. Note that the definition of "outside of the LOOW boundary" with regards to this MAP is used for parcel grouping only, and by no means dictates eligibility or indicates a decision to exclude those parcels from the LOOW environmental response program.

Each parcel was also further evaluated as to whether it was a part of the LOOW that was acquired outright as real property or a portion of an easement. There were three easements associated with the acquisition of LOOW:

- The 4-Mile Creek easement comprised of 79.6 acres and extending from the northern LOOW boundary north to Lake Ontario.
- The 30-in. outfall line easement comprised of 21.19 acres and extending west from the western LOOW boundary at Creek Road to the Niagara River, including the discharge hydraulic head house.
- And the 42-in. intake line comprised of 13.39 acres and extending west from the western LOOW boundary at Creek Road to the Niagara River.

Figure 1-1 illustrates the traditional LOOW boundary, the real property parcels on the Niagara River (for the freshwater pump house), and the three easements.

1.4.1.3 Parcel Grouping of the Former LOOW Developed and Undeveloped Areas

During the operation of LOOW, the majority of the TNT manufacturing activities occurred within the eastern portion of the LOOW boundary. The western portion remained undeveloped (presumably for possible future expansion from a six-line TNT plant to a 12-line plant) and was referred to as the "buffer zone". Each parcel included in the MAP was evaluated as to whether the parcel was within or outside of the highly developed area of the former LOOW. More DOD

activities occurred within the developed area. Therefore, parcel groups were comprised of fewer parcels and were grouped based on ownership only - adjacent parcels with the same owner located in the former developed area of LOOW were included in a single parcel group as described in Table 1-1.

Additional considerations, listed below, were given to those parcels located outside of the developed area in the buffer zone, such that parcels with similar attributes could be grouped and discussed in a single PMAP.

1.4.1.4 Parcel Grouping of the Undeveloped Area - Parcels With Special Considerations

Sensitive properties and/or properties with known DOD impacts are given special consideration and will be discussed in individual PMAPs. Sensitive properties include schools, for example. Because one objective of the PMAP is to present a strategy for regulatory closure, any parcel with known DOD impacts will be presented in a separate PMAP (unless it is one of several adjacent parcels owned by the same owner). Within the buffer zone, any parcel with known DOD impacts or that has a large number of sensitive receptors (such as the Lewiston-Porter Central School District property) are classified as a special consideration parcel.

1.4.1.5 Parcel Grouping of the Undeveloped Area – Parcel Attributes With Regard to DOD Activities

Within the undeveloped area, each parcel was assessed with regard to the DOD activities that took place there. There are several "activity types" that were identified. The term "activity" is loosely defined and includes DOD support facilities, traversing of the parcel by underground utilities placed by the DOD for LOOW, traversing of the parcel by large man-made drainages put in place during the construction of LOOW, traversing of the parcel by natural drainages, presence of ground scarring or other anomalies as determined by review of aerial photographs during the timeframe of DOD use, etc. Parcels having undergone the same activity were grouped into a single PMAP. Because each PMAP is to present a strategy for closure for that parcel (or all parcels within that parcel group), the decision was made that a parcel could be included in only one parcel group. However, a single parcel may have experienced several different types of past DOD activities. Therefore, a parcel grouping hierarchy[1] was assigned to the activity type as follows:

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[1] The hierarchy is for assigning parcel groups and shouldn't be misconstrued as "level of importance" or "significance of activity". The prioritization was selected based upon a scenario that would result in the maximum number of separate PMAPs.

1. Support facility – for example, the former LOOW transportation center
2. 30-in. outfall line – originates from the former LOOW WWTP and formerly discharged to the Niagara River. That portion of the line beyond the former LOOW boundary was used under an easement to the DOD.
3. 42-in. intake – a fresh water intake line originating from a pump house located on the Niagara River and terminating at the former LOOW freshwater treatment plant. That portion of the line beyond the former LOOW boundary was used under an easement to the DOD.
4. Four-Mile Creek – A natural drainage that accepted discharge from many man-made drainages on LOOW. That portion of the Creek beyond the former LOOW boundary was used under an easement to the DOD.
5. Central Drainage Ditch (CDD) – a man-made drainage discharging to Four Mile Creek.
6. Southwest Drainage Ditch (SWDD) - a man-made drainage discharging to Four Mile Creek.
7. Twelve-Mile Creek – A natural drainage originating in the southeast corner of LOOW.
8. Six-Mile Creek – A natural drainage originating in the north-central portion of LOOW.
9. Aerial photograph anomaly – a photographic anomaly discovered during an aerial photograph review performed by the U.S. Army Topographic Engineering Center (TEC).
10. No known or suspected activity – for those parcels where no DOD activities or impact were suspected, parcels were grouped based on current land use as defined by the Town Master Plan in which the parcel is located (either the Town of Lewiston or Porter).

An example of how the hierarchy was used for parcel group assignment follows: if a residential parcel contained an aerial photographic anomaly from 1942 (during the timeframe of DOD activity) and was traversed by the SWDD, the parcel was placed into the SWDD parcel grouping. Land use and the presence of aerial anomalies are attributes "below" the SWDD attribute in the parcel grouping hierarchy and are discussed in the text and presented on the

figures within the PMAP, but do not influence which group the parcel is placed in. Similarly, if a commercial parcel contained aerial anomalies, was traversed by the CDD and the 30-in. outfall line, the parcel would be included in the 30-in. outfall line parcel grouping.

The remainder of this section discusses pertinent details for each of the buffer zone, hierarchical parcel group definitions.

Support Facilities

Support facilities refer to those features outside of the developed area that were used by the DOD to support ongoing activities at LOOW. They were identified explicitly in available historical documentation or were determined to be support facilities by overwhelming evidence. Examples of known support facilities in the buffer zone include the transportation center, a slurry pond, a portion of the administrative offices, and a presumed storage area. For this MAP, facilities are defined as real property having undergone verifiable improvements with the primary purpose to support LOOW. For the purpose of this MAP, support facilities do not include underground utilities, man-made drainages, or natural surface water drainages.

30-in. Outfall and 42-in. Intake Underground Lines

Each of the parcels included in the LOOW MAP was assessed as to whether or not it was traversed by either the 30-in. outfall or 42-in. fresh water intake line. Both of these underground utilities were constructed in support of LOOW. A portion of each of these lines (west of Creek Road, Route 18) was constructed and subsequently utilized under easements owned by the DOD. The portions of each line east of Creek Road were placed on real property owned by the DOD. For the purpose of assigning parcels into groups, those parcels west of Creek Road (used under an easement and also referred to as "outside of the LOOW boundary") that were traversed by either line and those parcels east of Creek Road (on property formerly owned by the DOD and also referred to as "within the LOOW boundary") traversed by either line were placed into separate parcel groups.

Creeks and Ditches

Each of the parcels included in the LOOW MAP were assessed as to whether they were traversed by man made or natural surface water drainages. Parcels traversed by any of the following surface water drainages are identified as such in the database established for this project:

- 4-Mile Creek
- Central Drainage Ditch

- Southwest Drainage Ditch
- 12-Mile Creek
- 6-Mile Creek

The parcel is included as traversed by these features only if the main body of the surface water drainage, as determined during a 1997 topographic survey and geo-referenced with the 2007 tax parcel boundaries, traverses the parcel. Parcels traversed by tributaries of these drainages are not included in the grouping.

Parcel grouping with regard to surface water drainages was considered important because the ditches were constructed by the DOD during development of LOOW. For example, the CDD and SWDD are man-made. Therefore, parcels traverse by the ditches are considered as having "known DOD activities" take place on the parcel. Because these ditches discharged to natural drainages (i.e., 4-Mile Creek, 6-Mile Creek, and 12-Mile Creek), parcels traversed by these drainages were also considered as having known DOD activities take place on the parcel. Note that the occurrence of DOD activity does not necessarily indicate an adverse environmental impact from those activities.

Aerial Photographic Anomalies

The U.S. Army Topographic Engineering Center (TEC) performed an analysis of aerial photographs of the LOOW site taken prior to acquisition (circa 1939) and during ownership by the DOD (1942, 1956) (TEC 2002). Anomalous features that appeared on the photographs during the timeframe of DOD ownership are considered evidence of DOD activity. The TEC identified several types of anomalies. To incorporate these features into the database being developed for the MAP, a list of valid values were developed and the TEC description standardized to the valid value. Table 1-2 is included to demonstrate how the descriptions were standardized. Individual anomalies that were identified during the TEC analysis are illustrated on the figures included in each PMAP with the aerial photograph in which the anomaly was observed.

Current Land Use

Each parcel within LOOW was characterized with regard to land use to assist in parcel grouping. For those parcels with no known or suspected DOD activities, current land use was the primary defining attribute for the parcel grouping. Land use was assigned based upon information presented in the Town of Lewiston Comprehensive Plan (URS 2000) and the Comprehensive Plan for the Town of Porter (Smith 2004).

For the Town of Porter, existing land use (as presented in Figure 3-1 of Smith 2004), was utilized to assign land use attributes to each parcel. For the Town of Lewiston, a land use figure was not available. Therefore, zoning information (as per Figure 20 from URS 2000) was utilized as the basis for applying land use attributes to each parcel. In addition, the zoning and land use as presented in the different plans was standardized for inclusion into the MAP parcel database, as described in Table 1-3.

The total number of parcel groups included in this version of the MAP is presented in Section 4.

1.4.2 Determination of Parcel Group Project Status

The initial parcel grouping, information specific to the former DOD activities and impacts on the parcel(s), and evaluation of the required and completed USACE response actions were utilized to assign the general status of the parcel group with regard to FUDS projects. As discussed in Section 2.1.1.2, there are five different FUDS project types: HTRW, Containerized/Hazardous, Toxic, and Radioactive Waste (CON/HTRW), Military Munitions Response Program (MMRP), PRP, and Building Demolition/Debris Removal (BD/DR), each with specific types of hazards that are considered eligible (or ineligible) for environmental response under DERP FUDS. Available data regarding each parcel was reviewed (see Section 3) to determine:

- If hazards or potential hazards (e.g. photographic anomalies indicating ground disturbance) were present on the property.
- If the hazards were eligible for inclusion into one of the project types.
- Whether an environmental response had been initiated to address the specific hazard.
- Whether additional or initial environmental response was necessary.
- Whether funding would be required to address the hazard.

The information was utilized to categorize the parcel into one of the following status groups for each project group. To assist the Project Manager (PM) and Project Delivery Team (PDT) in planning, a general assessment of whether funding would be required was also evaluated. The parcel status is presented in each PMAP and is also summarized in table format in each PMAP executive summary.

- Not eligible – refers to the overall eligibility of the parcels in the parcel group and not eligibility for inclusion of specific hazards. Parcels not eligible for a project are listed as not requiring funding.

- Response Complete (No DOD Action Indicated [NDAI] Category I) – indicates that the parcel(s) is eligible for inclusion into a project, but no eligible hazards have been identified or confirmed. For this first MAP, many parcel groups with the status Response Complete are characterized as requiring funding. This is specifically for completion of a project declaration statement and gaining regulatory concurrence (see Section 2.1.3). With regard to a PRP project, "response complete" indicates that there are no known areas of combined DOD and non-DOD impacts.
- Inactive – indicates that hazards within that parcel group have been identified, but a project to specifically address the hazards within that parcel group has not been initiated. For HTRW, CON/HTRW, MMRP, and BD/DR projects, this status results in "funding required" status. However, for PRP projects, a status of "Inactive" indicates that the parcel group has areas of potential combined DOD and non-DOD impacts, and funding is listed as "not required" until the project becomes "Active/Ongoing."
- Active/Ongoing – indicates that hazards have been identified, and an environmental response (Site Investigation [SI], Remedial Investigation [RI], etc.) has been initiated by the USACE. Funding is generally required under this project status.
- Response Complete (NDAI Category II) – indicates that the USACE had initiated an environmental response under that specific project type, but after completion of SI activities it was determined that additional action is not required because hazards do not pose risk to human health or the environment. If indicated that funding is required, the funding is to complete a project declaration statement and obtain closure, but no additional assessment is proposed.
- Response Complete (NDAI Category III) – indicates that the USACE had initiated an environmental response under that specific project type, but after completion of RI and feasibility study (FS) (if required) activities it was determined that additional action is not necessary because hazards do not require further response actions. If indicated that funding is required, the funding is to complete a project declaration statement and obtain closure, but no additional assessment is necessary.
- Response Complete (NDAI Category IV) – indicates that the USACE has completed a remedial action or an equivalent effort. If long term monitoring was required, it has also been completed.

The following chart (adapted from Table 6-5 in USACE 2004) presents a summary of the criteria used to identify each NDAI category.

	INPR Efforts[1]	SI Efforts	RI/FS Efforts	RA Efforts
NDAI Criteria	INPR/PA report indicates no further DOD response action required	SI report indicates no further DOD response action required	RI/FS report indicates no further DOD response action required	All DOD response actions taken
NDAI Category	NDAI-Category I	NDAI-Category II	NDAI-Category III	NDAI-Category IV

[1] Includes the determination of FUDS eligibility or CERCLA Preliminary Assessment phase.

1.4.3 Organization and Content of Property Management Action Plans

Each PMAP is organized in the same manner, and is preceded by an executive summary specific to the parcel group.

1.4.3.1 Executive Summary of the PMAP

The executive summary is populated by the database and concisely presents the parcel group designation, parcels included in the parcel group, the status of the parcel group with regard to eligibility for environmental response under DERP FUDS, and whether a response action is required, active/ongoing, or not necessary with regard to the FUDS projects (HTRW, CON/HTRW, BDDR, MMRP, and/or PRP). A figure illustrating where the parcels are located, as well as the decision tree documenting how the parcels were included into the parcel group is also included in the executive summary.

1.4.3.2 PMAP Introduction, Statutory and Regulatory Authority (PMAP Sections 1 through 4)

PMAP Sections 1 through 3 present the introduction to the PMAP, as well as the statutory authority and regulatory context under which the PMAPs were developed. Section 4 presents the organizational responsibility for execution of DERP FUDS and day-to-day management of eligible FUDS projects. This information is also presented in additional detail in Section 2 of this MAP.

1.4.3.3 Parcel Specific Information, DOD Activities, and DOD Impacts (PMAP Sections 5 through 7)

Within each PMAP, Sections 5, 6, and 7 present the available information, history and activities, and environmental impacts, respectively, as documentation to support the current project status and response strategy. These sections summarize the key historical events and investigations with regard to DOD activities at the site. The summary is not exhaustive. The purpose is to present information about activities and impacts on the parcel(s) with respect to types of hazards eligible for inclusion into DERP FUDS projects and to provide the documentation to support the USACE response strategy. With that goal in mind, the summary is weighted heavily toward former DOD and non-DOD activity that may have adversely impacted the site. If there is potential or confirmed impact to the parcel from non-DOD activities or other responsible parties, it is discussed in these sections of the PMAP.

In these sections, distinction is drawn between *potential* and *confirmed* activities. Potential refers to that which may have occurred, or where evidence suggests something occurred on the parcel, but what and whether it was attributable to the DOD cannot be ascertained. Examples of potential DOD activity would be anecdotal information passed on from one person to another about an area where the DOD may have stored supplies or aerial photographic evidence or ground disturbance that suggests something occurred, but the details could not be substantiated through review of historical documentation. Confirmed activities refer to activities that are known to have occurred and are directly attributable to DOD site use based upon review of historical documentation, as-built drawings, and historical plans (when confirmed with site reconnaissance). Examples of confirmed activities include the construction and use of process areas for LOOW and the Air Force Plants.

Distinction is also drawn between *activities* and *impacts*. Known or potential DOD site activities do not necessarily result in adverse environmental impacts that would require a response action. For this MAP, *impact* refers to chemical constituents in site matrices (soil, ground water, air, and/or surface water) in concentrations exceeding generally recognized and widely accepted risk-based screening criteria. Activities refer to the confirmed or potential use of the site.

1.4.3.4 Property and Project Eligibility (PMAP Sections 8 and 9)

Sections 8 and 9 within each PMAP discuss eligibility for inclusion of the parcel(s) into DERP FUDS as well as project specific eligibility, respectively, and draws from those activities and impacts discussed in Sections 5 through 7 of the PMAP. Definition of parcel eligibility with

regard to FUDS is discussed in Section 2.1.1.1. Additional information on the DERP FUDS project types is presented in Section 2.1.1.2.

Project eligibility was determined through examination and categorization of known hazards on the parcel(s) with respect to project-specific eligibility criteria set forth in the Formerly Used Defense Sites Program Policy (Engineering Regulation [ER]200-1-3) (USACE 2004). A summary of the hazards for each parcel(s), as well as the eligibility of the hazards for inclusion into a FUDS project, are summarized in Section 9 of the PMAP. For example, if an underground storage tank (UST) installed by the DOD is known to be present on a parcel, and meets specific criteria for inclusion into a CON/HTRW project as defined in ER200-1-3 (USACE 2004), then the parcel(s) would be categorized as eligible for a CON/HTRW project. For parcels with greater DOD impact, a summary of the areas of concern (AOC) with known DOD impact are included in the PMAP.

1.4.3.5 USACE Response Strategy and Status (PMAP Sections 10 and 11)

Sections 10 through 11 of each PMAP present discussions on the environmental response strategy and status, respectively, for each parcel group. As per DERP FUDS guidance, the USACE response strategy follows the CERCLA process, with the short-term goal of reaching a NDAI determination for a parcel group and the ultimate goal of regulatory closure for the parcel group and eventually for the LOOW FUDS site as a whole. The CERCLA process includes one or more of the following steps: a preliminary assessment (PA)/SI with a hazard ranking system scoring; RI/FS, including any necessary risk screens and assessments and development of remedial action objectives; record of decision to document the final plan of remedial action; the remedial design (RD)/remedial action (RA) including possible operations and maintenance (O&M) of the remedy; closure/delisting from the National Priorities List (NPL). However, for non-NPL sites (such as LOOW), the DERP FUDS environmental response differs slightly, and may include one or more of the following for HTRW and MMRP projects:

- Inventory Project Report (INPR), PA, and risk assessment code (RAC) (for MMRP projects)
- Site Inspection (SI)
- Remedial Investigation (RI) (including risk assessment)
- Feasibility Study (FS) or Engineering Evaluation and Cost Estimate (EE/CA) for a time critical or non-time critical removal action (TCRA or NTCRA)
- Decision Document (DD) or Action Memorandum (for a TCRA or NTCRA)

- Remedial Design (RD)
- Remedial Action (RA) (Remedial Action-Construction [RA-C], Remedial Action-Operation [RA-O]) or TCRA or NTCRA
- Construction Completion
- Operation and Maintenance (O&M) Long-Term Monitoring (LTM)
- Response Complete (RC) (Project Close Out [PCO] – requires regulatory concurrence)
- Project Declaration Statement

Sections 10 and 11 of the PMAP will indicate, for the parcels included in that group, the USACE strategy and status for the environmental response. Note that the INPR has been prepared for the LOOW site as a whole, and will not be discussed on a PMAP specific basis. It was initially prepared in June 1986, the original Findings and Determination of Eligibility (FDE) was signed on 15 June 1986, and an HTRW project was authorized for the LOOW site. Based on information gathered during subsequent investigations under the HTRW project, an Addendum # 1 to that INPR was signed in 2008 (FUDS project number C02NYC0025), authorizing CON/HTRW, MMRP, and PRP projects. The INPR and addendum resulted in authorization of HTRW, CON/HTRW, MMRP, and PRP projects for the LOOW site.

Per FUDS guidance, a project is "a unique name given to an area of an eligible FUDS property containing one or more releases or threatened releases of a similar response nature, treated as a discrete entity or consolidated grouping for response purposes…" (USACE 2004). An eligible FUDS property, such as the majority of the LOOW site, may have more than one authorized project. The PMAP will discuss the response strategy with regard to each individual authorized project that is ongoing or required to address the project-specific hazards specific to the parcels in the PMAP. The recommended strategy in PMAPs for parcel groups with little or no known DOD activity will be preparation of a Project Declaration Statement of NDAI and pursuit of regulatory concurrence, both of which will be included in the subsequent revisions to the PMAP.

1.4.3.6 Stakeholder Response and References (PMAP Sections 12 and 13)

Section 12 of the PMAP summarizes major public comments or concerns regarding the specific parcel or parcel group addressed by the PMAP. The USACE intends to release the initial version of each PMAP and capture public input specific to each PMAP. Subsequent versions of the PMAPs will be updated to reflect a summary of public input received. Section 13 is a reference to the master reference list (which is included herein as Table 3-2).

TABLE 1-1 GROUPING OF FUDS ELIGIBLE PARCELS WITHIN THE FORMER LOOW DEVELOPED AREA

Parcel Group	Owner	Parcel ID	Standardized Owner Name
02:ModernAffCo-P2	Modern Landfill	75.00-1-1	Modern Affiliated Companies
	Modern Landfill	74.00-1-11.2	Modern Affiliated Companies
	Modern Landfill	75.00-1-2.2	Modern Affiliated Companies
02:SomersetGrp-P1	Somerset Group Inc	60.00-3-9.1	Somerset Group Inc
02:LwstnTown-P2	Town Of Lewiston – P2	74.00-1-11.1	Town Of Lewiston
02:LwstnTown-P4	Town Of Lewiston – P4	60.00-3-11	Town Of Lewiston
	Town Of Lewiston – P4	74.00-1-53	Town Of Lewiston
02:PorterTown-P2	Town Of Porter - P2	61.00-1-32.2	Town Of Porter
02:USA_LakeOntOrd-P1	US Government (Lake Ont. Ord) (NFSS) - P1	74.00-1-8.1	US Government (Lake Ont. Ord) (NFSS)
02:WMLLC-P1	Chemical Waste Management Inc. - P1	60.00-3-7	Chemical Waste Management Inc.
	Chemical Waste Management Inc. - P1	60.00-3-8	Chemical Waste Management Inc.
	Chemical Waste Management Inc. - P1	60.00-3-9.2	Chemical Waste Management Inc.
	Chemical Waste Management Inc. - P1	61.00-2-1	Chemical Waste Management Inc.
	Chemical Waste Management Inc. - P1	74.00-1-6	Chemical Waste Management Inc.
	Chemical Waste Management Inc. - P1	74.00-1-7	Chemical Waste Management Inc.
	Chemical Waste Management Inc. - P1	75.00-1-2.1	Chemical Waste Management Inc.

