DERP WEBINAR

Cleanup Land Use Controls (Active and Base Realignment and Closure)

Allison Cantu - Department of Navy

Stacey French - South Carolina Department of Environmental Services

Susan Elrod - Office of the Deputy Assistant Secretary of War for Environmental Management and Restoration

June 10, 2026, 2:00-3:30 pm ET

Webinar Rules

- Please use the **chat** function for general discussion.
- Please use the **Q&A** function if you have a content-related question during the webinar that you would like answered.
- Please use the **react** function to engage during the webinar.
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Agenda

- **Land Use Controls (LUCs) Overview** – Allison Cantu
  - Basic Principles
  - Documentation
  - Implementation and Management
  - Successes and Failures
- **A State's Perspective on LUC Implementation Plans** – Stacey French
- **Wrap-up and Q&A** – Allison Cantu/Stacey French

LUCs Overview

Allison Cantu, P.E.

Department of the Navy

LUC Principles

- LUCs used at sites where contaminants are left in place at levels that do not allow for unrestricted use
  - LUCs are used to ensure that the contaminants do not pose an unacceptable risk to human health or the environment
  - LUCs consist of engineering controls (EC) and/or institutional controls (IC)
- Ensure that LUCs are specified, implemented, monitored, reported on, and enforced in an efficient, cost-effective manner that ensures long-term protectiveness
  - In accordance with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP)

What Are LUCs?

- LUCs include any type of physical, legal, or administrative mechanism that restricts the use of, or limits access to, real property to prevent exposure to contaminants above permissible levels
  - **Physical Mechanisms** include a variety of engineered remedies to contain contamination, and/or physical barriers intended to limit access to property such as fences and signs (EC)
  - **Legal Mechanisms** include restrictive covenants, negative easements, equitable servitudes, and deed notices that are meant to ensure the continued effectiveness of land use restrictions imposed as part of a remedial decision (IC)
  - **Administrative Mechanisms** include notices, adopted local land use plans and ordinances, construction permitting or other existing land use management systems that may be used to ensure compliance with use restrictions (IC)

Engineering & Institutional Controls

ENGINEERING CONTROLS

- Remedies to contain contamination, and/or physical barriers intended to limit access to property
- May include:
  - fences
  - signs
  - guards
  - landfill caps
  - slurry walls
  - sheet pile
  - monitoring well

(DoN, 1999)

INSTITUTIONAL CONTROLS

- Include a variety of administrative and/or legal devices to maintain the viability and effectiveness of the selected remedy and any engineering controls
- May include:
  - affirmative and negative easements
  - affirmative and restrictive covenants
  - equitable servitudes
  - notices (in deeds, newspapers, etc.)
  - zoning
  - permits (such as construction, excavation, well drilling, etc.)
  - agreements with regulators
  - reporting on LUC maintenance

Documenting LUCs Through CERCLA

- **Feasibility Study (FS)**
  - Remedy that will require LUCs must include the cost of implementing and maintaining a LUC, as well as an evaluation of an "unrestricted use" alternative
- **Record of Decision (ROD) & Proposed Plan**
  - Broad LUC performance objectives
- **Remedial Design (RD) and Remedial Action Work Plan (RAWP) or Land Use Control Implementation Plan (LUCIP)**
  - Contain the LUC implementation and operation/maintenance actions
    - Short and long-term implementation actions and responsibilities for the actions
    - Procedures for periodic inspections of LUCs and five-year reviews (FYRs)
  - Active bases develop procedures with respect to LUC monitoring and reporting to institutionalize LUC management and to ensure base personnel are aware of restrictions and precautions that should be taken
  - For closing bases/excess property: notifying regulators of planned property conveyance, including federal-to-federal transfers
- **Annual LUC Inspection and FYRs**

(USD, 2004)

Examples of LUC Objectives and LUC Implementation Actions

LUC OBJECTIVES (contained in ROD)

- Ensure no construction on, excavation of, or breaching of the landfill cap
- Ensure no residential use or residential development of the property
- Ensure no withdrawal and/or use of groundwater
- Ensure no excavation of soils without a use permit and special handling procedures

LUC IMPLEMENTATION ACTIONS (contained in the RD, RAWP, or LUCIP)

- Conduct a CERCLA five-year remedy review (active or BRAC)
- Develop and implement base procedures for notification of LUCs
- Record the LUC in the base master plan (active)
- Conduct annual inspections of the LUC and report results (active or BRAC)
  - Record the LUC (in the LUC Tracker, if applicable)

Land Use Control Implementation Plan (LUCIP)

Definition:

- Detailed strategy outlining how DoW will implement restrictions on land use at a specific site, typically to manage environmental contamination, by limiting activities and access to protect human health and the environment after cleanup efforts are completed

Purpose:

- Ensure that land use restrictions are effectively implemented on properties where hazardous substances remain after cleanup, preventing exposure to contamination by limiting activities like digging, building, or groundwater extraction

Components of a LUCIP

- **Identification of restricted areas:** Defining the specific zones on the property where land use limitations apply
- **Detailed restrictions:** Clearly outlining what activities are prohibited or limited within those areas (e.g., no excavation, restricted building development)
- **Monitoring:** Establishing methods and frequency to inspect the site for compliance with LUCs, including signage, and public awareness campaigns
- **Documentation and recordkeeping:** Location of the pertinent LUC records

Active Installation LUC Policy & Procedures for Department of the Navy

- Installation Restoration/Remedial Project