TABLE 1-2 TOPOGRAPHIC ENGINEERING CENTER AERIAL ANOMALY DESCRIPTIONS AND ASSIGNED VALID VALUES

Valid Value Assigned for Database	TEC Description[1]	TEC Remarks[1]	Year of Anomaly
sbc	pit	sbc ; feature appears as small circlular pit.	1944
sbc	berm	sbc ; feature appears as horseshoe-shaped berm.	1944
sbc	berms	sbc ; two identical features - small & horseshoe-shaped.	1944
sbc	berm	sbc ; feature appears as horseshoe-shaped berm.	1944
sbc	berm, possible	sbc (possible); berm (possible) (predominately obscured by snow cover).	1944
sbc	pit	sbc ; feature appears as a small somewhat circular pit.	1944
sbc	berm	sbc ; feature appears as horseshoe-shaped berm.	1944
sbc	berm	sbc ; feature appears as horseshoe-shaped berm.	1944
sbc	berms	sbc ; multiple horseshoe-shaped berms; scattered.	1944
sbc	berms	sbc ; two identical horseshoe-shaped berms.	1944
sbc	pit	sbc ; feature appears as small circular pit.	1944
sbc	pit, possible	sbc (possible); feature appears as a possible small circular pit.	1944
sbc	pit, possible	sbc (possible)	1944
sbc	berm	sbc ; feature appears as horseshoe-shaped berm.	1944
sbc	berm	sbc ; feature appears as horseshoe-shaped berm.	1944
sbc	pits or berms	sbc ; two identical features - small circular pits or berms.	1944
sbc	pit	sbc	1944
sbc	pit	sbc ; polygon shifted (corrected) via '51 orthophoto.	1944
sbc	pit, possible	sbc (possible ; polygon shifted (corrected) via '51 orthophoto.	1944
sbc	pit	sbc ; feature more observable on '44 oblique photo # 1314.	1944
sbc	pit	sbc ; feature more observable on '44 oblique photo #1314.	1944
sbc	pit	sbc (possible); feature is more observable on '44 oblique photo #1314.	1944
sbc	berm	sbc ; feature appears as horseshoe-shaped berm.	1944
sbc	pit or berm	sbc	1944
sbc	pit	sbc	1944
sbc	pit	sbc	1944
sbc	pit	sbc	1944
sbc	berm	sbc ; feature appears as horseshoe-shaped berm.	1944
sbc	berm, possible	sbc (possible); possible horseshoe-shaped berm.	1944
sbc	berm	sbc ; feature appears as horseshoe-shaped berm.	1944
sbc	berm	sbc	1944
sbc	pit	sbc ; polygon shifted (corrected) via '51 orthophoto.	1944
sbc	pits	sbc ; three pits; vehicle tracks; polygon shifted via '51 orthophoto.	1944
sbc	pit or berm, possible	sbc (possible)	1944
sbc	pit	sbc ; veh. tracks; polygon shifted (corrected) based upon '51 orthophoto.	1944

TABLE 1-2 TOPOGRAPHIC ENGINEERING CENTER AERIAL ANOMALY DESCRIPTIONS AND ASSIGNED VALID VALUES

Valid Value Assigned for Database	TEC Description[1]	TEC Remarks[1]	Year of Anomaly
sbc	pit	sbc ; lrge pit area; mtple (veh.) tracks; polygon shifted (re: '51 orthophoto).	1944
sbc	pit, possible	sbc (possible); polygon shifted (corrected) based upon '51 orthophoto.	1944
sbc	berms	sbc ; 1 lrg & 1 sml "C"-shaped brms; polygon shifted via '51 orthophoto.	1944
sbc	pit	sbc ; vehicle tracks lead in; polygon shifted via '51 orthophoto.	1944
sbc	pit	sbc ; vehicle tracks in the vicinity; polygon shifted via '51 orthophoto.	1944
sbc	pit	sbc ; vehicle tracks in the vicinity; polygon shifted via '51 orthophoto.	1944
sbc	berm, possible	sbc (possible) ; large "C"-shaped berm (poss.); poly. shifted via '51 orthophoto	1944
sbc	pit	sbc ; circular-shaped pit; polygon shifted via '51 orthophoto.	1944
sbc	berm	sbc ; horseshoe-shaped berm; polygon shifted via '51 orthophoto.	1944
sbc	pit	sbc ; polygon shifted (corrected) based upon '51 orthophoto.	1944
sbc	pit	sbc ; circular-shaped; poly. shifted (corrected) based upon '51 orthophoto.	1944
sbc	pit or berm, possible	sbc (possible) ; polygon shifted (corrected) based upon '51 orthophoto.	1944
sbc	pit	sbc ; polygon shifted (corrected) based upon '51 orthophoto.	1944
sbc	pit	sbc ; polygon shifted (corrected) based upon '51 orthophoto.	1944
sbc	pit	sbc ; polygon shifted (corrected) based upon '51 orthophoto.	1944
sbc	berm	sbc ; polygon shifted (corrected) based upon '51 orthophoto.	1944
sbc	berm	sbc ; polygon shifted (corrected) based upon '51 orthophoto.	1944
sbc	pit & berm (possible)	sbc ; pit and poss. horseshoe-shaped berm; poly. shifted via '51 orthophoto.	1944
sbc	pits	sbc ; two pits; vehicle tracks lead in; polygon shifted via '51 orthophoto.	1944
sbc	berm or pit	sbc ; vehicle tracks lead in; polygon shifted based upon '51 orthophoto.	1944
sbc	pits	sbc ; see TEC's Final Report -Sep '02 (PowerPoint slides #27 & #28)..	1944
sbc	pit	sbc ; pit w/ berm ; see TEC's Final Report- Sep '02 (PwrPnt slides 27, 28).	1944
sbc	pit	sbc ; circular-shaped pit.	1944
sbc	pit, possible	sbc (possible)	1944
sbc	pit, possible	sbc (possible); feature appears dark-toned against the background of snow.	1944
sbc	berm	sbc ; feature appears as horseshoe-shaped berm.	1944
sbc	pit	sbc ; circular-shaped pit.	1944

TABLE 1-2 TOPOGRAPHIC ENGINEERING CENTER AERIAL ANOMALY DESCRIPTIONS AND ASSIGNED VALID VALUES

Valid Value Assigned for Database	TEC Description[1]	TEC Remarks[1]	Year of Anomaly
sbc	pits, possible	sbc (possible); features appear dark-toned against the background of snow.	1944
sbc	pits and berms	sbc ; TEC's Final Report -Sep '02 (slides 29, 30); poly. set to '51 orthophoto.	1944
sbc	berm, possible	sbc (possible); possible horseshoe-shaped berm.	1944
sbc	berm	sbc ; horseshoe-shaped berm.	1944
sbc	berm	sbc ; horseshoe-shaped berm; polygon shifted (corrected) to '51 orthophoto.	1944
sbc	pit	sbc ; circular-shaped pit; vehicle tracks in the vicinity.	1944
sbc	berm	sbc ; horseshoe-shaped berm; vehicle tracks lead in & out.	1944
sbc	pit	sbc ; circular-shaped pit; vehicle tracks lead in & out.	1944
sbc	pit or berm	sbc	1944
sbc	pit, possible	sbc (possible); vehicle tracks lead in and stop at this (poss. pit) location.	1944
sbc	pit, possible	sbc (possible)	1944
sbc	berm	sbc ; feature appears as horseshoe-shaped berm.	1944
sbc	pit	sbc ; circular-shaped pit.	1944
sbc	berm	sbc ; feature appears as horseshoe-shaped berm.	1944
sbc	pit	sbc ; circular-shaped pit.	1944
sbc	berm, horseshoe-shaped	sbc ; polygon shifted (corrected) based upon '51 orthophoto.	1944
sbc	berm, horseshoe-shaped	sbc ; polygon shifted (corrected) based upon '51 orthophoto.	1944
sbc	pits	sbc ; scatterd pits & berms; see TEC's Final Report-Sep '02 (slide 31).	1944
sbc	pit, possible	sbc (possible)	1944
sbc	pit	sbc	1944
sbc	berm	sbc ; large "C"-shaped berm.	1944
sbc	pit	sbc	1944
sbc	pit	sbc	1944
sbc	pit	sbc ; small circular-shaped pit; poly. shifted (corrected) to '51 orthophoto.	1944
sbc	pit, possible	sbc (possible); polygon shifted (corrected) to '51 orthophoto.	1944
sbc	pit	sbc ; small circular-shaped pit; poly. shifted (corrected) to '51 orthophoto.	1944
sbc	berm	sbc ; horseshoe-shaped berm; poly. shifted (corrected) to '51 orthophoto.	1944
sbc	pit, possible	sbc (possible); location today is in junkyard.	1944
sbc	pits, possible	sbc (possible); polygon shifted (corrected) based upon '51 orthophoto.	1944
sbc	pit	sbc	1944
sbc	pit	sbc ; small circular-shaped pit.	1944
sbc	berm	sbc ; horseshoe-shaped berm; polygon shifted based upon '51 orthophoto.	1944
sbc	pit	sbc ; small circular-shaped pit; polygon shifted based upon '51 orthophoto.	1944

TABLE 1-2 TOPOGRAPHIC ENGINEERING CENTER AERIAL ANOMALY DESCRIPTIONS AND ASSIGNED VALID VALUES

Valid Value Assigned for Database	TEC Description[1]	TEC Remarks[1]	Year of Anomaly
sbc	berm	sbc ; horseshoe-shaped berm; polygon shifted based upon '51 orthophoto.	1944
sbc	pits	sbc ; two small circular-shaped pits.	1944
sbc	berm	sbc ; feature appears as horseshoe-shaped berm.	1944
sbc	berm, possible	sbc (possible) ; possible "C"-shaped berm; poly. shifted to '51 orthophoto.	1944
sbc	pit	sbc ; small circular-shaped pit; polygon shifted based upon '51 orthophoto.	1944
sbc	berm	sbc ; horseshoe-shaped berm; polygon shifted based upon '51 orthophoto.	1944
sbc	berm	sbc ; horseshoe-shaped berm; polygon shifted based upon 51 orthophoto.	1944
sbc	berms, possible	sbc (possible); 2 poss. "horseshoe-style"; polys. shifted via '51 orthophoto.	1944
sbc	pits & berm	sbc ; 2 pits & 1 horseshoe-shaped berm; polygon shifted via '51 orthophoto.	1944
sbc	pits & berm	sbc ; 2 pits & 1 horseshoe-shaped berm; polygon shifted via '51 orthophoto.	1944
sbc	berm, possible	sbc (possible); poss. horseshoe-shaped berm; poly. shifted via '51 orthophoto.	1944
sbc	pit, possible	sbc (possible); poss. small pit; polygon shifted based upon '51 orthophoto.	1944
sbc	pits, possible	sbc (possible); poss. pits; polygon shifted based upon '51 orthophoto.	1944
sbc	pits	sbc ; one large and one small pit; polygon shifted based upon '51 orthophoto.	1944
sbc	pits	sbc ; two small circular-shaped pits; 1 pit observable on '44 oblique (#1325).	1944
sbc	pit, possible	sbc (possible)	1944
sbc	pits & berms	sbc ; 2 berms and multiple pits.	1944
sbc	pit	sbc ; 1 pit observable on '44 large-scale aerial oblique (#1325).	1944
sbc	pit	sbc ; 1 pit observable on '44 large-scale aerial oblique (#1325).	1944
sbc	pit	sbc ; featured in TEC's Final Report- Sept '02 (see PwrPnt slides 33 & 34).	1944
sbc	berm	sbc ; featured in TEC's Final Report- Sept '02 (see PwrPnt slides 33 & 34).	1944
sbc	berm	sbc ; small berm; see TEC's Final Report- Sept '02 (PwrPnt slides 33 & 34).	1944
sbc	berm	sbc ; small berm; see TEC's Final Report- Sept '02 (PwrPnt slides 33 & 34).	1944
sbc	berm	sbc ; featured in TEC's Final Report- Sept '02 (PwrPnt slides 33 & 34).	1944
sbc	ground scar	sbc ; feature appears to be a partially-formed "sbc"; see '44 oblique #1325.	1944
disturbed ground/scar	scraped out area	shallow excavation	1944
disturbed ground/scar	scraped out area	shallow excavation	1944
disturbed ground/scar	scraped out area	shallow excavation	1944
material/mounded material	mounded material	may be associated with local farming.	1944

TABLE 1-2 TOPOGRAPHIC ENGINEERING CENTER AERIAL ANOMALY DESCRIPTIONS AND ASSIGNED VALID VALUES

Valid Value Assigned for Database	TEC Description[1]	TEC Remarks[1]	Year of Anomaly
material/mounded material	mounded material	possible soil pile from nearby clearing or may be associated with local farming.	1944
material/mounded material	mounded material	poss. soil from nearby surface scrapings; may be associated with local farming.	1944
disturbed ground/scar	disturbed ground		1944
disturbed ground/scar	disturbed ground, possible	low lying area; appears to possibly contain small amounts of disturbed ground.	1944
tracks/trail	heavily-tracked area	area also depicts some standing liquid; see '44 large scale aerial oblique #1114	1944
disturbed ground/scar	ground scars	may be associated with local farming.	1944
disturbed ground/scar	scraped out area	shallow excavation	1944
disturbed ground/scar	disturbed ground	faint visual evidence of vehicle tracks (leading in from railroad area).	1944
material/mounded material	ground scars, mounded material	mounded material located in SW quadrant of polygon.	1944
liquid or pond	pond, shallow	see '44 large scale areal obliques: #1114 and #1319.	1944
burning ground	burning ground	see TEC's Final Report- Sept '02 (PwrPnt slides 12, 13, 79 & 80).	1944
disturbed ground/scar	scraped out area		1944
material/mounded material	mounded material	may be associated with local farming.	1944
disturbed ground/scar	ground scars		1944
tracks/trail	heavily-tracked area	see TEC's Final Report- Sept '02 (PwrPnt slides 14 & 15).	1944
disturbed ground/scar	scraped out area	see 1944 large scale aerial oblique photo #1318 for closer look.	1944
disturbed ground/scar	scraped out area	see 1944 large scale aerial oblique photos #1130 & #1318 for a closer look.	1944
material/mounded material	mounded material	may be associated with local farming; polygon shifted via '51 orthophoto.	1944
disturbed ground/scar	scraped out area	see TEC's Final Report- Sept '02 (PwrPnt slides 17 & 18).	1944
material/mounded material	material	see TEC's Final Report- Sept '02 (PwrPnt slide 17); poly. shifted via '51 ortho.	1944
tracks/trail	depressions, linear	see TEC's Final Report- Sept '02 (PwrPnt slides 17 & 18).	1944
disturbed ground/scar	ground scar	vehicle tracks lead in & out; traces of ground scars visible on '51 photos.	1944
other	open storage		1944
disturbed ground/scar	disturbed ground	location is near incinerator & controlled burning ground.	1944
material/mounded material	mounded material	vehicle tracks lead in; see '44 large scale aerial oblique photo #1319.	1944
other	open storage area,		1944
liquid or pond	pond	see '44 aerial oblique photo #1138; poly. shifted via '51 aerial orthophoto.	1944
material/mounded material	scattered material	see TEC's Final Report- Sept '02 (PwrPnt slides 10 & 11).	1944
disturbed ground/scar	disturbed ground	see TEC's Final Report- Sept '02 (PwrPnt slides 20 & 21).	1944
other	depression	see TEC's Final Report- Sept '02 (PwrPnt slide 20).	1944

TABLE 1-2 TOPOGRAPHIC ENGINEERING CENTER AERIAL ANOMALY DESCRIPTIONS AND ASSIGNED VALID VALUES

Valid Value Assigned for Database	TEC Description[1]	TEC Remarks[1]	Year of Anomaly
other	probable storage area	see TEC's Final Report- Sept '02 (PwrPnt slides 23-25, 42-43).	1944
other	cleared area	vehicle tracks lead in; polygon shifted via '51 aerial orthophoto.	1944
material/mounded material	material, unidentified	vehicle tracks in vicinity; polygon shifted (corrected) via '51 orthophoto.	1944
material/mounded material	material, unidentified	vehicle tracks in vicinity; polygon shifted (corrected) via '51 orthophoto.	1944
material/mounded material	material, unidentified	polygon shifted (corrected) via '51 aerial orthophoto.	1944
material/mounded material	vehicles & equip., possible		1944
disturbed ground/scar	ground scar		1944
tracks/trail	vehicle tracks in area	numerous vehicle tracks.	1944
other	other, unidentified	approx. location in woods; see TEC's Final Report- Sept '02 (PwrPnt slide 38).	1944
material/mounded material	mounded material	may be associated with local farming; poly. shifted via '51 orthophoto.	1944
material/mounded material	mounded material	may be associated with local farming; poly. shifted via '51 orthophoto.	1944
material/mounded material	mounded material	may be associated with local farming; poly. shifted via '51 orthophoto.	1944
material/mounded material	mounded material	may be associated with local farming; poly. shifted via '51 orthophoto.	1944
material/mounded material	mounded material	may be associated with local farming; poly. shifted via '51 orthophoto.	1944
other	other, unidentified	circular-shaped feature - unidentified.	1944
other	other, unidentified	approx. location in woods; see TEC's Final Report- Sept '02 (PwrPnt slide 38).	1944
disturbed ground/scar	ground scar		1944
disturbed ground/scar	ground scars	vehicle tracks lead in; polygon shifted (corrected) via '51 orthophoto.	1944
disturbed ground/scar	ground scars	see '44 oblique photo #1323 for closer look; poly. shifted via '51 orthophoto.	1944
liquid or pond	pond	see '44 oblique photo #1323 for closer look; poly. shifted via '51 orthophoto.	1944
disturbed ground/scar	ground scars	see '44 oblique photo #1323 for closer look; poly. shifted via '51 orthophoto.	1944
disturbed ground/scar	ground scars	poss. open storage area; see '44 oblique #1323; poly. shifted via '51 ortho.	1944
material/mounded material	mounded material	polygon shifted (corrected) based upon '51 aerial orthophoto.	1944
material/mounded material	mounded material		1944
disturbed ground/scar	scraped out area		1944
material/mounded material	berm & mounded material	vehicle tracks lead in & out; polygon shifted (corrected) via '51 aerial orthoph	1944
disturbed ground/scar	ground scars, scattered, faint	vehicle tracks lead in from two locations on the east side of the polygon.	1944

TABLE 1-2 TOPOGRAPHIC ENGINEERING CENTER AERIAL ANOMALY DESCRIPTIONS AND ASSIGNED VALID VALUES

Valid Value Assigned for Database	TEC Description[1]	TEC Remarks[1]	Year of Anomaly
disturbed ground/scar	scraped out area	polygon shifted (corrected) based upon '51 aerial orthophoto.	1944
disturbed ground/scar	scraped out area	polygon shifted (corrected) based upon '51 aerial orthophoto.	1944
disturbed ground/scar	scraped out area	polygon shifted (corrected) based upon '51 aerial orthophoto.	1944
disturbed ground/scar	scraped out area	polygon shifted (corrected) based upon '51 aerial orthophoto.	1944
disturbed ground/scar	scraped out area	polygon shifted (corrected) based upon '51 aerial orthophoto.	1944
disturbed ground/scar	scraped out area	polygon shifted (corrected) based upon '51 aerial orthophoto.	1944
disturbed ground/scar	scraped out area	polygon shifted (corrected) based upon '51 aerial orthophoto.	1944
disturbed ground/scar	ground scar	polygon shifted (corrected) based upon '51 aerial orthophoto.	1944
disturbed ground/scar	ground scars	polygon shifted (corrected) based upon '51 aerial orthophoto.	1944
disturbed ground/scar	ground scars	polygon shifted (corrected) based upon '51 aerial orthophoto.	1944
other	other	unidentified raised object; not observed in 1942; only grd scar remains in '51	1944
liquid or pond	standing liquid	possible pond; same area appears as a ground scar on '51 aerial photos.	1944
tracks/trail	depression, veh. traks lead in	see '44 aerial oblique photo #1114; polygon shifted via '51 orthophoto.	1944
liquid or pond	derpression & standing liquid	see '44 aerial oblique photo #1114; polygon shifted via '51 orthophoto.	1944
disturbed ground/scar	ground scar	location is along "A" Street	1951
disturbed ground/scar	disturbed ground	"Probable Storage Area" aka "Fenced-In Area".	1951
disturbed ground/scar	ground scar	faint ground scars along road; possible vehicle parking area.	1951
disturbed ground/scar	ground scar	faint ground scars along road; possible vehicle parking area.	1951
other	building	observed for 1st time on avail. photography: 1944.	1951
other	removed building	observed for last time on avail. photography: 1944.	1951
disturbed ground/scar	ground scars		1951
disturbed ground/scar	ground scars, scattered	features lie within a field; may be associated with farming.	1951
material/mounded material	material	poss. OS of K-65 residue (in drums}; re: LOOW Hist. Search Rpt ('98)	1951
material/mounded material	material	poss. OS of K-65 residue (in drums); re: LOOW Hist. Search Rpt ('98)	1951
disturbed ground/scar	ground scars	possible ground-scarred area in Property "G".	1951
disturbed ground/scar	ground scar	crescent-shaped GS with veh. tracks leading in; same area shows trees in '56.	1951
material/mounded material	material, light-toned	material lies within the Property "G" Area & just to the east of Property "G".	1951
disturbed ground/scar	ground scar	ground-scarred area or (possible) cleared area in Property "G" area.	1951

TABLE 1-2 TOPOGRAPHIC ENGINEERING CENTER AERIAL ANOMALY DESCRIPTIONS AND ASSIGNED VALID VALUES

Valid Value Assigned for Database	TEC Description[1]	TEC Remarks[1]	Year of Anomaly
disturbed ground/scar	depression	feature observed as a shallow pond on 1944 imagery.	1951
disturbed ground/scar	ground scars	traces of ground scars (possible)	1951
disturbed ground/scar	ground scars	see "Scrap... Disposal", "The Fed. Conn., Vol .I, Jan '81, NY State, pp. 235,6.	1951
disturbed ground/scar	disturbed ground		1951
disturbed ground/scar	ground scar	mounded material observed near this location on '44 imagery.	1951
disturbed ground/scar	ground scars	tracks lead in	1956
liquid or pond	standing liquid	two pools separated by a linear berm; Bell Test Center area	1956
liquid or pond	pond or excavation	vehicle tracks lead in to small pond from the west (1956 only)	1956
disturbed ground/scar	ground scar, linear, narrow	a very narrow GS from Nike Control Area to Launch Area; poss. comm. line.	1956
disturbed ground/scar	ditch or track; ground scars	circular ditch or track (1956-1978); scattered ground scars (1956 only)	1956
disturbed ground/scar	ground scars, scattered	these GSs not observed on 1951 imagery; possible light-toned material in area	1956
material/mounded material	material, light-toned	area is also somewhat ground-scarred; 1951 imagery depicts similar finding	1956
disturbed ground/scar	ground scars, scattered	includes GSs from poss. K-65 drum storage along dirt road (see '51 findings)	1956
disturbed ground/scar	cleared area	area appears light-toned & recently utilized for unknown purpose	1956
other	structure or small building	fence-enclosed; sml ditch runs west from area into (main) central drainage ditch	1956
material/mounded material	material	material laying parallel to edge of clearing in "Probable Storage Area".	1956
material/mounded material	material	material laying parallel to edge of clearing in "Probable Storage Area".	1956
material/mounded material	material	material laying parallel to edge of clearing in "Probable Storage Area".	1956
material/mounded material	material	material laying parallel to edge of clearing in "Probable Storage Area".	1956
disturbed ground/scar	clearing	clearing in woods; vehicle tracks lead in; Acome Landfill location.	1956
disturbed ground/scar	depression	feature observed as a shallow pond on 1944 imagery.	1956
disturbed ground/scar	ground scars, scattered	faint GSs in a field; these features may be related to local farming.	1956
liquid or pond	standing liquid	possible waste pond associated with Navy IPPP operations	1958
disturbed ground/scar	berm, "J" -shaped	berm surrounds a large rectangular structure ; Navy IPPP area	1958
disturbed ground/scar	berm, oval-shaped	located in the vicinity of the Navy IPPP; poss. burn area or disposal site.	1958
disturbed ground/scar	ground scars	see "Scrap Metal Disposal" - "Fed. Conn. ..., NY State Comm., Jan '81, pp 235,6	1958

TABLE 1-2 TOPOGRAPHIC ENGINEERING CENTER AERIAL ANOMALY DESCRIPTIONS AND ASSIGNED VALID VALUES

Valid Value Assigned for Database	TEC Description[1]	TEC Remarks[1]	Year of Anomaly
disturbed ground/scar	ground scars	site of former Slurry Pond; note crude "bridge" over ditch allowing access in.	1958
disturbed ground/scar	excavation	Acome Landfill	1958
disturbed ground/scar	ground scars	GSs are prominent in 1958, less so in 1960; Navy IPPP area.	1958
disturbed ground/scar	disturbed ground	former underground toluene tank storage area.	1958
material/mounded material	mounded material		1958
material/mounded material	mounded material		1958
material/mounded material	mounded material		1958
disturbed ground/scar	disturbed ground		1958
disturbed ground/scar	ground scars, possible	area shows possible "faint" remains of ground scars.	1958
material/mounded material	scattered material	site is served by two loose-surface roads; possible disposal area.	1958
disturbed ground/scar	possible ground scars	features appear as possible scattered GSs in the former Slurry Pond	1958
disturbed ground/scar	scattered ground scars		1958
disturbed ground/scar	ground scars	GSs in "Presumed Storage Area" aka "Fenced-In Facility".	1958
disturbed ground/scar	ground scar	feature observed as a shallow pond on 1944 imagery.	1958
disturbed ground/scar	ground scars	GSs along dirt road; see '51 findings (re: poss. K-65 drums in open storage).	1958
disturbed ground/scar	ground scars, scattered	see 1951 findings - i.e. light-toned material & GSs in the same area.	1958
disturbed ground/scar	berm, oval-shaped	possible burn or disposal area	1963
disturbed ground/scar	berm, c-shaped	possible burn or disposal area	1963
disturbed ground/scar	ground scar	light-toned ground scar in Property "G" Area	1963
disturbed ground/scar	ground scars	traces of ground scars in Property "G" Area	1963
disturbed ground/scar	ground scars	traces of ground scars in Property "G" Area	1963
disturbed ground/scar	ground scars	traces of ground scars in Property "G" Area	1963

1 Descriptions and remarks are as they appear in the geographical information system (GIS) project from TEC.

TABLE 1-3 CONSOLIDATION AND STANDARDIZATION OF LAND USE DEFINITIONS

Land Use Definition/Code from Town Plans	Standardized Land Use Code Used in Database
Rural Residential	Agricultural/Rural
R1 - Residential	Residential
R1A - Residential	Residential
R2 - Residential	Residential
Residential	Residential
Industrial	Industrial
Industrial:No Housing Permitted	Industrial
Agricultural	Agricultural/Rural
Agricultural and Rural Residential	Agricultural/Rural
Commercial/Municipal	Commercial/Municipal/Community
Community Service	Commercial/Municipal/Community
Industrial: Housing Permitted	Commercial/Municipal/Community
Publicly Owned (Park)	Undeveloped/parks/rec/wildlife
RoadRightofWay	Undeveloped/parks/rec/wildlife
Undeveloped/parks/rec/wildlife	Undeveloped/parks/rec/wildlife

Legend

- FORMER LOOW BOUNDARY WITH EASEMENTS
- FORMER LOOW DEVELOPED AREA
- PARCELS (IN WHOLE OR IN PART) IN FORMER LOOW UNDEVELOPED AREA
- PARCELS INELIGIBLE FOR INCLUSION IN DERP FUDS
- NIAGARA COUNTY TAX PARCEL BOUNDARY
- 30-INCH OUTFALL LINE
- 10-INCH WATER LINE
- 42-INCH INTAKE LINE
- STREAMS
- ROADS

N

3,000 1,500 0 3,000 Feet

NOTE: MAP PROJECTION IS NEW YORK STATE PLANE NAD83 FEET.
PARCEL IDENTIFICATION AND BOUNDARY DATA PROVIDED BY
NIAGARA COUNTY TAX PARCEL IDENTIFICATION DATABASE (2007).

VICINITY MAP

Lake Ontario

Niagara River

FOUR MILE CREEK EASEMENT - ORIGINALLY COMPRISED OF PARCELS TOTALING 79.6 ACRES

LOOW BOUNDARY

30-INCH OUTFALL LINE EASEMENT- ORIGNALLY COMPRISED OF PARCELS TOTALING 21.19 ACRES

42-INCH INTAKE LINE EASEMENT- ORIGINALLY COMPRISED OF PARCELS TOTALING 13.9 ACRES

42-INCH INTAKE LINE PUMP HOUSE PARCELS

YOUNGSTOWN WILSON ROAD

YOUNGSTOWN LOCKPORT ROAD (RTE 93)

CENTRAL DRAINAGE DITCH

SIX MILE CREEK

CAIN

FOUR MILE CREEK

ROBERT MOSES PARKWAY (HWY 957)

LUTTS ROAD

CENTRAL DRAINAGE DITCH

SIX MILE CREEK

PORTER CENTER ROAD

BALMER ROAD

FORMER LOOW DEVELOPED AREA

TWELVE MILE CREEK

30-IN OUTFALL

FORMER LOOW UNDEVELOPED AREA

CREEK ROAD (RTE 18)

SOUTHWESTERN DRAINAGE DITCH

42-IN INTAKE LINE

PLETCHER ROAD

10-IN WATER LINE

HAROLD ROAD

SWANN ROAD

MODEL CITY ROAD

\\LovetonFederal\Agencies\DOD\ARMY\HTRW2005\Projects\61990231 LOOW MAP\GIS\MXD\ParcelGroups\OVERVIEW11x17.mxd

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

LAKE ONTARIO ORDNANCE WORKS
NIAGARA COUNTY, NEW YORK

FIGURE 1-1

CURRENT (2007) PROPERTY PARCELS COMPRISING THE FORMER LOOW

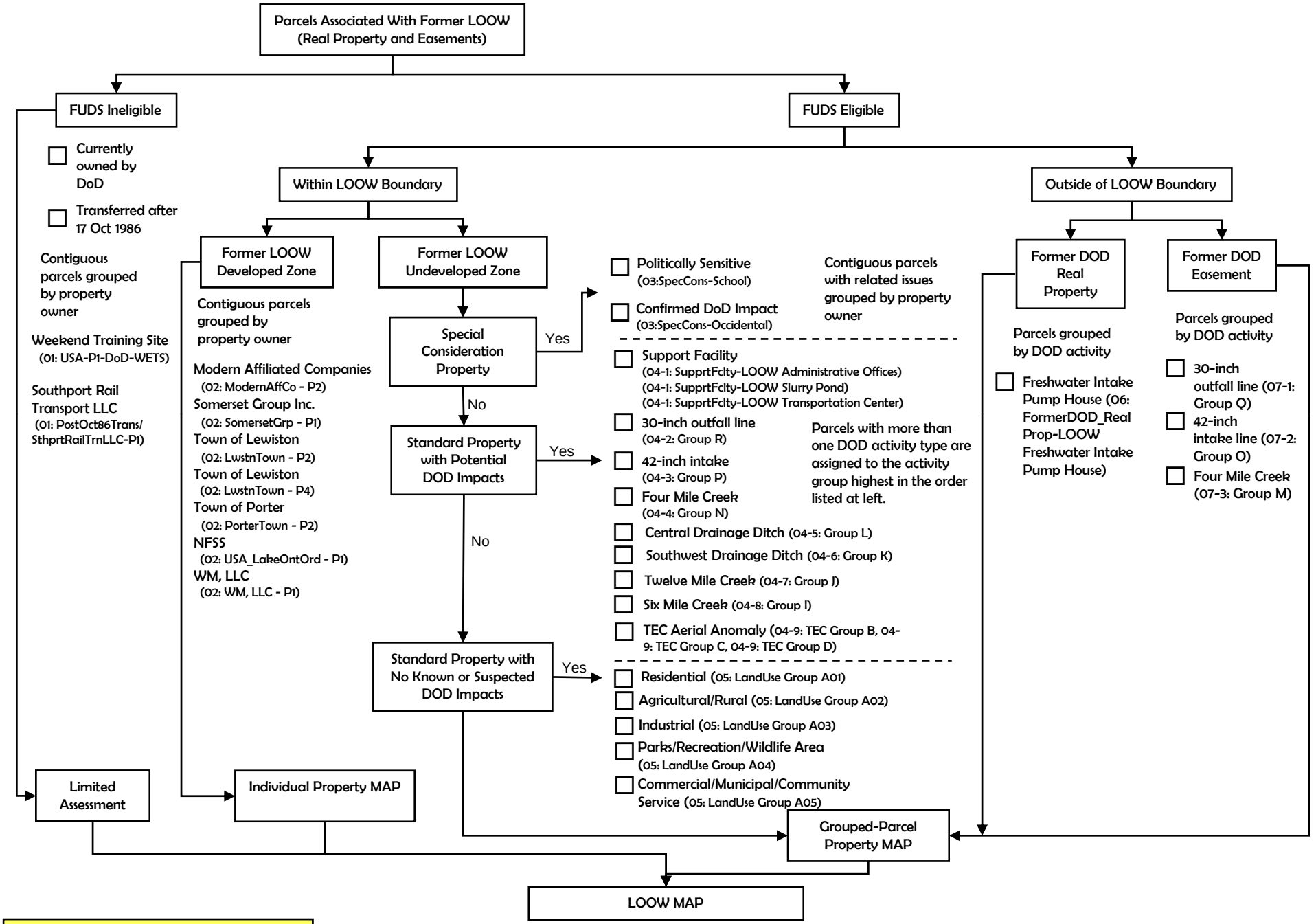

FIGURE 1-2 EXAMPLE OF PARCEL GROUPING LOGIC TREE

2 LEGAL CONTEXT

2.1 USACE AUTHORITY

2.1.1 Formerly Used Defense Sites

Environmental restoration activities at FUDS were first initiated under the Defense Appropriations Act[2] in 1983. In 1984, execution of this program was delegated by the DOD to the USACE. In October 1986, the Superfund Amendments and Reauthorization Act (SARA) was signed into law, and Section 211 of SARA established the Defense Environmental Restoration Program[3] (DERP). The DERP legislation authorized the Secretary of Defense to carry out environmental response, in accordance with the Comprehensive Environmental Response, Compensation and Liability Act[4] (CERCLA), with respect to releases of hazardous substances from active defense sites, FUDS (so long as the releases occurred while the facility was under the jurisdiction of the Secretary of Defense), and vessels owned or operated by the DOD. The DERP legislation specifies that the Secretary of Defense does not have basic responsibility for response actions if such an action by another potentially responsible party has been authorized in accordance with section 122 of CERCLA.

Three overarching goals were identified in the DERP legislation:

1. The identification, investigation, research and development, and cleanup of contamination from hazardous substances, pollutants, and contaminants.
2. Correction of other environmental damage (such as detection and disposal of unexploded ordnance) which creates an imminent and substantial endangerment to the public health or welfare or to the environment.
3. Demolition and removal of unsafe buildings and structures, including buildings and structures of the Department of Defense at sites formerly used by or under the jurisdiction of the Secretary

Pursuant to DOD Instruction 4715.7- *Environmental Restoration Program*, the Secretary of the Army is designated as the DOD Executive Agent for the FUDS program (ODUSD 2001), and the Secretary of the Army further delegated the program management and execution

[2] Defense Appropriations Act: Public Law 98-212

[3] Defense Environmental Restoration Program: 10 USC §2701 et seq.

[4] Comprehensive Environmental Response, Compensation and Liability Act: 42 U.S.C. 9601 et seq.

responsibility for FUDS to the Chief of Engineers of the USACE (USACE 2004). Therefore, the USACE has the authority, and responsibility, to carry out the FUDS program and to achieve the goals of the DERP in accordance with the DERP legislation, and applicable guidance and DOD policies.

2.1.1.1 FUDS Property Eligibility

The FUDS program addresses real property that meet two criteria (USACE 2004):

1. Properties that were formerly owned by, leased by, possessed by, or otherwise under the jurisdiction of the Secretary of Defense, or governmental entities that are the legal predecessors of the DOD, and those properties where accountability rested with the DOD but where the activities at the property were conducted by contractors.

2. Properties that were transferred from DOD control prior to October 17, 1986.

These criteria must be met before the property is deemed eligible for inclusion into DERP FUDS. However, there are certain other features that may exclude the property, in whole or in part from eligibility for environmental response. These include:

- Categorically excluded properties – United Services Organization (USO) properties, recruiting centers, and cemeteries.
- Properties declared excess prior to, but not conveyed until after 17 October 1986.
- Non-DOD ownership – properties that were not under the jurisdiction of the Secretary of Defense and owned by, leased by, or otherwise possessed by the United States (including governmental entities that are the legal predecessors of DOD.
- State National Guard Properties –unless they were formerly under the jurisdiction of the Secretary and owned by, leased by, or otherwise possessed by the United States.
- Non-U.S. Properties – this includes properties outside the United States or outside those districts, territories, commonwealths, and possessions over which the United States has jurisdiction.
- Defense Plant Corporation – any Defense Plant Corporation (DPC), and similar properties for which successor agencies and departments other than DOD are responsible for environmental restoration activities. These are sometimes referred to as PLANCOR.
- Civil Works Properties – this includes all Department of the Army Civil Works properties.

- Acts of War Properties – this includes properties where a release occurred solely as a result of an act of war.
- Offshore Ordnance Properties – properties where military munitions are more than 100 yards seaward of the mean high-tide point are not eligible.
- Properties Without Records – this includes properties for which there are no records showing that the property was formerly under the jurisdiction of the Secretary of Defense.
- Restoration Already Initiated – this includes a FUDS at which a DOD component has already initiated environmental restoration activities.
- Duplicate Properties – this is a property that is known by a different name, yet is the same physical property already listed in the FUDS inventory.
- DOD Active Installation – this includes properties still under the jurisdiction of DOD components.

LOOW FUDS Property Eligibility

The property addressed in this MAP was owned by the DOD beginning in the late 1930s for use as the LOOW and other DOD facilities. Approximately 984 acres are either still owned by the DOD or were transferred after October 17, 1986. Approximately 6,583 acres were transferred from DOD ownership prior to October 17, 1986 and fall under the definition of a FUDS. Furthermore, to date, there is no evidence that this acreage exhibits any of the parameters that would exclude the property from FUDS restoration. Therefore, the USACE is responsible for the management and execution of the DERP FUDS programs at 6,583 acres of the former LOOW property. Figure 1-1 illustrates those areas of the former LOOW which are not eligible FUDS property.

2.1.1.2 FUDS Project Eligibility

The USACE is required to develop an execution strategy for the FUDS program that addresses the following goals (USACE 2004):

- Reducing risk to human health and the environment through implementation of effective, legally compliant, and cost-effective environmental response.
- Having final remedies in place and completing response actions.

To achieve the goals of the DERP, the DOD has established the following programs to classify activities at FUDS properties. Each program addresses different types of environmental issues, and therefore a single FUDS property could be eligible for one or all of the programs.

- Installation Restoration Program (IRP) – The installation restoration program was established to identify, investigate, and clean up contamination on DOD properties (both active installation and FUDS). It specifically focuses on the cleanup of contamination from past hazardous waste operations and hazardous material spills.
- Military Munitions Response Program (MMRP) – The MMRP is used to address munitions and explosives of concern (MEC) or munitions constituents (MC) at active installations and FUDS.
- Building Demolition/Debris Removal (BD/DR) Program – The BD/DR program is used for the demolition and removal of unsafe buildings and structures at FUDS properties.

Among these three programs, there are five types of projects that can be authorized for a FUDS. These are:

1. Hazardous, Toxic, and Radioactive Waste (HTRW) project – under the purview of the IRP. HTRW projects address environmental response at an area of an eligible FUDS property as the result of DOD activities related to hazardous substances, pollutants, and contaminants as defined in CERCLA; petroleum, oil, or lubricants (POL); DOD-unique materials; hazardous wastes; low-level radioactive materials or low-level radioactive wastes; and explosive compounds released to soil, surface water, sediments, or groundwater as a result of ammunition or explosives production or manufacturing at ammunition plants (USACE 2004).
2. Containerized HTRW (CON/HTRW) project – under the purview of the IRP. CON/HTRW projects address environmental response at an area of an eligible FUDS property involving former DOD underground storage tanks (UST), aboveground storage tanks (AST), transformers, hydraulic systems, investigative derived waste (IDW), abandoned inactive monitoring wells, etc. CON/HTRW projects also address environmental response for drums containing hazardous substances, pollutants, and contaminants, and incidental removal of contaminated soils resulting from a leaking UST or other container (USACE 2004).
3. BD/DR project – under the purview of the BD/DR Program. For FUDS, only those properties continually owned by State and/or local government, or Alaskan Native Corporation subsequent to DOD ownership are eligible for inclusion into a BD/DR

project. Furthermore, for hazards to be deemed eligible for inclusion into a FUDS BD/DR project, they must have been a direct result of prior DOD use, must have been inherently hazardous when the property was transferred, and must represent a clear danger to persons exercising ordinary and reasonable care (USACE 2004).

4. MMRP project– under the purview of the MMRP. Projects include response actions at an area of an eligible FUDS property related to military Munitions and Explosives of Concern (MEC) and their Munitions Constituents (MC) as the result of DOD activities at FUDS.

5. PRP project – used to address CERCLA liability on properties with impact from sources other than the DOD. A PRP is any person, company, or agency other than the DOD, related to a property that is a current owner or operator, a past owner or operator at the time of disposal of any hazardous substance, pollutant, or contaminant, one who arranges for disposal, treatment, or transport for disposal or treatment of hazardous substances, or a transporter who has selected the site for the disposal of a hazardous substance. PRP projects involve activities where DOD may bear potential CERCLA liability for hazards or hazardous substance releases along with a non-DOD entity. A FUDS where HTRW or MMRP cleanup requirements exist and parties other than DOD are PRP for the materials can result in a PRP/HTRW or PRP/MMRP project (USACE 2004). PRP projects are managed by the representative USACE PRP District in coordination with the Department of Justice (DOJ) (during litigation).

Although eligible HTRW, CON/HTRW, MMRP, and/or BD/DR hazards may exist on a property, those hazards are ineligible for environmental response under FUDS if any of the following occurs:

- The current owner refuses USACE legal access to the property
- The hazards resulted from civil works activities rather than military activities.
- Where project response actions would abate asbestos-containing materials (ACM) or lead-based paints, unless the abatement is incidental to completion of a response action for an approved project, or where ACM was released into the environment by DOD disposal actions resulting in an on-site CERCLA hazardous substance release for which DOD is responsible.
- Underground storage tanks or other structures that have been beneficially used by any owner subsequent to DOD. Furthermore, for a CERCLA release from a beneficially used UST or transformer subsequent to DOD control, a PRP project may only be proposed if there is evidence of a CERCLA release resulting from DOD use.

With specific regard to BD/DR projects, the following would render potential hazards ineligible for inclusion into a FUDS BD/DR project:

- The hazard is a result of neglect by an owner/grantee subsequent to DOD use, regardless of whether the deed or disposal document required the owner/grantee to maintain the property improvements.
- Instances where an owner subsequent to DOD usage has been compensated by the government in lieu of property restoration (by a payment or offset in the purchase price).
- Where the response action would only partially demolish a structure (i.e., the demolition must be of the entire building or structure to be allowed).
- Projects involving structures or debris that were altered or beneficially used by owners subsequent to DOD usage.
- Projects where response actions would eliminate potential hazards, to include the deliberate or unintentional demolition of buildings (i.e., conditions that may become hazardous through deliberate and/or careless acts are ineligible).
- Projects for which the lease, permit, deed, or other title transfer document absolves the government from the obligation for property restoration

LOOW FUDS Project Eligibility

During the LOOW INPR, a screening was performed to assess whether potential hazards specific to each project type were present on the LOOW FUDS, and whether the hazards were eligible for inclusion into a FUDS project. Based on the FDE of the INPR, the IRP and MMRP have been deemed appropriate for the LOOW FUDS, and the following projects are currently authorized for the LOOW FUDS:

- HTRW
- CON/HTRW
- MMRP
- PRP/HTRW

Although BD/DR hazards from formerly used DOD facilities were present on the LOOW FUDS, the hazards were not eligible for inclusion into a FUDS project for one or more of the reasons discussed earlier in this Section.

Although these projects are authorized for the LOOW FUDS, initiation of a project specific to an area or parcel group may not be required or warranted if no FUDS eligible hazards are present on the parcel. FUDS eligible hazards are assessed on parcel group basis and presented in each PMAP.

2.1.2 Formerly Utilized Sites Remedial Action Program (FUSRAP)

Portions of the LOOW are being evaluated under a separate Federal program known as the FUSRAP. The FUSRAP was created in the 1970's by the former Atomic Energy Commission (AEC), now the Department of Energy (DOE), to identify, investigate, and clean up or control residual contamination remaining at sites where work had been performed as part of the Nation's early atomic energy program (USACE 2003). The Niagara Falls Storage Site (NFSS) is a Federal facility located within the former LOOW that is used to store radioactive residues from the early atomic energy program that is being remediated under the FUSRAP.

Congress transferred responsibility for administering and executing FUSRAP from the DOE to the USACE in 1997. In March 1999, the DOE and USACE entered into a Memorandum of Understanding (MOU) for the purpose of delineating administration and execution responsibilities for the FUSRAP (USACE 2003). It was agreed that USACE has the authority to administer and execute cleanup activities at eligible FUSRAP sites pursuant to the provisions of the Energy and Water Development Appropriations Act of 1998[5], the Energy and Water Development Appropriations Act of 1999[6], and in accordance with CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan[7] (NCP). In addition, it was agreed that DOE does not have regulatory responsibility or control over the FUSRAP activities of USACE. Except as noted in the MOU, USACE is responsible for all environmental response activities at FUSRAP sites until two years after site closeout, at which point DOE assumes responsibility for any additional required activities at the site.

During evaluation of the NFSS, conducted in the 1970's and 1980's under the regulatory authority of the DOE, properties adjacent to the NFSS that were known or suspected of having been utilized for storage of radioactive materials were designated as "Vicinity Properties" (VPs) for environmental response and were assigned letter designations (see Figure 2-1). As of March 1999, regulatory closure had been achieved for all but three VPs. Authority and responsibility

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[5] Energy and Water Development Appropriations Act of 1998: Title I, Public Law 105-62, 111 Stat. 1320, 1326

[6] Energy and Water Development Appropriations Act of 1999: Title I, Public Law 105-245, 112 Stat. 1838, 1843

[7] National Oil and Hazardous Substances Pollution Contingency Plan: 40 C.F.R. Chapter 1 Part 300

for the closed VPs lies with DOE, not with USACE. The NFSS and the three "open" VPs (designated E, E-prime, and G) however, are still active FUSRAP sites under the authority of the USACE.

The NFSS is considered a FUDS and is eligible for response actions under FUDS because the property was transferred from DOD ownership to predecessors of the DOE. The property is currently owned by the DOE. The project management for both the NFSS FUSRAP and LOOW FUDS lie with the USACE-Buffalo District. To minimize duplication of effort during investigation of the NFSS, and to reduce confusion over responsibility, the decision was made to investigate both radiological and non-radiological impacts at NFSS under the FUSRAP. FUDS eligible hazards on NFSS are being addressed by the FUSRAP.

2.1.3 USACE FUDS Project Close Out Authority

The decision to require no further action may be made at any one of several decision points in the CERCLA process, pending adequate information to support the technical argument for the decision. Under DERP-FUDS, the USACE PM has the authority to make a no further DOD activity indicated (NDAI) decision which would be documented in a Project Declaration Statement (USACE 2004) and incorporated into this MAP (or the appropriate PMAP). Different categories of NDAI have been defined under FUDS guidance, depending upon where in the restoration process the declaration is made:

- Property Level NDAI Decisions – this property level decision is made following the INPR if the property is (i) categorically excluded for consideration, (ii) not eligible for consideration under the FUDS program, or (iii) eligible but no potential hazards were identified.
- Project Level NDAI-I Decisions – NDAI-I decisions are made following the initial screening where USACE has determined that the hazards found were not attributable to DOD, or if, for policy reasons, the project is not approved.
- Project Level NDAI-II Decisions – NDAI-II decisions are made by the USACE based on the results of a SI after USACE has determined impacts do not pose risk to human health or the environment or pose an explosives safety hazard warranting further studies.
- Project Level NDAI-III Decisions – NDAI-III decisions are made by the USACE based on the results of the RI after USACE has determined that impacts do not pose risk to human health or the environment or do not require further response actions.

- Project Level NDAI-IV Decisions – NDAI-IV decisions are made by the USACE when a response action, or an equivalent effort for a CON/HTRW or BD/DR project, have been completed.

The declaration of NDAI is a USACE administrative decision and does not require regulatory concurrence. Neither does it represent project or property regulatory closure. A closed-out FUDS property is one for which all projects requiring regulatory concurrence of closeout decisions have been achieved (USACE 2004). One of the purposes of this MAP and the individual PMAPs is to begin seeking regulatory concurrence on NDAI declarations on a parcel group basis such that the concurrences can be consolidated for use in eventual overall LOOW FUDS property close out.

2.2 ORGANIZATIONAL RESPONSIBILITY

This Section outlines the levels of authority for DERP FUDS projects, and the responsibilities held at each level of authority. The information in this section was obtained from the Environmental Quality - Formerly Used Defense Sites (FUDS) Program Policy Manual, Engineering Regulation (ER) 200-3-1 (USACE 2004).

2.2.1 Secretary of Defense

The Assistant Deputy Undersecretary of Defense (Environment, Safety, and Occupational Health) acts on behalf of the Office of the Secretary of Defense (OSD) to establish the overall policies for the FUDS program and to provide oversight of the program including development and defense of the ER-FUDS account. In addition, this office is responsible for conducting reviews of the FUDS program and directing changes to the program as necessary.

2.2.2 Department of the Army

There are two levels of organization within the Department of the Army with various responsibilities for FUDS projects, and each is summarized below.

2.2.2.1 Deputy Assistant Secretary of the Army for Environment, Safety, and Occupational Health

The Deputy Assistant Secretary of the Army for Environment, Safety, and Occupational Health [DASA(ESOH)] works under the direction of the Assistant Secretary of the Army for Installations and Environment [ASA(I&E)], and is responsible for a number of activities, some of which are similar to the responsibilities held by the Secretary of Defense. The DASA (ESOH) is responsible for executing the duties and responsibilities of the FUDS program, establishing

program policy, direction, and priorities, providing program oversight, and conducting periodic program reviews. As a result of these reviews, the DASA (ESOH) must provide guidance for and eventual approval of the FUDS annual work plan and guidance for the Future Years Defense Plan (FYDP). In addition, this office is responsible for approving and submitting financial management documents that support the ER-FUDS account (e.g. Program Objective Memorandum, Budget Estimate Submission, President's Budget, and Environmental Liabilities Reports) to the OSD. The DASA (ESOH) is also responsible for providing policy guidance for outreach programs designed to improve coordination and relationships with stakeholders, approving Decision Documents for FUDS projects of interest to the Army Secretariat, and coordinating with the OSD and other Military Services on issues concerning the FUDS program.

2.2.2.2 Assistant Chief of Staff for Installation Management

The Director of Environmental Programs (DEP) within the Office of the Assistant Chief of Staff for Installation Management (ACSIM) is responsible for exercising primary Army staff responsibility to oversee, direct, and coordinate the FUDS program. The DEP is also responsible for developing implementation guidance and instructions for execution of environmental response under the FUDS consistent with the overall Army program, participating in periodic program reviews of the program and making recommendations to DASA (ESOH) on guidance for program development of the annual work plan and FYDP. The DEP is further responsible for providing financial management guidance to Headquarters (HQ) USACE, reviewing and making recommendations to DASA (ESOH) on financial management documents in support of the ER-FUDS account, and reviewing and approving DD for FUDS projects forwarded for ACSIM approval. The DEP reviews and endorses development of HQUSACE procedures to conduct independent technical review of FUDS projects, develops procedures for the FUDS outreach programs in coordination with HQUSACE, reviews and provides proposed responses to administrative issues, such as proposed legislative language and draft audit reports, when requested by DASA (ESOH), and the DEP prepares, as required, draft responses concerning inquiries on FUDS properties from stakeholders and Congress for signature by DASA (ESOH).

2.2.3 USACE

Each level of the USACE has different functional responsibilities with respect to management and execution of FUDS projects. These are described below.

2.2.3.1 Headquarters, USACE

The Directorate of Military Programs (CEMP) at HQUSACE is responsible for overall FUDS program management and execution. Within CEMP, the HQUSACE DOD Team (CEMP-DE) carries out all assigned FUDS responsibilities including policy formation, planning, programming, and budgeting, program oversight, reporting of program status, coordination with other federal agencies and fostering coordination between USACE Divisions and Districts, and promulgating the FUDS quality management process. HQUSACE issues all regulations and guidance pertaining to FUDS program management and execution, and provides consultation on all policy matters including all legal matters. They are responsible for managing all FUDS planning, programming, budgeting, and execution activities in coordination with Headquarters, Department of Army (HQDA) and DOD and are responsible for ensuring USACE Divisions distribute quarterly funds in accordance with the approved Current Year Annual Work Plan. HQUSACE must ensure that FUDS program management and execution throughout the USACE is consistent with applicable legal requirements and with program and fiscal policies of DOD, HQDA, and HQUSACE, and they act as the lead office on all PRP settlements and all matters involving litigation.

2.2.3.2 Geographic Military Division

USACE military Divisions have regional responsibility for the FUDS program. There are seven military divisions, and the North Atlantic Division (CNAD) is responsible for FUDS programs in the state of New York. Divisions are accountable for policy formation through providing comments to HQUSACE regarding necessary improvements to existing or proposed policies and proposing new policies to HQUSACE. The Divisions' responsibilities regarding planning, programming, and budgeting activities include the dissemination of HQUSACE policies and directives to Districts, determining FUDS property eligibility, and providing project approvals in accordance with current FUDS policy. Program oversight responsibilities include reviewing and prioritizing District current or budget year work plans, monitoring the execution of environmental response, ensuring that Districts maintain and update Project Management Plans (PMP) in accordance with ER 5-1-11. The Divisions are also responsible for ensuring effective coordination with all applicable regulators and stakeholders.

2.2.3.3 Geographic Military District

The geographic military District and assigned PM is the overall manager for approved FUDS projects, with the exception of PRP projects. There are 18 USACE Districts. USACE-Buffalo is the geographic military District responsible for the former LOOW FUDS projects. The PM

within the geographic military district is currently Mr. William Kowalewski. Mr. Kowalewski leads and facilitates the PDT toward effective project development and execution. The District is responsible for managing project costs, schedule, and scope to ensure quality and proper coordination with government and non-government entities. The District is also responsible for programming funding and for upward reporting.

The majority of District and District PM responsibilities revolve around project execution and include:

- Recommending potential FUDS properties and projects to the Division;
- Providing notice and opportunity for comment to the U.S. EPA, appropriate state and local officials, and current property owners prior to eligibility determination being finalized;
- Managing the execution of all phases of environmental response at assigned FUDS projects including management of contractors, establishing and maintaining public involvement, an Administrative Record file, and permanent Project Files for each eligible project;
- Developing and managing public involvement activities;
- Administering community relations contracts and PRP contracts, as appropriate;
- Managing project costs, schedule, and scope to ensure quality execution;
- Coordinating the preparation and updating of the Management Action Plan (MAP) and Property Specific MAP (PMAP) and release to the U.S. EPA, state, and other stakeholders.

2.2.3.4 Geographic Military Design District

The Design District provides support to the Geographic Military District for all planning, programming, budgeting, and contracting activities and serves on the Project Delivery Team (PDT) to support the geographic military District PM in investigation and design activities. The Design District for the former LOOW project is USACE-Baltimore. The Design Team Leader is currently Ms. Liza Finley. The Design District submits deliverables for HTRW and MMRP projects to the appropriate Centers for Excellence (CX) and other federal agencies (e.g. U.S. Army Center for Health Promotion and Preventative Medicine [USACHPPM]) for review and approval. They also assist the geographic military District PM in coordinating public involvement on HTRW projects and in developing an appropriate Public Involvement Plan.

2.2.3.5 Potentially Responsible Party District

Project Management responsibility for PRP projects resides with the PRP District on finalization of a PRP INPR. Only designated PRP Districts may respond to allegations made against DOD concerning past activities associated with CERCLA contaminants at FUDS. Upon receipt of any such allegation, the geographic District will immediately provide a copy of the allegation to the Office of Counsel at the designated PRP District, who has sole authority for determining the appropriateness of its managing the matter as a PRP negotiation. USACE-Baltimore is the PRP District for the former LOOW project.

2.2.3.6 Military Munitions and RCWM Design Centers and Remedial Action Districts

The Military Munitions (MM) or Recovered Chemical Warfare Materiel (RCWM) Design Centers provide direct support to the geographic military Districts and MM Remedial Action Districts. Only the RCWM Design Center is authorized to execute any phase of a response on a RCWM project. The MM Remedial Action District is authorized to, and is responsible for, performing remedial or removal response actions for MMRP Projects. They prepare MMRP remedial or removal contract acquisition strategies and ensure sufficient contract capabilities exist to execute the assigned work. The MM Remedial Action district is responsible for reviewing and approving project documents, and coordinating MMRP activities with the PM, MM Design Center, and the MM Center of Excellence (CX).

2.2.3.7 Centers of Expertise

USACE designates CX for HTRW and MMRP projects. The HTRW CX does not execute environmental response for programs or projects; rather it provides technical support to the USACE in their performance of FUDS projects. USACE Divisions and Districts may access various technical specialists and other services through designated CX points of contact. Similarly, the MM CX was established to assist USACE organizational elements in performing their activities and maintaining state-of-the-art technical expertise for all aspects of response activities for projects involving MEC. The mission of the MM CX is to safely eliminate or reduce risks from ordnance, explosives, and recovered chemical warfare materiel at current or formerly used defense sites.

2.3 REGULATORY AUTHORITY

The USACE-Buffalo District is the lead federal agency for the former LOOW, and coordinates project activities with the USEPA, the appropriate state and local regulatory agencies, and the USACE PRP District for the LOOW FUDS. The lead regulator for environmental investigations

and responses at the former LOOW is the USEPA which has assigned primary oversight responsibility to the New York State Department of Environmental Conservation (NYSDEC). Additional regulatory considerations are provided by the New York State Department of Health (NYSDOH).

2.3.1 USACE Responsibility

The USACE has the responsibility to carry out the FUDS program and to achieve the goals of the DERP in accordance with the DERP legislation. The USACE is required to develop an execution strategy for the FUDS program that addresses the following goals (USACE 2004):

1. Reducing risk to human health and the environment through implementation of effective, legally compliant, and cost-effective environmental response.

2. Having final remedies in place and completing response actions.

To achieve the goals of the DERP, the DOD has established the programs and projects described in Section 2.1.

DERP must be implemented "in consultation with" USEPA[8]. For non-NPL sites, consultation is generally defined as providing the opportunity to the USEPA (and/or primary oversight assignee) to review and comment on major site documents (historical property use records, work plans, sampling and analysis plans, investigatory/study reports, RI/FS reports, EE/CAs, decision documents, and RD/RA plans and reports) and responsiveness in addressing those comments. Consultation with the USEPA (and or oversight assignee) in the form of providing information with regard to FUDS INPR, categorical exclusions, NOFA/NDAI determinations, and identification of non-DOD PRPs at FUDS is also expected.

2.3.2 USEPA and State Regulatory Responsibility

Per the DOD Management Guidance for the DERP, activities under the FUDS program must be conducted in accordance with the provisions of CERCLA as amended by SARA. CERCLA provides broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment, and the USEPA is the regulatory agency that provides oversight for CERCLA related activities. The act established

[8] As per 10 USC §2701-§2707

prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, established a trust fund to provide for cleanup when no responsible party could be identified, and identified the process for site investigation and closure.

For those areas where no known release has occurred, the USACE may reach a NDAI conclusion without concurrence from the USEPA or primary oversight agency, but does so at the risk of re-evaluation by the USEPA. If upon re-evaluation, the USEPA or primary oversight agency determines a need for additional site assessment, the USEPA consults with the USACE to reach an agreement for additional evaluation. If an agreement can not be reached, the USEPA or primary oversight agency may perform the additional evaluation.

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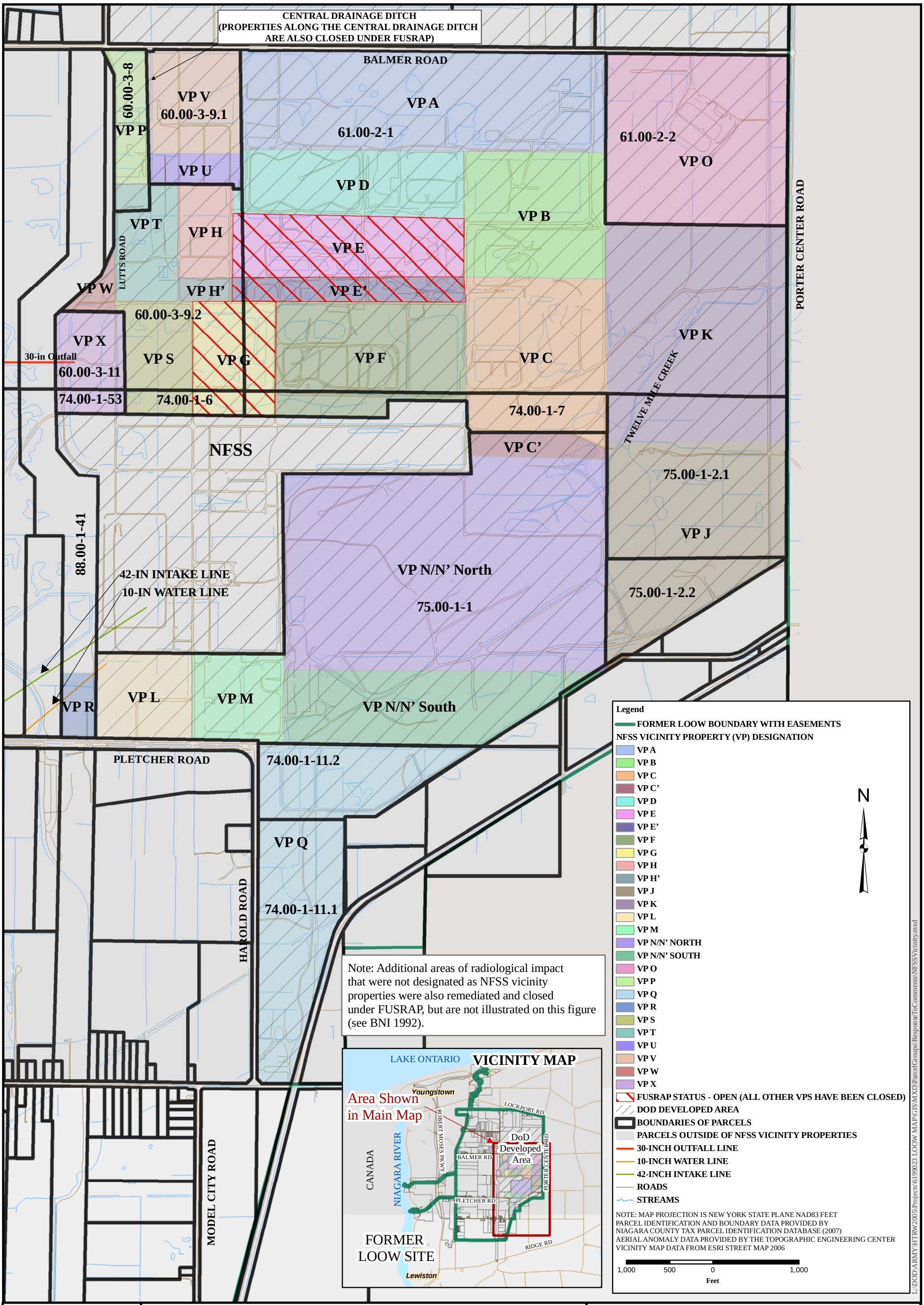


EA Engineering, Science, and Technology, Inc.

LAKE ONTARIO ORDNANCE WORKS

NIAGARA COUNTY, NEW YORK

FIGURE 2 -1

FORMERLY USED SITES REMEDIAL ACTION PROGRAM (FUSRAP), NIAGARA FALLS STORAGE SITE (NFSS), VICINITY PROPERTIES

3 SOURCES OF INFORMATION

Several sources of information were utilized during development of the PMAPs. The information was gathered to set forth the premise on which decisions regarding the current or recommended property and/or project eligibility have been made.

The most important were those documents demonstrating the parcel boundaries and real estate transfers to the DOD and from the DOD for the acquisition and disposition of LOOW. This information was acquired from the Niagara County Recorder of Deeds and grantor and grantee reference atlases. Additional information was obtained from historical documents, namely the *Federal Land Bank of Springfield, LOOW Map of Surplus Land, First Declaration* land disposal records for LOOW and the National Archives Historical Reports (USATHAMA 1981). The current (2007) parcel information was obtained from the Niagara County Department of Real Property Tax.

In 1997, the USACE conducted an extensive history search for LOOW as a basis for beginning a RI of the LOOW property. A multitude of agencies, individuals, museums, and archives were contacted for the search. Documents pertaining to both DOD and non-DOD use of the LOOW property, as well as environmental investigations conducted by the USACE as well as others, were reviewed. Because much of the information gathered was summarized and included in the History Search Report, this document is referenced heavily throughout the PMAPs. However, in those instances when the History Search Report citation was not clear, or where additional information, not originally included in the History Search Report was pertinent to the discussion, the source document was referenced.

Since 1997, several additional investigations have been performed for or by the USACE for the LOOW FUDS, for example a Phase I, Phase II, and Phase III RI, interim removal actions to address specific underground utility lines, a historical aerial photograph review, a screening level ecological risk assessment (SLERA), and ongoing human health risk assessments. Additional investigations have also been performed at the NFSS under the FUSRAP, as well. These documents have also been utilized, where applicable, to support project strategy and status for certain PMAPs.

To assist in assessment of possible impacts from other sources, a search of several environmental databases was conducted. The search was conducted by Environmental Data Resources (EDR) and included those sources presented in Tables 3-1a through 3-1d. The EDR report lists all

database incidences recorded within the search boundary, which was established at approximately 0.5 miles from the LOOW boundary.

Each of the sources used for this MAP and individual PMAPs have been consolidated into a master reference list presented herein as Table 3-2. References throughout this MAP and associated PMAPs are cited as indicated on the table. As additional information concerning LOOW becomes available and/or necessary for inclusion in the MAP, the appropriate references will be added to this list and referenced in the text where applicable.

TABLE 3-1A EDR FEDERAL RECORDS DATABASE SEARCH

ABBREVIATION	DATABASE
NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
Delisted NPL	National Priority List Deletions
NPL LIENS	Federal Superfund Liens
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
US BROWNFIELDS	A Listing of Brownfields Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
ODI	Open Dump Inventory
TSCA	Toxic Substances Control Act
SSTS	Section 7 Tracking Systems
LIENS 2	CERCLA Lien Information
US CDL	Clandestine Drug Labs
LUCIS	Land Use Control Information System
DOT OPS	Incident and Accident Data
MLTS	Material Licensing Tracking System
MINES	Mines Master Index File

TABLE 3-1B EDR STATE AND LOCAL RECORDS DATABASE SEARCH

ABBREVIATION	DATABASE
DEL SHWS	Delisted Registry Sites
SWRCY	Registered Recycling Facility List
MOSF UST	Major Oil Storage Facilities Database
MOSF AST	Major Oil Storage Facilities Database
ENG CONTROLS	Registry of Engineering Controls
INST CONTROL	Registry of Institutional Controls
VCP	Voluntary Cleanup Agreements
DRYCLEANERS	Registered Drycleaners
BROWNFIELDS	Brownfields Site List
AIRS	Air Emissions Data
RES DECL	Restrictive Declarations Listing
MOSF	Major Oil Storage Facility Site Listing

TABLE 3-1C EDR TRIBAL RECORDS DATABASE SEARCH

ABBREVIATION	DATABASE
INDIAN LUST	Leaking Underground Storage Tanks on Indian Land
INDIAN UST	Underground Storage Tanks on Indian Land

TABLE 3-1D EDR PROPRIETARY RECORDS

ABBREVIATION	DATABASE
Manufactured Gas Plants	EDR Proprietary Manufactured Gas Plants

TABLE 3-2 MASTER REFERENCE LIST

Acres 1989	Acres International Corporation. 1989. PD-6 Document Search/Background Report. April.
Acres 1990	Acres International Corporation. 1990. RI/FS Former Lake Ontario Ordnance Works, Lewiston/Porter, Niagara County, New York : Final Remedial Investigation Report. August.
Acres 1992	Acres International Corporation. 1992. Base Map of CWM and surrounding properties. 23 March.
Acres 1992b	Acres International Corporation. 1992. Preliminary Contamination Assessment Report, Operable Unit No. 2, Volume I of II. December.
Acres 1995	Acres 1995. Final Engineering Evaluation/Cost Analysis (EE/CA) for Removal Actions in Operable Units 1 and 2. March.
Acres 1997	Acres 1997. Notes From 5 November 1997 Site Visit By K. Connare of Acres International. November.
Acres 1998	Acres International Corporation. 1998. RI/FS Former Lake Ontario Ordnance Works, Lewiston/Porter, Niagara County, New York : Draft Remedial Investigation Report - Appendices. November.
Argonne 2007	Argonne National Laboratory 2007. Review of Historical Information on the Possible Presence of Phosgene Cylinders at the Lake Ontario Ordnance Works and Niagara Falls Storage Site. Draft. September.
Bell Test Center 1982	Bell Test Center. 1982. RCRA Generator Inspection Form. 9 September.
BNI 1986	Bechtel National, Inc. 1986. Post-Remedial Action Report for the Niagara Falls Storage Site Vicinity Properties - 1983 and 1984 Lewiston, New York. December.
BNI 1992	Bechtel National, Inc. 1992. Certification Docket for the Remedial Action Performed at the Niagara Falls Storage Site Vicinity Properties in Lewiston, New York, from 1983 through 1986. July.
BNI 1996	Bechtel 1996. Administrative Record, NFSS, Technical Memoradum. 03 September.
Chopra-Lee 2001	Chopra-Lee, Inc. 2001. Letter Report submitted to Lewiston-Porter Central School District regarding soil sampling for heavy metals at the northeast side of the Lewiston-Porter Central School. 20 July.

Chopra-Lee 2001b	Chopra-Lee, Inc. 2001b. Letter Report submitted to Lewiston-Porter Central School District regarding soil sampling for heavy metals at the northeast side of the Lewiston-Porter Central School. 31 July.
Chopra-Lee 2001c	Chopra-Lee, Inc. 2001c. Letter Report submitted to Lewiston-Porter Central School District regarding soil sampling for heavy metals at the northeast side of the Lewiston-Porter Central School. 13 August.
Chopra-Lee 2003	Chopra-Lee, Inc. 2003. Letter Report submitted to Lewiston-Porter Central School District regarding soil sampling at two proposed palyground areas and a dirt mound on the school property. 8 January.
CWM 1990	Chemical Waste Management Inc. 1990. PCB Surface Soil and Surface Water Drainage Course Investigation. February.
CWM 1993	CWM 1993. Letter to Mr. George Rowley, U.S. Army Corp. of Engineers, Kansas Dity District, regarding Field Analytical Procedures/Information for the Waterline Construction Areas. January.
CWM 1994	CWM 1994. Letter from CWM to Mr. Cornwell of the USACE regarding the discovery of a former DOD burn pit. 27 July.
EA 1998	EA Engineering, Science and Technology, Inc. 1998. Final History Search Report, LOOW, Niagara County, NY. 1 August.
EA 1998b	EA Engineering, Science and Technology, Inc. 1998b. Memorandum: Former Lake Ontario Ordnance Works (LOOW) RI/FS Contract No. DACA31-94-D-0025, Delivery Order No. 0115 Additional Information on Property Development Restrictions. September.
EA 1999	EA Engineering, Science and Technology, Inc. 1999. Final Report of Results for the Phase I Remedial Investigation at the former Lake Ontario Ordnance Works, Niagara County, New York. Prepared for the U.S. Army Corps of Engineers, Baltimore District. July.
EA 2002	EA Engineering, Science and Technology, Inc. 2002. Final Report of Results for the Phase II Remedial Investigation at the Lake Ontario Ordnance Works (LOOW), Niagara County, NY. Prepared for the U.S. Army Corps of Engineers, Baltimore District. February.
EA 2005	EA Engineering, Science and Technology, Inc. 2005. Draft Human Health Risk Assessment of Selected Exposure Units (EU1-EU6, EU8, EU9) at the Former Lake Ontario Ordnance Works (LOOW), Niagara County, NY. October.

EA 2006b	EA Engineering, Science, and Technology, Inc. (EA) 2006b. Abbreviated Preliminary Assessment Lake Ontario Ordnance Works Property Number C02NY0025. June.
EA 2006c	EA Engineering, Science, and Technology, Inc. (EA) 2006c. Conversation With Mr. Timothy Lockhart, Chief Operator, Town of Lewiston, Water Pollution Control Center. October.
EA 2008	EA Engineering, Science and Technology, Inc. 2008. Report of Results for the Remedial Investigations of Underground Utility Lines, Formerly Used by the Department of Defense, Lake Ontario Ordnance Works (LOOW), Niagara County, NY. Final. September.
EA 2008b	EA Engineering, Science and Technology, Inc. 2008b. Final Human Health Risk Assessment of Selected Exposure Units (EU1-EU-6, EU8, EU9, EU10) at the Former Lake Ontario Ordnance Works (LOOW), Niagara County, NY, Volumes I-V. December.
EA 2008c	EA Engineering, Science, and Technology, Inc. (EA) 2008c. Final Screening Level Ecological Risk Assessment of Selected Exposure Units Within the Former Lake Ontario Ordnance Works (LOOW), Niagara County, New York. December.
ECC 2009	Environmental Chemical Corporation. 2009. Former Lake Ontario Ordnance Works, Underground Storage Tank Removal Site Closure, UST Removal Action Closure Report. May.
EDR 2007	Environmental Data Resources, Inc. (EDR) 2007. EDR Data Map Area Study, Lake Ontario Ordnance Works, Lewiston NY 140192, Inquiry Number 01967213.4r. July.
EE 1985	Ecology and Environment, Inc. 1985. Results of Geophysical Investigation and Sampling Program at Former Air Force Plant 68, Niagara County, New York. August.
EE 1986	Ecology and Environment, Inc. 1986. Technical Operations Plan Phase II Confirmation Study Installation Restoration Program Air Force Plant No. 38, Town of Porter, New York. September.
EE 1986b	Ecology and Environment, Inc. 1986. R&D Status Report, Air Force Plant 38, Porter, New York. December.
EE 1987	Ecology and Environment, Inc. 1987. Site Characterization Report for Tennessee Gas Pipeline Easement in Lewiston, New York. June.

TABLE 3-2 MASTER REFERENCE LIST

EE 1988	Ecology and Environment, Inc. 1988. Installation Restoration Program Phase II Confirmation/Quanitification Stage 1, Final Report (IRP Sites) for Air Force Plant 38, Porter, New York. April.
EE 1988b	Ecology and Environment, Inc. 1988. Installation Restoration Program Phase II Confirmation/Quantification Stage 1, Air Force Plant 38, Porter, New York. April.
EE 1988c	Ecology and Environment, Inc. 1988. Installation Restoration Program Interim Status Closure Actions for Resource Conservation Recovery Act Units Stage 2, Air Force Plant 38, Town of Porter, Niagara County, New York. August.
EE 1992	Ecology and Environment Engineering, P.C. 1992. Engineering Investigations at Inactive Hazardous Waste Sites in the State of New York: Phase II Investigations, Town of Lewiston Landfill, Site No. 932076, Town of Lewiston, Niagara County. March.
EQM 1999	Environmental Quality Management Inc 1999. Small Project Indefinite Delivery Type Contract Remediation Activities Final Report. March.
ETC 1989	Earth Technology Corporation. 1989. Installation Restoration Program Interim Status Closure Actions for RCRA Units and the Removal of NON-RCRA Units and Materials, Air Force Plant 38, Balmer Road, Porter, New York 14131. 15 May.
ETC 1990	Earth Technology Corporation. 1990. Installation Restoration Program, PCB Transformer Removal, Air Force Plant 38, Balmer Road, Porter, New York 14313. May.
ETC 1991	Earth Technology Corporation. 1991. Installation Restoration Program, Phase II Confirmation/Quantification Studies, Interim Status Closure Activities for Non-RCRA Regulated Units, Air Force Plant 38, Balmer Road, Porter NY 14313. May.
ETC 1991b	Earth Technology Corporation. 1991. Installation Restoration Program, Confirmation/Quantification Studies, Interim Status Closure Activities for Non-RCRA Regulated Units, Air Force Plant 38, Balmer Road, Porter, New York 14313. May.
Foley 2000	Foley 2000. Letter from Mary Katherine Foley, P.E. to Mr. Ronald Kuis, Esquire: Phase II Remedial Investigation Component 2 Somerset Group Property Response to Comments from Ronald L. Kuis, Esquire. 20 November.

Foley 2001	Foley 2001. Letter from Mary Katherine Foley, P.E. to Ms. Linda Shaw: Remedial Investigation Work Plan-Supplemental Comments on Addendum to the Work Plan for Phase I (i.e. Phase II) Remedial Investigation for the Lake Ontario Ordnance Works Component Two-Somerset Group Site. 11 January.
Gardella et al. 2004	Gardella, J.A. Jr.; Cosme, S.; Manns, D.C.; Oh, G.; and Sinha, G. 2004. Sampling and Analysis of Soil Quality and Geographic Information Analysis of soil contamination on the Lewiston Porter Schools Campus. University of Buffalo Environment and Society Institute. March.
Golder 1987	Golder Associates. 1987. Report on MW10-2S Investigation Plan, Model City TSD Facility, Model City, New York. October.
Golder 1987b	Golder Associates. 1987. Final Report on SLF-12 Groundwater Monitoring Program, Model City, New York Facility. December.
Golder 1988	Golder Associates. 1988. Interim Report on Well MW7-3S Investigation, Model City TSD Facility, Model City, New York. April.
Golder 1988b	Golder Associates. 1988. MW10-2S well/boring investment plan. 1 September.
Golder 1989	Golder Associates Inc. 1989. Interim Report on Wells BW-2S and BW-2D Investigation Model City TSDR Facility. August.
Golder 1989b	Golder Associates Inc. 1989. Plan on Initial SWMU Investigation Area South of the PCB Warehouse Area Model City TSDR Facility. August.
Golder 1989c	Golder Associates Inc. 1989. Initial SWMU Investigation Area South of the PCB Warehouse Area Model City TSDR Facility. August.
Golder 1989d	Golder Associates Inc. 1989. Aerial Photographic Interpretation Report Model City TSD Facility Model City, New York. February.
Golder 1989e	Golder Associates Inc. 1989. Interim Report Order on Wells BW-2S and BW-2D Investigation Model City TSDR Facility. August.
Golder 1990	Golder Associates Inc. 1990. PCB Warehouse Investigation Model City TSDR Facility Model City, New York. April.
Golder 1991	Golder Associates Inc. 1991. Interim Report on Syms Area Model City TSDR Facility, Volume I of III. January.
Golder 1991b	Golder Associates Inc. 1991. Final Report on Phase II PCB Warehouse Investigation Model City TSDR Facility Model City, New York. June.

TABLE 3-2 MASTER REFERENCE LIST

Golder 1992	Golder Associates Inc. 1992. FAC Pond 4 Initial RCRA Facility Investigation and Phase II Investigation, Volumes I and II. April.
Golder 1993	Golder Associates Inc. 1993. RCRA Facility Investigation Summary Report CWM Chemical Services, Model City TSDR Facility, Model City, New York. January.
Golder 1996	Golder Associates Inc. 1996. Draft Addendum to Site-Wide Corrective Measures Study and SWMU-Specific Corrective Measures Study CWM Chemical Services, Inc, Model City, New York Facility. July.
Golder 1997	Golder Associates Inc. 1997. Background Well BW02S Piezometer P1202S and Abandoned Railroad Bed Supplemental Investigation. October.
GSA 2006	GSA 2006. Office of Real Property Disposal Fact Sheet: CERCLA Section 120(h). December. Accessed November 2007 at https://rc.gsa.gov/ResourceCenter/envi_facts.jsp
ICF 1990	ICF Kaiser Engineers 1990. Letter to Rebecca Coker from Gary McKown discussing findings of the RFI and RI conducted on WM property. 17 December.
IRC 1948	Industrial Research Corporation. 1948. Final Report WA-New York-1, Lake Ontario Ordnance Works, Niagara County, New York. 3 March.
ITFHW 1979	Task Force. 1979. Interagency Task Force on Hazardous Wastes, Draft Report on Hazardous Waste Disposal in Erie and Niagara Counties, New York. March.
J.G. White 1942	J.G. White Engineering Corporation. 1942. As-builts of the Water, Sewer, Steam Lines at Lake Ontario Ordnance Works. April.
JRB 1984	JRB Associates. 1984. Report to the Air Force: RCRA Closure Assessment of Air Force Plant 38. 21 May.
JRB 1985	JRB Associates. 1985. Sampling and Analysis of Potential Areas of Contamination Ares of Contamination at AFP 38. February.
Kuis 2001	Kuis 2001. Letter from Ronald L. Kuis, Esquire to USACE-Baltimore District regarding Draft Phase II Investigation Report, Radioactive Contamination on the Somerset Group Property. 28 November.

Kuis 1999	Kuis 1999. Letter from Ronald L. Kuis, Esquire to U.S. Department of Justice and Office of the General Counsel presenting the Demand and Claim Letter for CERCLA Response Costs and Demand and Claim Letter under the Federal Tort Claims Act. 25 August.
LU 2000	LU Engineers. 2000. Air Force Research Laboratory, Rome Research Site, Youngstonw Research Facility, town of Porter, Niagara County New York, Environmental Baseline Survey. January.
Mareinthal 1979.	Mareinthal. 1979. Letter from G. Mareinthal, Deputy Assistant Secretary of Defense to R.G. Tisch, EPA Task Force, Response to Task Force Request for Information. December.
Martin Marietta 1986	Martin Marietta. 1986. Comprehensive Radiological Survey of Off-Site Property O Niagara Falls Storage Site Lewiston, New York. May.
Martin Marietta 1993	Martin Marietta Energy Systems, Inc. 1993. Draft Decision Document for the Youngstown Research Facility Model City, New York. August.
Modern 1997	Modern Landfill Inc. (Modern). 1997. Fourth Quarter Report. January.
Nablo 2008	Verbal communication with Mr. Bob Nablo, Town of Lewiston, Water Foreman. November 18.
Niagara County DOH 1975	Niagara County DOH. 1975. Memorandum from Mr. Ernest Gedeon to New York State Department of Environmental Conservation, Region 9 Headquarters (Mr. William Friedman) regarding Case Report – Chem-Trol Pollution Services. 12 June.
Niagara County DOH 1981	Niagara County Department of Health. 1981. Report of Investigation. July.
Niagara County DOH 1989	Niagara County Department of Health. 1989. Report of Investigation, Interview with Carl Acome regarding Acome Landfill. July.
Niagara County DOH 1989b	Niagara County Department of Health. 1989b. Memorandum from Mr. Paul Dicky to Mr. Peter Buechi regarding Acome landfill, Town of Lewiston. July.
Niagara County DOH 2002	Niagara County Department of Health. 2002. Letter to Assistant Superintendent for Administrative Services, Lewiston-Porter Central School District from Paul R. Dicky, P.E. Supervisory Public Health Engineer, Niagara County Department of Health, regarding review of samles collected from the SWDD on the school property. 18 June.

TABLE 3-2 MASTER REFERENCE LIST

Niagara County DOH 2005	Niagara County DOH. 2005. Letter from R. Gwozdek, P.E., Principal Public Health Engineer to D. Rappold, Lew-Port Central School District regarding drinking water quality radiological monitoring. 6 July.
Niagara Gazette 1978a	Niagara Gazette. Porter official says leak stems from Chem-Trol. 7 January 1978.
Niagara Gazette 1978b	Niagara Gazette. Chem-Trol source of green acid leak at industrial park. 8 January 1978.
Niagara Gazette 1978c	Niagara Gazette. Resident inspector. 10 January 1978.
Niagara Gazette 1978d	Niagara Gazette. Second solution posed to control Chem-Trol leaks. 10 January 1978.
Niagara Gazette 1978e	Niagara Gazette. Spill could corrode steel. 18 January 1978.
NUMEC 1968	Nuclear Materials and Equipment Corporation (NUMEC). 1968. Memorandum from Mr. Leonard P. Pepkowitz to U.S. Atomic Energy Commission regarding Water and Air Pollution Control, Prime Contact AT-(40-1)-3292. April.
NYANG 1974	New York Army National Guard. 1974. Environmental Assessment for the Establishment of an Army National Guard Week-End Training Site (WETS) and Storage Compound at Air Force Plant 38 Youngstown, New York. Novmber.
NYSATF 1981	New York State Assembly Task Force on Toxic Substances. 1981. The Federal Connection: A History of U.S. Military Involvement in the Toxic Contamination of Love Canal and the Niagara Frontier Region. January.
NYSCOH 1974	New York State Commissioner of Health. 1974. Letter to Town of Lewiston Town Clerk from Hollis Ingrahm, M.D. NY State commissioner of Heath, regarding acquisition of Waste Water Treatment Plant land by the Town of Lewiston. June.
NYSDEC 1978	New York State Department of Environmental Conservation. 1978. Memorandum from Mr. Beecher to Mr. McMahon regarding Chem-Trol Discharge, January 5 to 9, 1978. 30 January.
NYSDEC 1978b	New York Department of Environmental Conservation. 1978b. Memorandum from Mr. McMahon for Mr. Burke regarding Legal Referral – Chem-Trol Pollution Services Inc., Niagara County. January.

NYSDEC 1978c	New York State Department of Environmental Conservation. 1978c. Letter to Mr. Paul Chenard of Chem-Trol Pollution Services ordering the severance of abandoned lines that exit Chem-Trol property. 12 January.
NYSDEC 1978d	New York State Department of Environmental Conservation. 1978d. letter to Chem-Trol Pollution Services ordering severance of abandoned lines and other remedial actions. 9 February.
NYSDEC 1981	New York State Department of Environmental Conservation. 1981. NYSDEC Memorandum regarding the review of documents submitted by the Assembly Committee regarding Barbara Morrison's motion to reopen SCA Phase II Hearing. 11 February.
NYSDEC 1982	New York Department of Environmental Conservation. 1982. Site Investigation of the Town of Lewiston Landfill. April.
NYSDEC 1982b	New York State Department of Environmental Conservation. 1982b. NYSDEC Memorandum regarding the sampling of former TNT lines for material of explosive potential. 10 November.
NYSDEC 1983	New York State Department of Environmental Conservation. 1983. NYSDEC Memorandum regarding the analysis of samples collected from former TNT lines for material of explosive potential. 8 March.
NYSDEC 1991	New York State Department of Environmental Conservation. 1991. Phase I Report for J.T. Salvage Yard. April.
NYSDEC 2004	New York State Department of Environmental Conservation. 2004. Letter to Mr. David Romano of USACE regarding Small Bermed Clearings Investigation Report. 2 June.
ORAU 1983	Oak Ridge Assoicated Unitversities. 1983. Comprehensive Radiological Survey Off-Site Property Q, Niagara Falls Storage Site, Lewiston, New York,Oask Ride,Tennesses, July.
ORNL 1986	Oak Ridge National Laboratory. 1986. Comprehensive Radiological Survey of Off-Site Property O, NFSS, Lewiston, NY. May.
ODUSD 2001	ODUSD. 2001. Management Guidance for the Defense Environmental Restoration Program. September.
Parry 1979	David Parry, State University of New York at Buffalo. 1979. The Lake Ontario Ordnance Works 1940-1980, Legacy of Government Mismanagement. July.

TABLE 3-2 MASTER REFERENCE LIST

PEER 1984	PEER Consultants. 1994. Site Inspection Report for Youngstown and Ontario Research Facilities Rome Laboratory Griffiss Air Force Base New York. August.
PEI 2004	PEI 2004. Letter Report submitted to Lewiston-Porter Central School Distric regarding soil sampling/testing program at the school campus. 27 October.
PEI 2005	PEI 2005. Letter Report submitted to Lewiston-Porter Central School District regarding soil sampling/testing program at the school campus. 20 October.
PEI 2006	PEI 2006. Letter Report submitted to Lewiston-Porter Central School District regarding soil sampling/testing program at the school campus. 30 January.
PEI 2007	PEI 2007. Soils Management Plan: Lewiston-Porter Schools Campus Youngston, Niagara County, New York. March.
Radian 2000	Radian 2000. Demobilization and Closure Report for the Interim Removal Action, TNT Pipeline and Chemical Waste Sewer Lines, Former LOOW, Lewiston/Porter, NY. February.
REI 1994	Rust Environment & Infrastructure. 1994. Interim Corrective Measures Study Well BW-2S and P12-2S. 1 March.
REI 1995	Rust Environment & Infrastructure. 1995. Site-Wide Corrective Measures Study, Model City TSD Facility, Volumes I, II and III. January.
Rust 1994	Rust 1994. Interim Measures at BW02S and P1202S – Detailed Design, Model City TSDR Facility, Model City, New York. July.
Rust 1995	Rust Environment and Infrastructure 1995. Site-Wide Corrective Measures Study, Model City TSD Facility. Volumes I-III. January.
SAIC 2007	Science Applications International Corporation. 2007. Baseline Risk Assessment Report for the NFSS. December.
SAIC 2007b	Science Applications International Corporation. 2007. Remedial Investigation Report for the NFSS. December.
SciTech 1993	SciTech Services Inc. 1993. Historical documents provided by Monica Borland to Kevin Connare. 8 January.
Smith 2004	Peter.J.Smith and Company, Inc. 2004. A Comprehensive Plan for the Town of Porter, Connecting Our Past with the Future. August.

TABLE 3-2 MASTER REFERENCE LIST

Storch Engineers 1987	Storch Engineers. 1987. Nike Battery NF-03. September.
Storch Engineers 1991	Storch Engineers/USACE. 1991. General Scope of Work for Tank Removal at Nike Battery NF-03, Lewiston, New York. June.
Syms v. USA	John Syms, Eileen Syms, The Somerset Group Inc., Unitool Corporation, Lew-Port Construction Corporation, C&S Machinery Corporation, Syms Equipment Rental Corporation, and Lew-Port Electric Corporation versus Olin Corporation, US Department of Defense, US Department of the Army, US Department of the Air Force, US Nuclear Regulatory Commission, the United States of America. Civil Action #: 00-CV-732A(F).
TEC 2002	US Army Topographic Engineering Center (TEC). 2002. Historic Photographic Analysis Report, Former Lake Ontario Ordnance Works. September.
Technical Support Office 1978	Technical Support Office. 1978. Trip and Visit Report: Lake Ontario Ordnance Works, Model City, NY. December.
Tetra Tech 2009	Tetra Tech. 2009. Results of Site Investigation and Drum Removal Vicinity Property G, Niagara Falls Storage Site, Lewiston NY. January.
Town of Lewiston WPCC 1999	Town of Lewiston Water Pollution Control Center. 1999. Letter to EA Engineering, Science, and Technology from Timothy Lockhart, Administrator/Chief Operator regarding modifications made to the 30-inch outfall line. June.
Town of Porter 1978	Town of Porter 1978. Letters to the Honorable John J. LaFaIce, U.S. Congress, and to Mr. Eckardt C. Beck, USEPA regarding USEPA involvement in supervising operations at Chem-Trol Pollution Services. 15 February.
TRC 1993	TRC Environmental Corporation. 1993. Preliminary RCRA Facility Assessment, Bell Test Center – EPA ID No. NYD4572024624. November.
URS 1986	URS Corporation. 1986. Identification of Known Past and Present Waste Areas and Solid Waste Management Units. August.
URS 2000	URS Griener Corporation. 2002. Town of Lewiston Comprehensive Plan, Draft Environmental Impact Statement. November.
USACE 1986	USACE. 1986. Defense Environmental Restoration Program For Formerly Used Defense Sites Revised Finding and Determination of Eligibility, Lake Ontario Ordnance Works, FUDS Property Number C02NY0025, Lewiston and Porter, Niagara County, New York.

TABLE 3-2 MASTER REFERENCE LIST

USACE 2002	USACE 2002. Formerly Utilized Sites Remedial Action Program Fact Sheet. February. Accessed 8-19-08 from: http://www.lrb.usace.army.mil/fusrap/nfss/nfss-fs-schoolbackground-2002-02.pdf
USACE 2003	USACE. 2003. Environmental Quality Former Utilized Sites Remedial Action Program (FUSRAP)-Site Designation, Remediation Scope, and Recover Costs. August.
USACE 2004	USACE. 2004. Environmental Quality Formerly Used Defense Sites (FUDS) Program Policy. ER200-3-1. May.
USACE 2004b	USACE. 2004. Small Bermed Clearing Supplemental Investigation Summary Report. May.
USACE 2006	USACE 2006. Formerly Utilized Sites Remedial Action Program Fact Sheet. September. Accessed 1-22-08 from: http://www.lrb.usace.army.mil/fusrap/docs/fusrap-fs-general-2006-09.pdf
USACE 2007	USACE 2007. Key Findings of the Niagara Falls Storage Site Remedial Investigation Report (NFSS RIR). December. Accessed 1-22-08 from: http://www.lrb.usace.army.mil/fusrap/nfss/index.htm
USACE 2008	USACE. 2008. Defense Environmental Restoration Program For Formerly Used Defense Sites Revised Finding and Determination of Eligibility, Lake Ontario Ordnance Works, FUDS Property Number C02NY0025, Lewiston and Porter, Niagara County, New York.
USACE 2008b	USACE. 2008b. Defense Environmental Restoration Program For Formerly Used Defense Sites Property Survey Summary Sheet, Lake Ontario Ordnance Works, FUDS Property Number C02NY0025, Lewiston and Porter, Niagara County, New York.
USACE 2008c	USACE. 2008c. Defense Environmental Restoration Program For Formerly Used Defense Sites BD/DR Project Summary Sheet, Lake Ontario Ordnance Works, FUDS Property Number C02NY0025, Lewiston and Porter, Niagara County, New York.
USACE 2008d	USACE. 2008d. Defense Environmental Restoration Program For Formerly Used Defense Sites PRP/HTRW Project Summary Sheet, Lake Ontario Ordnance Works, FUDS Property Number C02NY0025, Lewiston and Porter, Niagara County, New York.

USACE 2008e	USACE. 2008e. Defense Environmental Restoration Program For Formerly Used Defense Sites CON/HTRW Project Summary Sheet, Lake Ontario Ordnance Works, FUDS Property Number C02NY0025, Lewiston and Porter, Niagara County, New York.
USACE 2008f	USACE. 2008f. Defense Environmental Restoration Program For Formerly Used Defense Sites MMRP (Conventional) Project Summary Sheet, Lake Ontario Ordnance Works, FUDS Property Number C02NY0025, Lewiston and Porter, Niagara County, New York.
USACE 2008g	USACE. 2008g. Defense Environmental Restoration Program For Formerly Used Defense Sites MMRP (Chemical Warfare Materiel) Project Summary Sheet, Lake Ontario Ordnance Works, FUDS Property Number C02NY0025, Lewiston and Porter, Niagara County, New York.
USACE 2008h	USACE 2008h. FUSRAP Niagara Falls Storage Site 2007 Environmental Surveillance Technical Memorandum. September.
USACHPPM 1994	U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) 1994. Site Inspection No. 38-26-1335-94. September.
USATHAMA 1979	US Army Toxic and Hazardous Materials Agency. 1979. Final Report New York Contamination Survey. January.
USATHAMA 1981	USATHAMA. 1981. Final Report on Records Search on LOOW. February.
USAF 1992	U.S. Air Force. 1992. Letter from Mr. G. Kim Wincop, Assistant Secretary of the Air Force regarding the Transfer of Air Force Plant No. 38, Youngstown, New York, to the Department of Army. August.
USDOA 1942	US Department of Army (USDOA), War Department. 1942. Memorandum from Major General Thomas M. Robins, Assistant Chief of Engineers regarding Acquisition of Flowage Easements Along Four Mile Creek for the Lake Ontario Ordnance Works, New York. November.
USDOA 1944	US Department of Army (USDOA), War Department. 1944. Memorandum from Major John L. Ebaugh, Assistant to the Air Chemical Office, to Chief Chemical War Services regarding Stock Piles of Incendiary Bombs. April.
USDOA 1948a	USDOA, Ammunition Branch. 1948a. Headquarters Lake Ontario Ordnance Works, Niagara Falls, New York, Historical Report No. 2 (covering period from January 1, 1943 to March 31, 1943). October.

TABLE 3-2 MASTER REFERENCE LIST

USDOA 1948b	USDOA, Ammunition Branch. 1948b. Headquarters Lake Ontario Ordnance Works, Youngstown, New York, Historical Report No. 1 (covering period from July 1, 1939 to December 31, 1942). October.
USDOA 1949a	USDOA, Ammunition Branch. 1949a. Headquarters Lake Ontario Ordnance Works, Niagara Falls, New York, Historical Report No. 6 (covering period from 1 January 1944 to 31 March 1944). June.
USDOA 1949b	USDOA, Ammunition Branch. 1949b. Headquarters Lake Ontario Ordnance Works, Niagara Falls, New York, Historical Report No. 5 (covering period from 1 October 1943 to 31 December 1943). November.
USDOA 1949c	USDOA, Ammunition Branch. 1949c. Headquarters Lake Ontario Ordnance Works, Niagara Falls, New York, Historical Report No. 4 (covering period from 1 July 1943 to 30 September 1943). November.
USDOA 1949d	USDOA, Ammunition Branch. 1949d. Headquarters Lake Ontario Ordnance Works, Niagara Falls, New York, Historical Report No. 3 (covering period from 1 April 1943 to 30 June 1943). November.
USDOE 1997	US Department of Energy. 1997. Investigation Report for Property G Drums. August.
USDOE 1980	US Department of Energy (USDOE). 1980. A Background Report and Evaluation of Resurvey Requirements for the Former Atomic Energy Commission Portion of the Lake Ontario Ordnance Works. August.
USEHA 1986	U.S. Environmental Health Agency. 1986. Hazardous Waste Study No. 37-26-0786-87, Investigation of Possible Soil Contamination Ransomville Range, New York National Guard, Youngstown, New York. May.
USEPA 1995	US Environmental Protection Agency. 1995. Acknowledgement of Notification of Hazardous Waste Activity. August.
USEPA 2007	USEPA 2007a. USEPA Superfund website 10-24-07, http://www.USEPA.gov/superfund/policy/cercla.htm
USEPA 2007b	USEPA 2007b. USEPA Superfund website 10-24-07, http://www.USEPA.gov/superfund/sites/npl/index.htm
USEPA 2007c	USEPA 2007c. USEPA website 10-25-07, http://www.USEPA.gov/fedfac/documents/final_fuds_policy_with_ltrhead.htm

TABLE 3-2 MASTER REFERENCE LIST

Wehran 1978	Wehran Engineering (Wehran). 1978. Drawings SPCC Location of A.E.C. Acid Lines, Chem-Trol Pollution Services, Inc. Model City, New York.
Weston 1993	Weston. 1993. Preliminary Assessment of the Army National Guard Facility, Youngstown Weekend Training Site, Youngstown, New York. November.
Weston 1996	Weston. 1996. Remedial Design for Interim Removal Actions Operable Units 1 and 2, Former LOOW, Lewiston, Porter NY, Work Plan, Final. October.
Weston 1997	Weston 1997. Remedial Design for Interim Removal Actions OU 1 and 2, Former LOOW-Preliminary Remedial Design Investigation (PRDI) Report. May.
Weston 1998	Weston 1998. Phase I Interim Removal Action Components 1, 2, 3 TNT Pipeline and Chemical Waste Sewer. August.

4 KEY USACE FINDINGS AND RECOMMENDATIONS

Based on the grouping parameters and hierarchy discussed in Section 1.4.1, there are currently 33 parcel groupings/PMAPs. However, one parcel group has no parcels currently assigned to the parcel group, based on the decision tree and hierarchy described in Figure 1-2 and Section 1.4.1. Each has been given a parcel group designation for database identification as presented in Table 4-1. The geographic distribution of parcels in the different parcel groups is presented in Figure 4-1.

Table 4-2 summarizes the status of each parcel group with regard to FUDS projects. The status is based upon review of available data and DOD activities and impacts as detailed in the parcel group PMAPs.

Currently for the ongoing HTRW project, there are two parcel groups ineligible for inclusion into a HTRW project because they were either still owned by the DOD or were transferred after October 1986. One parcel grouping does not include individual parcels and a status was not assigned. One parcel group is no longer eligible for further evaluation because the U.S. resolved all CERCLA liability through Judicial Consent Decree. Nine parcel groups do not require an HTRW project because there are no eligible HTRW impacts (described as "Response Complete-NDAI Category I). Eighteen parcel groups are included in an ongoing HTRW project. The NFSS is included in this total, although the investigation is being performed by the FUSRAP. One parcel group has undergone HTRW project evaluation with a resulting conclusion of NDAI (Category III-PRP). HTRW project status for the parcels is presented in Table 4-2 and Figure 4-2.

The CON/HTRW project was recently authorized. Two parcel groups have a current status of "active/ongoing" indicating that the CON/HTRW hazards within these parcel groups are being evaluated. Three parcels are ineligible for investigation, and the remaining 27 parcel groups have no identified CON/HTRW hazards and no action is required (NDAI Category I). CON/HTRW project status for the parcels is presented in Table 4-2 and Figure 4-3.

Sixteen parcel groups have potential MMRP hazards. The potential MMRP hazards are included in an ongoing evaluation for thirteen parcel groups. Three parcel groups were evaluated and no further action is necessary (NDAI Category II). The remaining parcel groups had either no MMRP hazards (NDAI Category I), the MMRP hazards (munitions constituents) are being investigated within the ongoing HTRW project, or the parcels were ineligible for inclusion into a FUDS project. MMRP project status for the parcels is presented in Table 4-2 and Figure 4-4.

There were 30 parcel groups that were ineligible for consideration for a BD/DR project, including the group with no assigned parcels. The remaining three parcel groups were eligible for a BD/DR project, but no hazards were identified. Therefore the status of these parcels groups is lists as NDAI – Category I.

The two parcel groups that did not meet the definition of a FUDS were ineligible for inclusion into a PRP project. One parcel group is no longer eligible for a PRP project because the U.S. resolved all CERCLA liability through Judicial Consent Decree (identified in Table 4-2 as "closed-PRP"). There were no areas of both DOD and non-DOD HTRW hazards identified for 14 of the parcel groups, resulting in a response complete (NDAI-Category I status). In 15 parcel groups, areas of confirmed or potential impact from both DOD and non-DOD activity were identified, and the non-DOD entity must initiate and action for the USACE to address these areas. PRP project status for the parcels is presented graphically in Figure 4-5.

Regulatory concurrence on closure has not been obtained for any of the parcel groups. However, for one parcel group, a settlement agreement was reached between the Somerset Group and the United States (as represented by the US Department of Justice) under which the United States government has no further CERCLA liability (including response actions under DERP-FUDS) at the site (Syms vs. United States 2008). A Project Closeout Memorandum will be prepared by the USACE to document the decision to conclude all DERP-FUDS activities for this property.

Based on information gained by the USACE to date, NDAI project declaration statements may be produced and submitted for 12 parcel groups categorized as response complete as listed in Table 4-3. NDAI project declaration statements may also be produced for the two parcels groups that are not FUDS. The remaining parcel groups are either in need of a response action or are included in an ongoing response action and will require funding for completion of the closure strategy. Required funding is parcel group specific and may be estimated from the required response action tasks presented in Section 11 of each PMAP. The individual PMAPs should be consulted for details on each area of DOD use and potential impacts within the parcel group. However, Table 4-4 has been included to present a broad overview of the areas of DOD use, the parcel grouping(s) that the use area appears in, and a summary of current USACE decision on status for the individual area. Overall status is based on the parcel group as a whole and the sum conclusions from all DOD use areas in the parcel group. Therefore, the PMAP and Table 4-2 should be referenced for parcel group status. Figure 4-6 illustrates the LOOW developed area where the majority of these DOD use-areas were located.

TABLE 4-1 SUMMARY OF PARCEL GROUPINGS, MAP REVISION 0.1_2009

Parcel Group Database Code	Parcel Grouping Decision Pathway Abbreviation
01: PostOct86Trans/SthprtRailTrnLLC -P1	FUDS Ineligible - Post 10/17/86 Transfer-Southport Rail Transfer LLC. POC: Michael Young -P1
01: USA-P1-DoD-WETS	FUDS Ineligible/DOD-Owned/United States Of America - P1-DoD-WETS
02: ChemWstMngmnt - P1	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: Chemical Waste Management Inc. – P1
02: LwstnTown - P2	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: Town Of Lewiston - P2
02: LwstnTown - P4	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: Town Of Lewiston - P4
02: ModernAffCo - P2	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: Modern Affiliated Companies - P2
02: PorterTown - P2	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: Town Of Porter - P2
02: SomersetGrp - P1	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: Somerset Group Inc - P1
02: USA_LakeOntOrd - P1	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: US Government (Lake Ont. Ord) - P1
03:SpecCons-Occidental	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Special Consideration: Occidental
03:SpecCons-School	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Special Consideration: School
04-1: SupprtFcltyLOOW Administrative Offices	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/Support Facility/LOOW Administrative Offices
04-1: SupprtFcltyLOOW Slurry Pond	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/Support Facility/LOOW Slurry Pond
04-1: SupprtFcltyLOOW Transportation Center	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/Support Facility/LOOW Transportation Center
04-2: Group R	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/30-Inch Outfall
04-3: Group P	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/42-inch Intake
04-4: Group N	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/4-MileCreek
04-5: Group L	FUDS Eligible/Within LOOW/LOOW Undeveloped

TABLE 4-1 SUMMARY OF PARCEL GROUPINGS, MAP REVISION 0.1_2009

Parcel Group Database Code	Parcel Grouping Decision Pathway Abbreviation
	Zone/Potential DOD Impact/Central Drainage Ditch
04-6: Group K	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/Southwest Drainage Ditch
04-8: Group I	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/6MileCreek
04-7: Group J	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/12MileCreek
04-9: TEC Group B	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/TEC Aerial Anomaly/Small Bermed Clearing (SBC)
04-9: TEC Group C	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/TEC Aerial Anomaly/disturbed ground/scar
04-9: TEC Group D	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/TEC Aerial Anomaly/material/ mounded material
05: LandUse Group A01	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/No DOD Impact/Land Use: Residential
05: LandUse Group A02	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/No DOD Impact/Land Use: Industrial
05: LandUse Group A03	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/No DOD Impact/Land Use: Agricultural/Rural
05: LandUse Group A04	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/No DOD Impact/Land Use: Commercial/Municpal/Community Service
05: LandUse Group A05	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/No DOD Impact/Land Use: Undeveloped/parks/rec/wildlife
06: FormerDOD_RealProp	FUDS Eligible/Outside LOOW/Former DOD Real Property/LOOW Freshwater Intake Pump House
07-1: Group Q	FUDS Eligible/Outside LOOW/Former DOD Easement/30-Inch Outfall
07-2: Group O	FUDS Eligible/Outside LOOW/Former DOD Easement/42-inch Intake
07-3: Group M	FUDS Eligible/Outside LOOW/Former DOD Easement/4-Mile Creek

TABLE 4-2 SUMMARY OF STATUS AND FUNDING REQUIREMENTS FOR LOOW FUDS PROJECTS

Parcel Group Database Code	Parcel Grouping Decision Pathway Abbreviation	HTRW Project and Funding Status			CON/HTRW Project and Funding Status			MMRP Project and Funding Status			BDDR Project and Funding Status			PRP Project and Funding Status		
		Project Status	Funding	NDAI[1]	Project Status	Funding	NDAI[1]	Project Status	Funding	NDAI[1]	Project Status	Funding	NDAI[1]	Project Status	Funding	NDAI[1]
01: PostOct86Trans/SthprtRailTrnLLC-P1	FUDS Ineligible - Post 10/17/86 Transfer-Southport Rail Transfer LLC. POC: Michael Young -P1	Ineligible	Funding Not Required	No	Ineligible	Funding Not Required	No	Ineligible	Funding Not Required	No	Ineligible	Funding Not Required	No	Ineligible	Funding Not Required	No
01: USA-P1-DoD-WETS	FUDS Ineligible/DOD-Owned/United States Of America -P1-DoD-WETS	Ineligible	Funding Not Required	No	Ineligible	Funding Not Required	No	Ineligible	Funding Not Required	No	Ineligible	Funding Not Required	No	Ineligible	Funding Not Required	No
02: ChemWstMngmnt - P1	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: Chemical Waste Management Inc. - P1	Active/Ongoing	Funding Required	No	Active/Ongoing	Funding Required	No	Active/Ongoing	Funding Required	No	Ineligible	Funding Not Required	No	Inactive	Funding Not Required	No
02: LwstnTown - P2	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: Town Of Lewiston - P2	Response Complete NDAI – Cat. II)	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. II)	Funding Required	No	Ineligible	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No
02: LwstnTown - P4	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: Town Of Lewiston - P4	Active/Ongoing	Funding Required	No	Active/Ongoing	Funding Required	No	Active/Ongoing	Funding Required	No	Ineligible	Funding Not Required	No	Inactive	Funding Not Required	No
02: ModernAffCo - P2	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: Modern Affiliated Companies - P2	Active/Ongoing	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Active/Ongoing	Funding Required	No	Ineligible	Funding Not Required	No	Inactive	Funding Not Required	No
02: PorterTown - P2	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: Town Of Porter - P2	Response Complete NDAI – Cat. I)	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No
02: SomersetGrp - P1	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: Somerset Group Inc - P1	Response Complete NDAI – Cat. III and PRP)	Funding Not Required	No	Closed - PRP	Funding Not Required	No	Closed - PRP	Funding Not Required	No	Ineligible	Funding Not Required	No	Closed - PRP	Funding Not Required	No
02: USA_LakeOntOrd - P1	FUDS Eligible/Within LOOW/LOOW Developed Zone/ContiguousParcel/, Owner: US Government (Lake Ont. Ord) - P1 (NFSS)	Active/Ongoing	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No
03:SpecCons-Occidental	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Special Consideration: Occidental	Active/Ongoing	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Active/Ongoing	Funding Required	No	Ineligible	Funding Not Required	No	Inactive	Funding Not Required	No
03:SpecCons-School	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Special Consideration: School	Active/Ongoing	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Active/Ongoing	Funding Required	No	Ineligible	Funding Not Required	No	Inactive	Funding Not Required	No
04-1: SupprtFcltyLOOW Administrative Offices	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/Support Facility/LOOW Administrative Offices	Active/Ongoing	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Active/Ongoing	Funding Required	No	Ineligible	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No
04-1: SupprtFcltyLOOW Slurry Pond	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/Support Facility/LOOW Slurry Pond	Active/Ongoing	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Active/Ongoing	Funding Required	No	Ineligible	Funding Not Required	No	Inactive	Funding Not Required	No
04-1: SupprtFcltyLOOW Transportation Center	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/Support Facility/LOOW Transportation Center	Response Complete NDAI – Cat. I)	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Ineligible	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No
04-2: Group R	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/30-Inch Outfall	Active/Ongoing	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Active/Ongoing	Funding Required	No	Ineligible	Funding Not Required	No	Inactive	Funding Not Required	No
04-3: Group P	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/42-inch Intake	Active/Ongoing	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Ineligible	Funding Not Required	No	Inactive	Funding Not Required	No
04-4: Group N	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/4-MileCreek	Active/Ongoing	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Active/Ongoing	Funding Required	No	Ineligible	Funding Not Required	No	Inactive	Funding Not Required	No
04-5: Group L	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/Central Drainage Ditch	Active/Ongoing	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. II)	Funding Not Required	No	Ineligible	Funding Not Required	No	Inactive	Funding Not Required	No
04-6: Group K	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/Southwest Drainage Ditch	Active/Ongoing	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Active/Ongoing	Funding Required	No	Ineligible	Funding Not Required	No	Inactive	Funding Not Required	No
[2]04-7: Group J	[2]FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/12-Mile Creek	Not applicable. Due to the parcel grouping hierarchy presented in Section 1.4, there are no parcels currently assigned to the parcel group.														
04-8: Group I	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/6MileCreek	Active/Ongoing	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. II)	Funding Not Required	No	Ineligible	Funding Not Required	No	Inactive	Funding Not Required	No
04-9: TEC Group B	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/TEC Aerial Anomaly/SBC	Active/Ongoing	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Active/Ongoing	Funding Required	No	Ineligible	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No
04-9: TEC Group C	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/TEC Aerial Anomaly/disturbed ground/scar	Active/Ongoing	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Active/Ongoing	Funding Required	No	Ineligible	Funding Not Required	No	Inactive	Funding Not Required	No
04-9: TEC Group D	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/Potential DOD Impact/TEC Aerial Anomaly/material/ mounded material	Active/Ongoing	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Active/Ongoing	Funding Required	No	Ineligible	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No
05: LandUse Group A01	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/No DOD Impact/Land Use: Residential	Response Complete NDAI – Cat. I)	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Ineligible	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No
05: LandUse Group A02	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/No DOD Impact/Land Use: Industrial	Response Complete NDAI – Cat. I)	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Ineligible	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No
05: LandUse Group A03	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/No DOD Impact/Land Use: Agricultural/Rural	Response Complete NDAI – Cat. I)	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Ineligible	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No
05: LandUse Group A04	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/No DOD Impact/Land Use: Commercial/Municpal/Community Service	Response Complete NDAI – Cat. I)	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Ineligible	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No
05: LandUse Group A05	FUDS Eligible/Within LOOW/LOOW Undeveloped Zone/No DOD Impact/Land Use: Undeveloped/parks/rec/wildlife	Response Complete NDAI – Cat. I)	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Ineligible	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No
06: FormerDOD_RealProp	FUDS Eligible/Outside LOOW/Former DOD Real Property/LOOW Freshwater Intake Pump House	Response Complete NDAI – Cat. I)	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No
07-1: Group Q	FUDS Eligible/Outside LOOW/Former DOD Easement/30-Inch Outfall	Response Complete NDAI – Cat. III and PRP)	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Ineligible	Funding Not Required	No	Inactive	Funding Not Required	No
07-2: Group O	FUDS Eligible/Outside LOOW/Former DOD Easement/42-inch Intake	Response Complete NDAI – Cat. I)	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Ineligible	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No
07-3: Group M	FUDS Eligible/Outside LOOW/Former DOD Easement/4-Mile Creek	Active/Ongoing	Funding Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Response Complete NDAI – Cat. I)	Funding Not Required	No	Ineligible	Funding Not Required	No	Inactive	Funding Not Required	No

[1]NDAI = No DOD Action Indicated. Response in column indicates whether there has been regulatory concurrence on NDAI Project Declaration Statements.

[2]Parcels along Twelve Mile Creek were targeted for inclusion into parcel group 04-7: Group J. However, due to the hierarchy used in placing parcels into parcel groups, this group currently has no parcels.

TABLE 4-3 PARCEL GROUPS RECOMMENDED FOR NDAI PROJECT DECLARATION STATEMENTS AND PURSUIT OF REGULATORY CLOSURE

Parcel Group Database Code	HTRW Project Status	CON/HTRW Project Status	MMRP Project Status	BDDR Project Status	PRP Project Status
	Project Status	Project Status	Project Status	Project Status	Project Status
01: PostOct86Trans/SthprtRailTrn LLC-P1	Ineligible	Ineligible	Ineligible	Ineligible	Ineligible
01: USA-P1-DoD-WETS	Ineligible	Ineligible	Ineligible	Ineligible	Ineligible
02: LwstnTown - P2	Response Complete NDAI – Cat. II)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. II)	Ineligible	Response Complete NDAI – Cat. I)
02: PorterTown - P2	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)
02: SomersetGrp - P1*	Response Complete NDAI – Cat. III and PRP)	Closed - PRP	Closed - PRP	Ineligible	Closed - PRP
04-1: SupprtFcltyLOOW Transportation Center	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Ineligible	Response Complete NDAI – Cat. I)
05: LandUse Group A01	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Ineligible	Response Complete NDAI – Cat. I)
05: LandUse Group A02	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Ineligible	Response Complete NDAI – Cat. I)
05: LandUse Group A03	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Ineligible	Response Complete NDAI – Cat. I)
05: LandUse Group A04	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Ineligible	Response Complete NDAI – Cat. I)
05: LandUse Group A05	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Ineligible	Response Complete NDAI – Cat. I)
06: FormerDOD_RealProp	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)
07-1: Group Q	Response Complete NDAI – Cat. III and PRP)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Ineligible	Inactive
07-2: Group O	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Response Complete NDAI – Cat. I)	Ineligible	Response Complete NDAI – Cat. I)

*A settlement agreement was reached between the Somerset Group and the United States (as represented by the US Department of Justice) under which the United States government has no further CERCLA liability (including response actions under DERP-FUDS) at the site (Syms vs. United States 2008). A Project Closeout Memorandum will be prepared by the USACE to document the decision to conclude all DERP-FUDS activities for this property.

Inactive = In regard to a PRP project, "inactive" indicates that the parcel group has areas of potential combined DOD and non-DOD impacts, but a project to address the hazards has not been initiated.

NDAI = No DOD Action Indicated.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
FORMER LOOW DEVELOPED AREA (BY MAJOR LANDOWNER/PARCEL GROUP)[2]						
Waste Management LLC						
Existing Nitration House Area	02: WMLLC-P1	Mono-nitration house, fortifier house, and bi-trinitration house for the former LOOW production line 5. Conduit from the former acid fume recovery building and two pits also exist.	Possibly: COPCs in soil, groundwater, and sludge (associated with underground utilities).	EU3 (under-ground utilities included in EU10)	Current landowner has initiated groundwater remediation in the area.	Area proposed for further action within DERP-FUDS HTRW project. Inclusion into feasibilty study or addressed as part of EU10, depending upon risk management decision.
Formerly Existing Nitration Houses, Lines 1-4	02: WMLLC-P1	Former LOOW TNT production lines 1-4.	Not investigated because structures have been removed by current landowner and these nitration lines are in areas actively utilized by WM.	No	Current landowner removed former DOD structures and actively uses these areas for transportation, storage, treatment, and disposal of hazardous wastes.	No further action proposed within DERP-FUDS HTRW due to non-DOD impacts.
Formerly Existing Nitration Houses, Line 6	02: WMLLC-P1	Former LOOW TNT production line 6 in vicinity of former AFP-68 Process Areas 8 and 20	Possibly: see line items for Process Areas 8 and 20.	EU1 (under-ground utilities included in EU10)	See line items for Process Areas 8 and 20.	Area proposed for further action (feasibility study) within DERP-FUDS HTRW project (EU1).

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
Former AFP-68 Process Area 2 (Chlorination Unit)	02: WMLLC-P1	Area used for production of boron trichloride for AFP-68.	Possibly: COPCs in soil and groundwater, and in sludge and wastewater associated with underground utilities. RI results indicated possible multiple sources of GW contaminants, one of which may be upgradient of Area 2.	EU1 (under-ground utilities included in EU10)	No non-DOD confirmed contaminants for soil. Possible non-DOD up gradient source of groundwater impact.	Area proposed for further action (feasibility study) within DERP-FUDS HTRW project. Underground utility lines and chemical waste lift stations are addressed separately.
Former AFP-68 Process Area 20 (Product Handling Unit)	02: WMLLC-P1	Area used for drumming/loading HEF-2 and HEF-3 for AFP-68, located in vicinity of former TNT Production Line 6. Consists of tank farm, drum storage area, and railroad loading platform.	Possibly: COPCs in soil and groundwater and in sludge and wastewater associated with underground utilities. RI results indicated possible multiple sources of GW contaminants, one of which may be upgradient of Area 2.	EU1 (under-ground utilities included in EU10)	WM used area for storage of equipment. Area was also used by predecessors of WM to store containers. PCBs reported in this area.	Area proposed for further action (feasibility study) within DERP-FUDS HTRW project. Extent of PCBs have not been fully characterized. Underground utility lines are addressed separately.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
Former AFP-68 Process Areas 4, 7, 8, and 11	02: WMLLC-P1	AFP-68 areas formerly used for gas synthesis, pyrolysis, alkylation, and nitrogen production. Area consists of several concrete pads with drains, an open three story structure within Area 11, sumps, blast walls, control buildings, and tank cradles.	Possibly: COPCs in soil and groundwater, and in sludge and wastewater associated with underground utilities.	EU1 (under-ground utilities included in EU10)	WM used Process Areas 7 and 8 for storage of equipment. Area 4 was used to stockpile soil.	Area proposed for further action (feasibility study) within DERP-FUDS HTRW project. Impact to ground water in Area 11 has not been fully characterized. Underground utility lines and chemical waste lift stations are addressed separately.
Former AFP-68 Process Area 10 (Hydrogen Production)	02: WMLLC-P1	This Process Area was used to produce hydrogen for AFP-68. Existing structures include control bldg., in-ground sewage pump, dry well and overhead supports.	Possibly: COPCs in soil and sludge associated with utilities. COPCs in soil primarily associated with small pellets located on surface.	EU2 (under-ground utilities included in EU10)	No non-DOD activity or non-DOD contaminant confirmed to date.	A pending risk management decision will determine path forward for soil and pellets. Underground utility lines are addressed separately, and are proposed for further action (EU10).
Former AFP-68 Process Area 14 (Steam Plant)	02: WMLLC-P1	Area used for steam generation and fuel oil storage for AFP-68. Area consists of former steam plant structures and bermed fuel oil storage area.	Possibly: One pesticide in groundwater sample collected between Areas 14 and 16. PCBs in soil in vicinity of AST earthen berm and pipe stickup.	No	WM used the building for storage and dismantled and relocated the AST.	No further action proposed within DERP-FUDS HTRW due to non-DOD impacts. Underground utility lines are addressed separately.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
Former AFP-68 Process Area 16 (Refrigeration Plant)	02: WMLLC-P1	Refrigeration area used by AFP-68 to produce cooling water. Area consists of large 35-foot high steel and block building.	Possible DOD impact: One pesticide in groundwater sample collected between Areas 14 and 16. PCBs in soil in vicinity of AST earthen berm and pipe stickup.	No	WM used the building for storage of vehicles and equipment	No further action proposed within DERP-FUDS HTRW due to non-DOD impacts. Underground utility lines are addressed separately.
Former AFP-68 Process Area 18S (Tank Farm)	02: WMLLC-P1	Area used by AFP-68 for storage of dispersion oil, methanol, cyclohexane, and pentane.	No: COPCs not identified.	No	No non-DOD activity or non-DOD contaminant confirmed to date.	No further action required.
Former AFP-68 Process Area 22 (Water Supply & Treatment)	02: WMLLC-P1	AFP-68 fresh water treatment plant consisting of a water treatment plant, concrete water storage lagoon and pump house.	No: COPCs not identified except in sludge and wastewater (see AFP-68 Chemical Waste Lift Stations).	No	WM used the water supply pond for storage of wastewater.	No further action proposed within DERP-FUDS HTRW due to non-DOD impacts. Underground utility lines and chemical waste lift stations are addressed separately.
Former AFP-68 Process Area 24 (Sanitary Sewage & Waste Disposal Unit)	02: WMLLC-P1	Area used by AFP-68 for wastewater treatment.	No: COPCs specific to DOD use not identified.	No	WM used the acid neutralization lagoon and the oil/water separator for storage of wastewater. PCBs and VOCs reported within and adjacent to the lagoons.	No further action proposed within DERP-FUDS HTRW due to non-DOD impacts. Underground utility lines are addressed separately.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
AFP-68 Chemical Waste Lift Stations and Lines	02: WMLLC-P1	Chemical waste sumps installed and used by AFP-68.	Possibly: COPCs in sludge and wastewater.	No	Area 24 acid neutralization lagoon and oil water separator used by WM. There was connectivity between lagoons and underground lines. Chemical waste lines discharged to these structures.	Interim removal action completed on main line and sump/lift stations. Oil/water separator and acid neutralization lagoon (Area 24) possibly impacted by non-DOD contaminants. Continue with DERP-FUDS HTRW project for final closure.
Trash Pit	02: WMLLC-P1	Trash/burn pit used to dispose of materials from AFP-68. Pit is approximately 30 to 40 feet in diameter.	Possibly: COPCs in soil and shallow groundwater.	EU4 (HHRA only, ecological risk assessment not performed due to lack of suitable habitat)	WM installed leachate lines through the area.	Area proposed for further action within DERP-FUDS HTRW project.
Wooded Area (North of H Street)	02: WMLLC-P1	None.	No.	No	No non-DOD activity or non-DOD contaminant confirmed to date.	Some constituents reported in low concentrations, but are thought to be originating from Area B.
Area A	02: WMLLC-P1	Drum disposal area for approximately 30 drums. Drums are likely from AFP-68.	Possibly: COPCs in soil and liquid perched in burial area.	No	No non-DOD activity or non-DOD contaminant confirmed to date.	Area proposed for further action within DERP-FUDS HTRW project.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
Area B	02: WMLLC-P1	Disposal/burn area for AFP-68	Possibly: COPCs in soil, sediment, surface water, and groundwater.	No	SCA (predecessor of WM) performed removal action in area to address soils.	Area proposed for further action within DERP-FUDS HTRW project.
Area C	02: WMLLC-P1	Drum disposal trench used by AFP-68 containing approximately 200 to 300 drums and high-pressure cylinders.	Possibly: COPCs in soil and groundwater, and presence of buried drums and gas cylinders.	EU4 (HHRA only, ecological risk assessment not performed due to lack of suitable habitat)	No non-DOD contaminants confirmed to date except: Underground utility lines (addressed separately) and an area in the vicinity of well P1202S (on the western boundary of Area C) where current landowner has initiated groundwater remediation for VOCs.	Portions of area (the drum trench) proposed for further action within DERP-FUDS HTRW project; underground utilities and groundwater contamination at P1202S are ineligible for additional response action within the DERP-FUDS HTRW project.
Area North of C	02: WMLLC-P1	Ground scarring observed in 1960-1963 aerial photos.	Possibly: DOD-specific chemical in soil (boron).	No	Storage of containers and soil by WM.	No further action proposed

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
Area D	02: WMLLC-P1	Area identified by Olin personnel as a possible disposal area of AFP-68.	No: Area not evaluated.	No	Secure landfill (SLF)-12 has been constructed on top of Area D. In addition, current landowner has initiated groundwater remediation at well P1202S.	No further action proposed within DERP-FUDS HTRW.
Former Navy Interim Production Pilot Plan (IPPP)	02: WMLLC-P1	A borane fuels plant, similar in scope to AFP-68.	No	No	Area used for leachate testing, laboratory testing, and stockpiling soil with COPCs.	No further action proposed within DERP-FUDS HTRW.
Vicinity Property G/Castle Garden Disposal Area	02: WMLLC-P1	An area of ground disturbance is visible in aerial photographs taken during DOD ownership.	Possibly. COPCs (metals) in soil.	No	Area is located adjacent to two facultative ponds.	No further action under DERP-FUDS HTRW project. Further Investigation possible under FUSRAP.
Vicinity Property G Drum Area	02: WMLLC-P1	The area contained drums that were partially remediated by DOE in 1986.	Possibly: COPCs in soil	No	Area is located adjacent to two facultative ponds and has been used by WM for stockpiling of soil.	No further action under DERP-FUDS HTRW project. Further Investigation possible under FUSRAP.
Waterline Construction Areas	02: WMLLC-P1	Areas of abandoned LOOW underground lines in vicinity of construction of WM water line.	Possible. DOD-related chemical constituents identified by WM LLC in groundwater.	No	WM removed an UST from WCA 1, WCAs 2-4 are located along roads in area heavily used by WM.	No further action proposed within DERP-FUDS HTRW.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
Other FUSRAP Areas on WM property (VPs G, E, and E-prime)	02: WMLLC-P1	Includes soil beneath CWM facultative ponds 1 and 2, soil beneath CWM pond 6, soil beneath CWM Tanks 64 and 65, Rochester Burial Area, Castle Garden Burial Area.	Not investigated because areas are being addressed under FUSRAP.	No	Some areas beneath facultative ponds and WM tanks.	No action required under DERP-FUDS HTRW project. Additional evaluation may be performed under FUSRAP.
Former AFP-68 Process Area 29	02: WMLLC-P1	Office building for the former AFP-68.	No	No	WM has used the building.	No further action. Underground utility lines are addressed separately.
Former AFP-68 Process Area 35	02: WMLLC-P1	Former AFP-68 dispensary.	No	No	WM has used the building.	No further action. Underground utility lines are addressed separately.
Former AFP-68 Process Area 39	02: WMLLC-P1	Former AFP-68 cafeteria.	No	No	WM has used the building.	No further action. Underground utility lines are addressed separately.
LOOW Box Factory	02: WMLLC-P1	Building constructed and used by LOOW for construction of wooden boxes for shipment of TNT. Building was also used by the Air Force.	Investigation not performed due to use and potential impact by non-DOD owner.	No	WM used the building to store PCBs and solvents.	No further action proposed within DERP-FUDS HTRW.
WM Piezometer P1202S	02: WMLLC-P1	Area of groundwater impact from VOCs.	Not investigated because WM initiated remedial activities.	No	WM initiated groundwater remedial activities for VOCs.	No further action proposed within DERP-FUDS HTRW.
WM Background Well BW-2S	02: WMLLC-P1	Area of groundwater impact from VOCs.	Not investigated because WM initiated remedial activities.	No	WM initiated groundwater remedial activities for VOCs.	No further action proposed within DERP-FUDS HTRW.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
Control Area of NIKE Base	02: WMLLC-P1	Area used by DOD for NIKE Base support of launch/missile silo area. Control area comprised of barracks, radar, control buildings.	Not investigated due to possible impacts from non-DOD site use.	No	WM used area as Facultative Pond 4.	No further action proposed within DERP-FUDS HTRW. Addressing underground utility lines and USTs. USTs removed under CON/HTRW project.
WM Well 10-2S	02: WMLLC-P1	Area of groundwater impact from VOCs.	Not investigated because WM initiated remedial activities.	No	WM initiated groundwater remedial activities for VOCs.	No further action proposed within DERP-FUDS HTRW.
Suspected Phosgene Cylinder Disposal Area	02: WMLLC-P1	Historical documentation indicates area was placarded as phosgene area. Location of area is not known.	No	No	No non-DOD activity or non-DOD contaminant confirmed to date.	Additional evaluation under a MMRP project.
Surface Drainages	02: WMLLC-P1	Multiple man-made and one natural surface water drainages that received discharge from storm sewers and AFP-68 wastewater lines.	Possible chemical constituents in sediment and surface water.	No	CDD was remediated by DOE for radiological impacts; impact to drainages from PCBs and possibly other COPC from other owners/operators.	The USACE has not made a final conclusion with regard to response strategy for drainages.
TNT Waste Sewer	02: WMLLC-P1	Waste sewer installed and used by former LOOW to convey TNT wash water to WWTP.	Possibly COPCs in the lines and surrounding soil.	No	Some portions of the line have been excavated and sealed by WM.	Interim removal action completed on all but one section of the line beneath a portion of the WM solidified north salts area. Feasibility and final closure of line needs to be performed.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
TNT Waste Sewer NTCRA Soil Piles	02: WMLLC-P1	Soil piles remain on site from interim removal action of TNT waste line.	Soil placed in stockpiles during NTCRA.	No	No non-DOD activity or non-DOD contaminant confirmed to date.	Soil piles will require final characterization and disposition or site grading.
Underground Utilities	02: WMLLC-P1	Throughout LOOW, AFP-68, the Navy IPPP, and the NIKE Base. TNT waste lines; acid waste lines; drains, pits, and sumps; sanitary sewer lines; storm water lines; wastewater lines, cooling and potable water lines; and lines of unknown identity/use.	Possibly, COPCs present in various media associated with most line types (sludge, bedding water, wastewater, subsurface soil, surface soil).	EU10	Portions of underground lines were used by WM	Portions of lines outside of the main WM process area are proposed for further action (feasibility study) within DERP-FUDS HTRW project. Lines within the main WM process areas (north and south of M Street) are not proposed for further evaluation within the DERP-FUDS HTRW project.
Small Bermed Clearings - Aerial Anolmalies	02: WMLLC-P1	Aerial anomalies with physical characteristics resembling former open burn pits used for disposal of explosives and ordnance.	No	No	No non-DOD activity or non-DOD contaminant confirmed to date.	No further action required.
Other Aerial Anomalies	02: WMLLC-P1	Several aerial photographic anomalies from the timeframe of DOD use appear on WM property. All aerial anomalies are not specifically listed here.	None confirmed. Investigation ongoing.	No	Several historic aerial anomalies were located where current WM structures are standing.	Continue evaluation in DERP-FUDS HTRW and MMRP project. Additional evaluation may take place if it is determined that DERP-FUDS HTRW and/or MMRP response is authorized and appropriate.
CON/HTRW Eligible Containerized Potential Hazards (see PMAP)	02: WMLLC-P1	Five tanks confirmed at NIKE Base. Tanks were removed. Suspected Navy IPPP tanks were confirmed as not present.	No	NA	No non-DOD activity or non-DOD contaminant confirmed to date.	Tanks have been evaluated and removed under CON/HTRW project.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
WM Process Area Underground Storage Tank 1	02: WMLLC-P1	Underground storage tank located north of M Street.	Not investigated due to non-DOD activity.	NA	WM initiated remedial activities (they removed the tank).	No further action performed within Con/HTRW or HTRW.
UST South of WM PCB Warehouse	02: WMLLC-P1	UST south of the PCB Warehouse	Not investigated due to non-DOD activity.	NA	WM initiated remedial activities (they removed the tank).	No further action performed within DERP-FUDS Con/HTRW or HTRW.
Former LOOW Gas Station UST	02: WMLLC-P1	UST located near main gate of WM facility associated with former LOOW gas station.	Not investigated due to non-DOD activity.	NA	WM initiated remedial activities (they removed the tank).	No further action performed within DERP-FUDS Con/HTRW or HTRW.
Other ASTs and USTs	02: WMLLC-P1	Various tanks to support LOOW and AFP-68. See Table 4.	See PMAP			
Town of Lewiston						
LOOW Wastewater Treatment Plant Vicinity Shops	02: LWSTNTOWN-P4	The area formerly consisting of a paint shop, fabrication shop, tool house, electrical shop, and two unloading platforms constructed in the vicinity of the WWTP for LOOW. This area was investigated in 1998 (EA 1999) and 2000 (EA 2002).	No	Yes. EU6. calculated human health and ecological risk was within acceptable range	Storage of radiological residues	No further DERP-FUDS action recommended based upon results of the HHRA and SLERA.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
LOOW Wastewater Treatment Plant (Final Mixing Tank [removed], TNT Wet Wells, Discharge Point, Acid Neutralization Facilities, Sanitary Sewer Treatment Facility) and other support structures.	02: LWSTNTOWN-P4	The WWTP was constructed for the LOOW. Subsequent to LOOW, it was used by AFP-68, NIKE Base, AEC (NFSS), Carborundum, and minimally by the Town of Lewiston. The main sanitary sewer, acid waste sewer, and TNT waste sewer lines of the former LOOW entered the WWTP. This area was investigated in 1992 (Acres 1992), 1998 (EA 1999), and 2000 (EA 2002).	Possibly in underground utilities. Proposed Phase IV RI to evaluate impact to media in vicinity of structures.	Yes (as part of EU10). Pending Phase IV RI will evaluate the WWTP, EU7.	WWTP received contaminants from non-DOD sources.	Continue evaluation under the authorized DERP-FUDS HTRW project to determine COPCs.
Niagara River Fresh Water Intake and Pump House	02: LWSTNTOWN-P4	Property parcel on Niagara River consisting of Niagara River water intake well and pump house constructed for LOOW. Also used by AFP-68. Reconnaissance of property was performed in Phase I RI.	No	No	No non-DOD activity or non-DOD contaminant confirmed to date.	No further action within DERP-FUDS HTRW.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
Niagara River Discharge Line from 30-in. Outfall	02: LWSTNTOWN-P4	Property parcel on Niagara River consisting of a head house and discharge lines to the Niagara River from the 30-in. outfall originating at the former LOOW WWTP. A reconnaissance was performed during the Phase I RI (1998).	No	Yes (as part of EU10). Calculated human health risk was within acceptable risk range.	30-in. discharge line received contaminants from non-DOD sources.	No further action within DERP-FUDS HTRW.
Underground Utilities	02: LWSTNTOWN-P4	Former DOD TNT waste lines; acid waste lines; drains, pits, and sumps; sanitary sewer lines; wastewater lines, and lines of unknown identity/use are located on and discharge to the WWTP.	Possibly: COPCs in soil and in sludge and wastewater associated with underground lines.	EU10	WWTP underground waste lines received contaminants from non-DOD sources.	Underground lines proposed for further action (feasibility study) within DERP-FUDS HTRW project
UST West of Pump House	02: LWSTNTOWN-P4	UST installed during LOOW operations	Possibly. Tank was identified in 2008 and was removed as part of CON/HTRW project.	No	No non-DOD activity or non-DOD contaminant confirmed to date.	Continue tank closure under CON/HTRW project.
LOOW Receiving Area	02: LWSTNTOWN-P2	Warehouses, railroad, and support facilities for receipt of materials and equipment during operation of LOOW.	No	No	Currently used by Town of Lewiston.	No further action within DERP-FUDS HTRW.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
Modern Affiliated Companies (MAC)						
Incinerator	02: MODERNAFFCO-P2	Former LOOW incinerator was located in the area. Currently consists of the main driveway for Modern Disposal refuse carriers. This area was investigated in 1998 (EA 1999).	No	No: EU9, initial screen against risk-based criteria indicated no COPC	Is located in an area actively used by MAC	No further action within DERP-FUDS HTRW.
Classification Yard	02: MODERNAFFCO-P2	Rail yard area constructed for LOOW for incoming materials.	No	No	Is located in an area actively used by MAC	No further action within DERP-FUDS HTRW.
Administration Area	02: MODERNAFFCO-P2; 04-1:SUPPRTFCLTY-LOOW ADMINISTRATIVE OFFICES	Former LOOW Administration Area consisted of parking areas, office buildings, infirmary.	No	No	No non-DOD activity or non-DOD contaminant confirmed to date.	No further action within DERP-FUDS HTRW.
Ransomville Test Annex (RTA)	02: MODERNAFFCO-P2	Used for troposcatter antenna.	No	No	No non-DOD activity or non-DOD contaminant confirmed to date.	No further action within DERP-FUDS HTRW.
Town of Porter Property						
Water Tower Site	02: PORTERTOWN-P2	A 3.4-acre parcel containing a water tower built during AFP-38.	No	No	Town uses the tower for water storage.	No further action within DERP-FUDS HTRW.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
Niagara Falls Storage Site (NFSS)						
Former LOOW WWTP Vicinity Shops Area (North of Bldg. 401)	02: USA_LAKEONTO RD-P1	A pipe shop, machine shop, welding shop, storehouse, and office located in the vicinity of the LOOW WWTP. This area was investigated in 1998 (EA 1999). Portions of the area have also been investigated under FUSRAP.	Possibly. Further evaluation being conducted under FUSRAP RI/FS.	Included in NFSS FUSRAP HHRA and SLERA	Predecessors of DOE utilized NFSS for storage.	No further action within DERP-FUDS HTRW because potential contaminants are being evaluated under the FUSRAP.
LOOW Acid Concentration Area	02: USA_LAKEONTO RD-P1	Former LOOW acid concentration area consisting of a sellite manufacturing area, acid production and concentration area, ammonia oxidation area, shop buildings, pump house, condenser units, and compressor houses. This area was investigated in 1998 (EA 1999). Portions of the area have also been investigated under FUSRAP.	Possibly. Further evaluation being conducted under FUSRAP RI/FS.	Included in NFSS FUSRAP HHRA and SLERA	Predecessors of DOE utilized area for storage.	No further action within DERP-FUDS HTRW because potential contaminants are being evaluated under the FUSRAP.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
LOOW Shop Area (South of O-Street)	02: USA_LAKEONTORD-P1	Former LOOW area consisting of a millwright shop, service and change house, oil and paint storage building, acetylene tanks, storehouses, gas station with UST, garage/parking area, laundry, lab, office, and locomotive house (718). This area was investigated in 1998 (EA 1999). Portions of the area have also been investigated under FUSRAP.	Possibly. Further evaluation being conducted under FUSRAP RI/FS.	Included in NFSS FUSRAP HHRA and SLERA	Predecessors of DOE utilized area for storage.	No further action within DERP-FUDS HTRW because potential contaminants are being evaluated under the FUSRAP.
Former LOOW Boiler Building (Building 401)	02: USA_LAKEONTORD-P1	Building used to generate steam. Also used for Boron-10 plant at later date. There is historical evidence of a UST for oil storage. This area has been investigated under FUSRAP.	Possibly. Further evaluation being conducted under FUSRAP RI/FS.	Included in NFSS FUSRAP HHRA and SLERA	Predecessors of DOE utilized area for storage.	No further action within DERP-FUDS HTRW because potential contaminants are being evaluated under the FUSRAP.
Drainages	02: USA_LAKEONTORD-P1	Various manmade drainages constructed in support of LOOW.	Possibly. Further evaluation being conducted under FUSRAP RI/FS.	Included in NFSS FUSRAP HHRA and SLERA	Predecessors of DOE utilized area for storage.	The USACE has not made a final conclusion with regard to response strategy for drainages.
Underground Utilities	02: USA_LAKEONTORD-P1	Various underground utilities constructed to support LOOW	Possibly. Further evaluation being conducted under FUSRAP RI/FS.	Included in NFSS FUSRAP HHRA and SLERA	Predecessors of DOE utilized area for storage.	No further action within DERP-FUDS HTRW because potential contaminants are being evaluated under the FUSRAP.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
PARCEL GROUPS IN UNDEVELOPED AREA OF LOOW WARRANTING SPECIAL CONSIDERATION						
Occidental Chemical Corporation Property						
Probable Storage Area	03: SPECIALCONS-OCCIDENTAL	A disturbed area visible on the 1942 aerial photograph. Reconnaissance revealed empty 55-gal drums, terra cotta pipe, asbestos shingles, etc. The area was investigated in 2000 (EA 2002).	Yes (explosives in soil)	EU8	Municipal waste observed onsite.	Area proposed for further action (feasibility study) within DERP-FUDS HTRW project.
Pond	03: SPECIALCONS-OCCIDENTAL	Small pond with no visible impact from DOD. The Pond was investigated in 2000 (EA 2002).	No	No	No non-DOD activity or non-DOD contaminant confirmed to date.	No further action.
30-inch Outfall Line	03: SPECIALCONS-OCCIDENTAL	A portion of the 30-in discharge line from the former LOOW WWTP traverses this parcel group.	COPCs identified in the line as a whole, not necessarily in the portion that traverses this parcel group	Yes (as part of EU10). Calculated human health risk was within acceptable range.	Line was used to discharge waste-water from WWTP. WWTP received wastewater from non-DOD sources.	No further action.
Small Bermed Clearings (SBCs)	03: SPECIALCONS-OCCIDENTAL	Anomalies identified on aerial photographs taken during timeframe of DOD use.	No	No	No non-DOD activity or non-DOD contaminant confirmed to date.	No further action.
Other Aerial Anomalies	03: SPECIALCONS-OCCIDENTAL	Ground disturbances, mounds, and other features (excluding SBCs) discovered in aerial photographs taken during the timeframe of DOD use.	No	No	No non-DOD activity or non-DOD contaminant confirmed to date.	Additional evaluation may take place if it is determined that DERP-FUDS HTRW and/or MMRP response is authorized and appropriate.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
Lewiston Porter Central School District Campus						
Underground lines (30-in. outfall line)	03: SPECIALCONS-SCHOOL	A portion of the 30-in discharge line from the former LOOW WWTP traverses this parcel group.	COPCs identified in the line as a whole, not necessarily in the portion that traverses this parcel group	Yes (as part of EU10). Calculated human health risk was within acceptable range.	Line was used to discharge waste water from WWTP. WWTP received wastewater from non-DOD sources.	No further action.
Aerial Anomalies	03: SPECIALCONS-SCHOOL	Ground disturbances, mounds, and other features (excluding SBCs) discovered in aerial photographs taken during the timeframe of DOD use.	No	No	No non-DOD activity or non-DOD contaminant confirmed to date.	Additional evaluation may take place if it is determined that DERP-FUDS HTRW and/or MMRP response is authorized and appropriate.
Southwest Drainage Ditch (SWDD)	03: SPECIALCONS-SCHOOL	Manmade drainage constructed in support of LOOW.	No	No	SWDD may have received contaminants from various point and non-point sources.	The USACE has not made a final conclusion with regard to response strategy for drainages.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
VARIOUS OTHER AREAS OF SUSPECTED DOD USE AND/OR IMPACT IN UNDEVELOPED AREA (BY AOC)						
Underground Utilities	Various, including: 02: LWSTNTOWN-P4; 02: USA_LAKEONTORD-P1; 02: WMLLC-P1; 03: SPECIALCONS-SCHOOL; 03: SPECIALCONS-OCCIDENTAL; 04-1: SUPPRTFCLTY-LOOW ADMINISTRATIVE OFFICES; 04-2: GROUP R; 04-3: GROUP P; 06: FORMERDOD_REALPROP-LOOW 30-IN. OUTFALL DISCHARGE; 06: FORMERDOD_REALPROP-LOOW FRESHWATER INTAKE PUMP HOUSE; 07-1: GROUP Q.	Several underground utilities were constructed to support LOOW and subsequent DOD facilities (e.g., AFP-68) that operated after the closing of LOOW. These included: sanitary, acid waste, chemical waste, TNT waste, and storm sewer lines; a 30-in. diameter discharge line from the former LOOW WWTP to the Niagara River; general wastewater lines; a 42-in. diameter fresh water intake line from the Niagara River; and various water distribution lines. These traverse multiple current property owners.	Possibly. COPCs were identified in several line types.	Yes. EU10	Various non-DOD entities used portions of some of the underground lines.	The USACE decision on the path forward is parcel group and line type specific, and is presented in indivdual PMAPs. To summarize decision: portions of some lines on WM LLC and Town of Lewiston properties are proposed for further action (feasibility study) within DERP-FUDS HTRW project. Portions of some lines on WM LLC property are proposed for no further action due to possible non-DOD contamination. The 30-in. outfall line, which traverses several parcel groups, is proposed for no further action because calculated human health risk was within the acceptable risk range. Water lines are proposed for no further action due to no suspected impact. Some lines (the TNT waste lines, and portions of the chemical and acid waste lines) have undergone interim removal actions and are proposed for further evaluation (e.g. feasibility study or MMRP evaluation if appropriate) to gain CERCLA closure.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
Surface Water Drainages	Various, including: 01: 02: ModernAffCo - P2; 02: USA_LakeOntOrd - P1; 02: WMLLC - P1; 02: LWSTNTOWN-P4; 03:SpecCons-School; 04-1: SupprtFcltyLOOW Administrative Offices; 04-1: SupprtFcltyLOOW Slurry Pond; 04-3: Group P; 04-4: Group N; 04-5: Group L; 04-6: Group K; 04-8: Group I; and 07-3: Group M.	Natural (4-Mile Creek, 6-Mile Creek, and 12-Mile Creek) and manmade drainages constructed to support LOOW.	Possibly. Some DOD marker compounds have been reported in some surface water and sediment samples in some drainages.	No	Drainages throughout LOOW received contamination from various non-DOD sources.	The USACE has not made a final conclusion for path forward or final response strategy for drainages.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
Aerial Photographic Anomalies - Small Bermed Clearings (SBCs)	Various: 02: LwstnTown - P2; 02: WMLLC - P1; 03:SpecCons-Occidental; 04-1: SupprtFcltyLOOW Administrative Offices; 04-1: SupprtFcltyLOOW Slurry Pond; 04-2: Group R; 04-5: Group L; 04-6: Group K; 04-8: Group I; 04-9: TEC Group B	Small bermed clearings visible in aerial photographs taken during the time frame of DOD use.	No	No	No contaminants confirmed.	No further action.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
Other Aerial Photographic Anomalies	Various: 02: LwstnTown - P2; 02: LwstnTown - P4; 02: ModernAffCo - P2; 02: USA_LakeOntOrd - P1; 02: WMLLC - P1; 03:SpecCons-Occidental; 03:SpecCons-School; 04-1: SupprtFcltyLOOW Administrative Offices; 04-1: SupprtFcltyLOOW Slurry Pond; 04-2: Group R; 04-3: Group P; 04-4: Group N; 04-6: Group K; 04-9: TEC Group B; 04-9: TEC Group C; 04-9: TEC Group D	Ground disturbances, mounded materials, and other features (excluding SBCs) visible in aerial photographs taken during the time frame of DOD use.	No	No	No non-DOD activity or non-DOD contaminant confirmed to date.	Additional evaluation may take place if it is determined that DERP-FUDS HTRW and/or MMRP response is authorized and appropriate.
LOOW Transportation Center	04-1:SUPPRTFCLTY-LOOW TRANSPORTATION CENTER	An area formerly comprised of garages and other facilities to support transporation needs for LOOW.	No	No	No contaminants confirmed.	No futher action required.

TABLE 4-4 SUMMARY OF AREAS WITH KNOWN OR SUSPECTED DOD ACTIVITY AND/OR IMPACTS ON PROPERTIES ELIGIBLE FOR ENVIRONMENTAL RESPONSE UNDER DERP-FUDS[1]

Area/AOC Name	Parcel Group/PMAP	Area Description and DOD Uses	DOD Contaminants Confirmed	Included in HHRA/ SLERA? Exposure Unit?	Non-DOD Activities or Non-DOD Contaminants Confirmed	USACE Decision Under DERP-FUDS
LOOW Slurry Pond	04-1:SUPPRTFCLTY-LOOW SLURRY POND	A pond constructed to support the LOOW freshwater treatment plant. The pond received salts from the treatment of fresh water.	No	No	No non-DOD activity or non-DOD contaminant confirmed to date.	No further action required.
Acome Landfill	04-9: TEC Group C	A small privately owned landfill. A reconnaissance conducted during the Phase I RI revealed municipal waste.	No	No	Area used for disposal of municipal wastes.	No further action due to non-DOD disposal
J. T. Salvage and Recyling	04-9: TEC Group B	A salvage yard located north of Balmer Rd.	No	No	Area used as an auto salvage yard.	No further action due to non-DOD disposal

[1]AOCs on properties not eligible or no longer eligible for environmental response under DERP-FUDs are not listed on this table. This includes AOCs on the Somerset Group Inc. property (no longer eligible due to Judicial Consent Decree), property transferred after 17 Oct. 1986, and the DOD owned Weekend Training Site property

[2]Areas of known and suspected DOD use and impact are listed specifically for parcel/parcel groups located within the former LOOW Developed Area (for example, WM LLC, Town of Lewiston, etc.).

AOC = Area of Concern
DERP = Defense Environmental Restoration Program
DOD = Department of Defense
EU = Exposure Unit
FUDS = Formerly Used Defense Site
FUSRAP = Formerly Used Sites Remedial Action Program
HHRA = Human Health Risk Assessment
NA = Not applicable
PMAP = Property Management Action Plan
SLERA = Screening Level Ecological Risk Assessment
USACE = U.S. Army Corps of Engineers
Reference PMAP for additional detail on identified DOD uses, impacts, investigations, PRP impacts, and decisions.

Legend

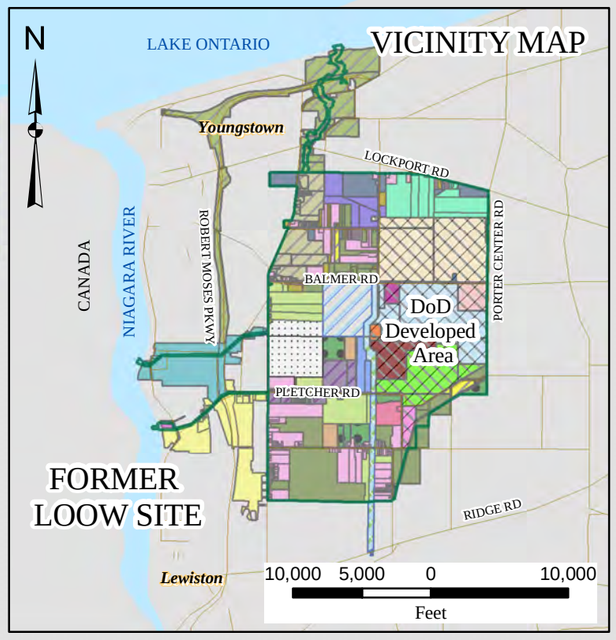
- FORMER LOOW BOUNDARY WITH EASEMENTS
- 01: POSTOCT86TRANS/STHPRTRAILTRNLLC-P1 (FUDS INELIGIBLE)
- 01: USA-P1-DOD-WETS (FUDS INELIGIBLE)
- 02: LWSTNTOWN - P2 (TOWN MAINTENANCE)
- 02: LWSTNTOWN - P4 (FORMER LOOW WWTP)
- 02: MODERNAFFCO - P2 (MAC)
- 02: PORTERTOWN - P2 (TOWN OF PORTER)
- 02: SOMERSETGRP - P1
- 02: USA_LAKEONTORD - P1 (NFSS)
- 02: WMLLC - P1 (WM, LLC)
- 03:SPECCONS-OCCIDENTAL
- 03:SPECCONS-SCHOOL
- 04-1: SUPPRTFCLTYLOOW ADMINISTRATIVE OFFICES
- 04-1: SUPPRTFCLTYLOOW SLURRY POND
- 04-1: SUPPRTFCLTYLOOW TRANSPORTATION CENTER
- 04-2: GROUP R (30-IN. OUTFALL)
- 04-3: GROUP P (42-IN. INTAKE)
- 04-4: GROUP N (4-MILE CREEK)
- 04-5: GROUP L (CDD)
- 04-6: GROUP K (SWDD)
- 04-8: GROUP I (6-MILE CREEK)
- 04-9: TEC GROUP B (AERIAL ANOMALY - SBC)
- 04-9: TEC GROUP C (AERIAL ANOMALY - DISTURBED GROUND)
- 04-9: TEC GROUP D (AERIAL ANOMALY - MOUNDED MATERIAL)
- 05: LANDUSE GROUP A01 (RESIDENTIAL - NO DOD IMPACT)
- 05: LANDUSE GROUP A02 (INDUSTRIAL - NO DOD IMPACT)
- 05: LANDUSE GROUP A03 (AG/RURAL - NO DOD IMPACT)
- 05: LANDUSE GROUP A04 (COMMERCIAL/MUNICIPAL - NO DOD IMPACT)
- 05: LANDUSE GROUP A05 (UNDEVELOPED - NO DOD IMPACT)
- 06: FORMERDOD_REALPROP (PUMP HOUSE)
- 07-1: GROUP Q (30-IN. OUTFALL EASEMENT)
- 07-2: GROUP O (42-IN. INTAKE EASEMENT)
- 07-3: GROUP M (4-MILE CREEK EASEMENT)
- 30-INCH OUTFALL LINE
- 42-INCH INTAKE LINE
- 10-INCH WATER LINE
- STREAMS
- ROADS

NOTE: SEE TABLE ES-1 FOR DEFINITIONS OF PARCEL GROUP CODES.
MAP PROJECTION IS NEW YORK STATE PLANE NAD83 FEET
PARCEL IDENTIFICATION AND BOUNDARY DATA PROVIDED BY
NIAGARA COUNTY TAX PARCEL IDENTIFICATION DATABASE (2007).

0 2,000 4,000 Feet

N

VICINITY MAP



Lake Ontario

FOUR MILE CREEK EASEMENT - ORIGINALLY COMPRISED OF PARCELS TOTALING 79.6 ACRES

LOOW BOUNDARY

30-INCH OUTFALL LINE EASEMENT- ORIGNALLY COMPRISED OF PARCELS TOTALING 21.19 ACRES

42-INCH INTAKE LINE EASEMENT- ORIGINALLY COMPRISED OF PARCELS TOTALING 13.9 ACRES

42-INCH INTAKE LINE PUMP HOUSE PARCELS

Niagara River

YOUNGSTOWN WILSON ROAD
YOUNGSTOWN LOCKPORT ROAD (RTE 93)
CENTRAL DRAINAGE DITCH
SIX MILE CREEK
CAIN
FOUR MILE CREEK
LUTTS ROAD
CENTRAL DRAINAGE DITCH
SIX MILE CREEK
PORTER CENTER ROAD
ROBERT MOSES PARKWAY (HWY 957)
BALMER ROAD
30-IN OUTFALL
CREEK ROAD (RTE 18)
TWELVE MILE CREEK
SOUTHWESTERN DRAINAGE DITCH
42-IN INTAKE LINE
PLETCHER ROAD
10-IN WATER LINE
HAROLD ROAD
SWANN ROAD
MODEL CITY ROAD

\\Loveton\federal\agencies\DOD\ARMY\HTRW2005\Projects\61990231.LOOW MAP\GIS\MXD\ParcelGroups\Jordan_PMAP\MXD\Fig 4-1-SummaryParcelGrouping.mxd

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LAKE ONTARIO ORDNANCE WORKS
NIAGARA COUNTY, NEW YORK

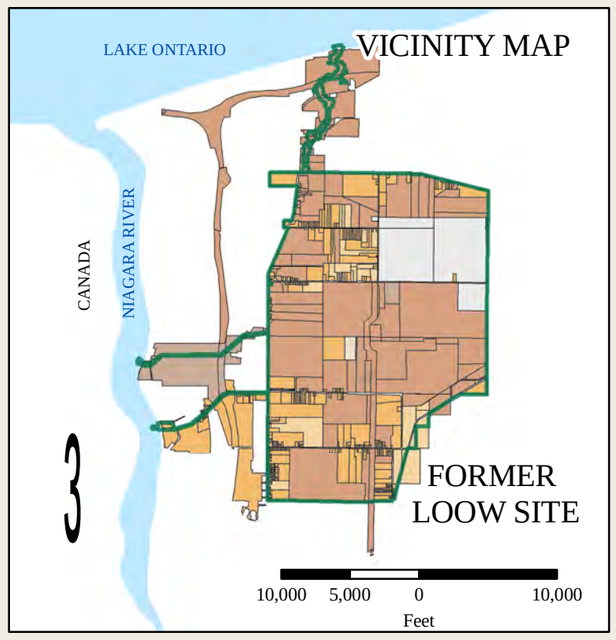
FIGURE 4-1

SUMMARY OF PMAP PARCEL GROUPING

Lake Ontario

Niagara River

VICINITY MAP



YOUNGSTOWN WILSON ROAD

YOUNGSTOWN LOCKPORT ROAD (RTE 93)

CENTRAL DRAINAGE DITCH

SIX MILE CREEK

CAIN

FOUR MILE CREEK

LUTTS ROAD

CENTRAL DRAINAGE DITCH

SIX MILE CREEK

PORTER CENTER ROAD

ROBERT MOSES PARKWAY (HWY 957)

BALMER ROAD

30-IN OUTFALL

TWELVE MILE CREEK

CREEK ROAD (RTE 18)

SOUTHWESTERN DRAINAGE DITCH

42-IN INTAKE LINE

PLETCHER ROAD

10-IN WATER LINE

HAROLD ROAD

SWANN ROAD

MODEL CITY ROAD

Legend

- FORMER LOOW BOUNDARY WITH EASEMENTS

HTRW PROJECT STATUS

- ACTIVE/ONGOING
- PROJECT INELIGIBLE
- RESPONSE COMPLETE (NDAI - CAT. I)
- RESPONSE COMPLETE (NDAI - CAT. II)
- RESPONSE COMPLETE (NDAI - CAT. III)
- RESPONSE COMPLETE (NDAI/PRP)
- NIAGARA COUNTY TAX PARCEL BOUNDARY
- 30-INCH OUTFALL LINE
- 10-INCH WATER LINE
- 42-INCH INTAKE LINE
- STREAMS/PONDS/DITCHES
- ROADS

15,000 7,500 0 15,000

Feet

NOTE: MAP PROJECTION IS NEW YORK STATE PLANE NAD83 FEET
PARCEL IDENTIFICATION AND BOUNDARY DATA PROVIDED BY
NIAGARA COUNTY TAX PARCEL IDENTIFICATION DATABASE (2007)

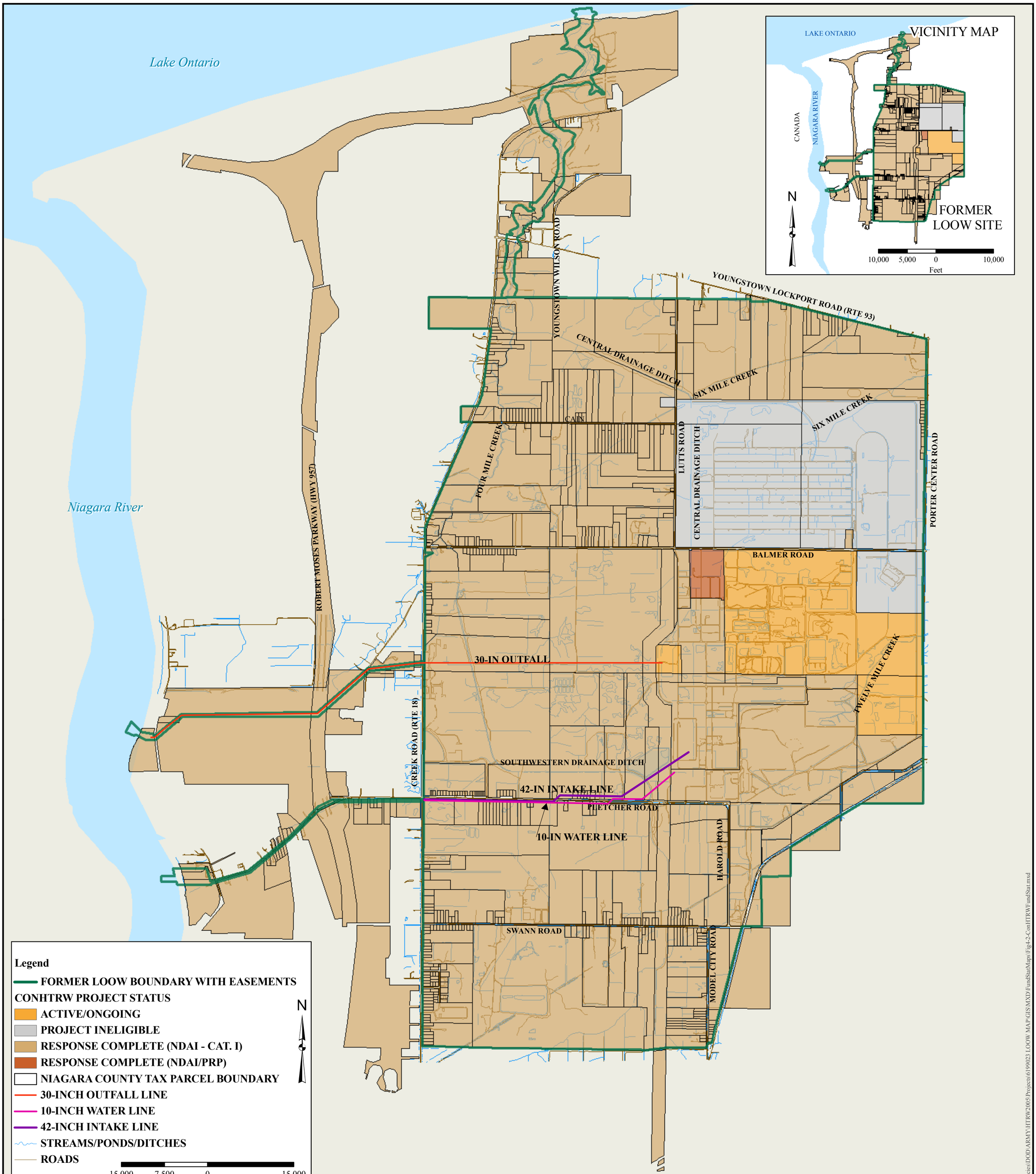
\\LovetonFederal\Agencies\DOD\ARMY\HTRW2005\Projects\6199023 LOOW MAP\GIS\MXD\FundStatMaps\Fig4-2-HTRWFundStat0709.mxd

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

LAKE ONTARIO ORDNANCE WORKS
NIAGARA COUNTY, NEW YORK

FIGURE 4-2

HTRW PROJECT STATUS



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LAKE ONTARIO ORDNANCE WORKS
NIAGARA COUNTY, NEW YORK

FIGURE 4-3

CON/HTRW PROJECT STATUS

Lake Ontario

Niagara River

YOUNGSTOWN WILSON ROAD

YOUNGSTOWN LOCKPORT ROAD (RTE 93)

CENTRAL DRAINAGE DITCH

SIX MILE CREEK

CAIN

FOUR MILE CREEK

LUTTS ROAD

CENTRAL DRAINAGE DITCH

SIX MILE CREEK

PORTER CENTER ROAD

ROBERT MOSES PARKWAY (HWY 957)

BALMER ROAD

30-IN OUTFALL

TWELVE MILE CREEK

CREEK ROAD (RTE 18)

SOUTHWESTERN DRAINAGE DITCH

42-IN INTAKE LINE

FLETCHER ROAD

10-IN WATER LINE

HAROLD ROAD

SWANN ROAD

MODEL CITY ROAD

VICINITY MAP

LAKE ONTARIO

CANADA

NIAGARA RIVER

N

FORMER LOOW SITE

10,000 5,000 0 10,000

Feet

Legend

- FORMER LOOW BOUNDARY WITH EASEMENTS

MMRP PROJECT STATUS

- ACTIVE/ONGOING
- PROJECT INELIGIBLE
- RESPONSE COMPLETE (NDAI - CAT. I)
- RESPONSE COMPLETE (NDAI - CAT. II)
- RESPONSE COMPLETE (NDAI/PRP)
- NIAGARA COUNTY TAX PARCEL BOUNDARY
- 30-INCH OUTFALL LINE
- 10-INCH WATER LINE
- 42-INCH INTAKE LINE
- STREAMS/PONDS/DITCHES
- ROADS

N

15,000 7,500 0 15,000

Feet

NOTE: MAP PROJECTION IS NEW YORK STATE PLANE NAD83 FEET
PARCEL IDENTIFICATION AND BOUNDARY DATA PROVIDED BY
NIAGARA COUNTY TAX PARCEL IDENTIFICATION DATABASE (2007)

\\LovetonFederal\Agencies\DOD\ARMY\HTRW2005\Projects\61999023 LOOW MAP GIS\MXD\FundStatMaps\Fig4-4-MMRPFundStat.mxd

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LAKE ONTARIO ORDNANCE WORKS
NIAGARA COUNTY, NEW YORK

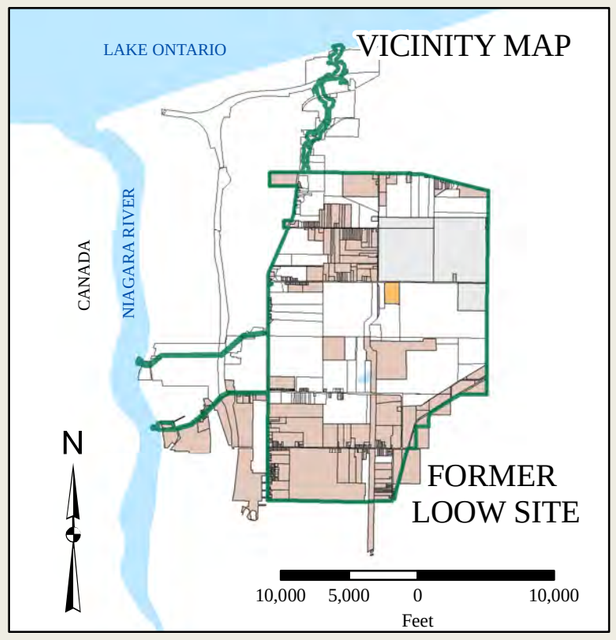
FIGURE 4-4

MMRP PROJECT STATUS

Lake Ontario

Niagara River

VICINITY MAP



YOUNGSTOWN LOCKPORT ROAD (RTE 93)

YOUNGSTOWN WILSON ROAD

CENTRAL DRAINAGE DITCH

SIX MILE CREEK

CAIN

FOUR MILE CREEK

LUTTS ROAD

CENTRAL DRAINAGE DITCH

SIX MILE CREEK

PORTER CENTER ROAD

ROBERT MOSES PARKWAY (HWY 957)

BALMER ROAD

30-IN OUTFALL

TWELVE MILE CREEK

CREEK ROAD (RTE 18)

SOUTHWESTERN DRAINAGE DITCH

42-IN INTAKE LINE

PLETCHER ROAD

10-IN WATER LINE

HAROLD ROAD

SWANN ROAD

MODEL CITY ROAD

Legend

- FORMER LOOW BOUNDARY WITH EASEMENTS

PRP-HTRW PROJECT STATUS

- INACTIVE
- PROJECT INELIGIBLE
- RESPONSE COMPLETE (NDAI - CAT. I)
- RESPONSE COMPLETE (NDAI/PRP)
- NIAGARA COUNTY TAX PARCEL BOUNDARY
- 30-INCH OUTFALL LINE
- 10-INCH WATER LINE
- 42-INCH INTAKE LINE
- STREAMS/PONDS/DITCHES
- ROADS

N

16,000 8,000 0 16,000

Feet

NOTE: MAP PROJECTION IS NEW YORK STATE PLANE NAD83 FEET
PARCEL IDENTIFICATION AND BOUNDARY DATA PROVIDED BY
NIAGARA COUNTY TAX PARCEL IDENTIFICATION DATABASE (2007)

\\LovetonFederal\Agencies\DOD\ARMY\HTRW\2005\Projects\6199023 LOOW MAP GIS\MXD\FundStatMaps\Fig4-5-PRPFundStat.mxd

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LAKE ONTARIO ORDNANCE WORKS
NIAGARA COUNTY, NEW YORK

FIGURE 4-5

PRP-HTRW PROJECT STATUS

J&T AUTO SALVAGE & RECYCLING PROPERTY
J.T. SALVAGE
LUTTS RD
CENTRAL DRAINAGE DITCH
U.S. ARMY PROPERTY
SOMERSET GROUP, INC PROPERTY
BALMER ROAD
TOWN OF PORTER WATERTOWER
TOWN OF PORTER PROPERTY
WM, LLC PROPERTY
AREA T1/T2
AFP-68 GROUND SCAR
AREA 41 MAINTENANCE SHOP
AREA 27
AREA 21
AREA 29
AREAS 30 AND 30A
AREA 31
AREA 39
AREAS 3 AND 5
AREA 6
AREA 18N
T3
AREA 35
POND
AREA 18S
AREA 10
AREA 4
AREA 14
AREA 16
AREA 11
AREA 7
AREA 22
AREA 8
AREA 24
AREA 2
AREA 20
NATIONAL GRID PROPERTY
OCCIDENTAL CHEMICAL CORPORATION PROPERTY
EXISTING NITRATION HOUSES
NAVY IPPP
Air Force Plant 68 (AFP-68)
TOWN OF LEWISTON PROPERTY
30-IN OUTFALL
WCA-4
WCA-3
Chemical Waste Management (CWM) UST NORTH OF M STREET
AREA NEAR VICINITY PROPERTY G
WWTP VICINITY SHOPS
WASTEWATER TREATMENT PLANT (WWTP)
ACOME LANDFILL
PROPERTY G DRUM AREA
CWM WELL 10-2S
CWM BACKGROUND WELL BW-2S
FORMER LOOW ACID CONCENTRATION AREA
NIAGARA FALLS STORAGE SITE PROPERTY
OTHER LOOW AREA
SHOP AREA SOUTH OF O STREET
LOOW BOILER BUILDING
LOOW INCINERATOR
SLURRY POND
SOUTHWEST DRAINAGE DITCH
LOOW ADMINISTRATION AREA
MODERN AFFILIATED COMPANIES PROPERTY
H2GRO, LLC PROPERTY
LOOW TRANSPORTATION CENTER
TOWN OF LEWISTON PROPERTY
HAROLD ROAD
MODERN AFFILIATED COMPANIES PROPERTY
WOODED AREA
AREA B
AREA A
AREA NORTH OF C
P1202S
AREA D
AREA C
AREA C DRUM TRENCH
TRASH PIT
FORMER LOOW UST
WATERLINE CONSTRUCTION AREA (WCA) -1
WCA-2
NIKE BASE LAUNCH AREA
SOUTHPORT RAIL TRANSFER, LLC PROPERTY
LOOW BOX FACTORY
UNDERGROUND STORAGE TANK (UST) SOUTH OF POLYCHLORINATED BIPHENYL (PCB) STORAGE WAREHOUSE
12 MILE CREEK
NIKE USTs (CONTROL AREA)
NIKE BASE (CONTROL AREA)
OTHER LOOW AREA
MODERN AFFILIATED COMPANIES PROPERTY

NOTES:
1) UNDERGROUND LINES WITH POSSIBLE IMPACT FROM DOD ACTIVITY ARE PRESENT ON THE LOOW SITE. PORTIONS OF THESE LINES WERE INCLUDED IN THE PHASE III RI.
2) NIAGARA RIVER FRESH WATER INTAKE AND PUMP HOUSE AND NIAGARA RIVER DISCHARGE FROM 30-in. OUTFALL ARE LOCATED ON THE NIAGARA RIVER.
3) WCA = WATER LINE CONSTRUCTION AREA
UST = UNDERGROUND STORAGE TANK
AST = ABOVE GROUND STORAGE TANK
4) NOT ALL FORMER ASTs AND USTs ARE ILLUSTRATED ON THIS FIGURE.
5) SMALL BERMED CLEARINGS AND OTHER AERIAL ANOMALIES WERE LOCATED THROUGHOUT THE LOOW PROPERTY AND ARE NOT ILLUSTRATED ON THIS FIGURE.
6) ADDITIONAL DRAINAGES ARE LOCATED THROUGHOUT LOOW, BUT ARE NOT REPRESENTED ON THIS FIGURE.
7) THIS FIGURE DEPICTS THE MAJORITY OF THE DEVELOPED AREA OF LOOW. LOOW SITE BOUNDARY EXTENDS TO NORTH, WEST, AND SOUTH.
8) OTHER FUSRAP AREAS ON WM LLC ARE NOT SHOWN ON FIGURE (SEE FIGURE 2-1).
9) DOD PRESUMED STORAGE AREA LOCATED ON OCCIDENTAL CHEMICAL CORPORATION PROPERTY IS NOT PRESENTED ON THIS FIGURE.

AREA SHOWN IN MAIN MAP
Lutts Road
Balmer Road
Quarry Road
Porter Center Road
N
W
E
S
5,000 0 5,000
Feet

LEGEND
USACE CONTINUING EVALUATION UNDER DEFENSE ENVIRONMENTAL RESTORATION PROGRAM FOR FORMERLY USED DEFENSE SITES (DERP-FUDS)
AIR FORCE PLANT 68 (AFP-68)
OWNER BOUNDARIES
RIVERS, CREEKS AND DITCHES
DRAINAGE AND PONDS
ROADS
BUILDINGS

UNDERGROUND UTILITIES
30-INCH OUTFALL LINE
ACID SEWER LINES
CHEMICAL SEWER LINES
ELECTRICAL CONDUIT LINES
FIRE, DRINKING, PROCESS AND COOLING WATER LINES
SANITARY SEWER LINES
STORM SEWER LINES
UNKNOWN LINES
WASTEWATER LINES
TNT LINE (INTERIM REMOVAL ACTION INITIATED)

600 300 0 600 Feet
N
W
E
S

\\Lovetonfederal\agencies\DOD\ARMY\HTRW2005\Projects\6199023 LOOW MAP\GIS\MXD\FundingMaps\Fig 4-6-DoDImpactUse.mxd

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LAKE ONTARIO ORDNANCE WORKS
NIAGARA COUNTY, NEW YORK

FIGURE 4-6

AREAS OF POTENTIAL DOD USE and/or IMPACT AT LAKE ONTARIO ORDNANCE WORKS FORMERLY USED DEFENSE SITE

5 UTILIZATION OF THE MAP GOING FORWARD

This MAP should be considered a "living document" and treated as tool for the PM and PDT involved in the LOOW FUDS environmental response.

5.1 PM AND PDT UTILIZATION

Table 5-1 presents a road map for what issues the PM/PDT may be able to utilize in the MAP and PMAP, and where that information can be found.

5.2 ANNUAL UPDATES

The MAP, should be updated regularly (currently proposed update interval is annually), with reissue of those PMAPs that incurred significant change in strategy or status from the previous submittal. A database has been created to assist in tracking the status and eligibility of the parcels included in each PMAP parcel group and can be utilized to generate a significant portion of each PMAP executive summary.

Regular updates may occur to the following:

- Parcel listing – as parcels are subdivided and merged, the number of, as well as the parcel tax identification, will change. This information should be updated regularly (although annual updates may not be warranted). The information can be captured in the database developed for the MAP. The database will also capture the revisions made, such that the "root" or parent parcel number can be tracked through subsequent updates.
- Land use – as each Town updates land use and zone, this information should be updated in the database developed for the MAP. Note that this update is not expected to occur annually. Land use and zoning is changed infrequently. Also, where there has been no known impact from DOD activities, PMAP parcel groups are based upon land use. Re-grouping of parcels and reissue of PMAPs due to changes in land use or zoning alone will be at the discretion of the USACE PM, but may not be warranted.
- The master reference list should be updated if additional information regarding DOD impacts is uncovered. Revision number and date should be documented on the reference list.

- The MAP should be updated to re-summarize significant findings (in Section 4) and present the updated master reference list. The revision number and data should be documented on the MAP cover pages.
- PMAPs – only those PMAPs with significant changes need to be updated. Depending upon occurrences in the prior year, revisions may include additions or deletions to eligible hazards, updates to response strategy, updates to project status, inclusion of project declaration statements and documentation of regulatory concurrence on key decisions, and PMAP parcel group specific comments. The revision number and date should be documented on the PMAP cover pages and executive summary.
- Stakeholder Input Response Summary – revisions may include comments on previous version of MAP or individual PMAP. Documentation of key comments issued on other project documents (i.e., reports or planning documents, or recurring comments from public and/or steering committee meetings). The revision number and date should be captured on the first page of the response summary.

TABLE 5-1 UTILIZATION OF MAP

POTENTIAL USE	SECTION OF MAP
Present a single concise forum for presenting the USACE authority (responsibility and limitations) to stakeholders for environmental response under DERP FUDS.	See Section 2 of MAP.
Document basic, pertinent information regarding DOD use of the property.	See Sections 6.1 and 7.1 of each PMAP for DOD use and impacts, respectively, for each PMAP parcel group.
Document basic, pertinent information regarding use of the property by others.	See Sections 6.2 and 7.2 of each PMAP for non-DOD activities and impacts, respectively, for each PMAP parcel group.
Document and record key USACE decisions for PMAP group with regard to property and project eligibility.	See Sections 8 and 9 within each PMAP for property and project eligibility, respectively, for each PMAP parcel group.
Present the proposed response strategy for eligible projects required for each PMAP group.	See Section 10 of each PMAP as well as the table(s) referenced in Sections 10 and 11.
Present the current status with regard to DERP FUDS project execution for each PMAP property group.	See Section 11 of each PMAP as well as the table(s) referenced in Sections 10 and 11.
Present at forum to document Project Declaration Statements.	Project and property declaration statements should be incorporated into Section 11 of each PMAP.
Develop a tool for gaining and documenting regulatory concurrence of Project Declaration Statements of NDAI.	Each PMAP (or the MAP, in its entirety) may be used as the vehicle for regulatory concurrence on key USACE decisions. Each PMAP should have the documentation (with pertinent references) required to support the decision. Regulatory concurrence shall be documented in Section 11 of each PMAP.
Document key stakeholder issues.	Stakeholder Response Summary (Appendix B to MAP).
Document new information regarding possible DOD impacts to PMAP parcel groups.	Newly acquired information with regard to potential DOD impacts may be incorporated into Sections 6.1 and 7.1 of each PMAP. If warranted, the impacted parcel(s) may be removed from the PMAP parcel group and designated a "special consideration" parcel for development of a new PMAP to document the impacts, FUDS eligible hazards and project eligibility, the environmental response strategy, and the status of response.
Provide the USACE PM a tool to plan funding and personnel resources to update the Project Management Plan.	See critical path forward in Section 11.2 of each PMAP.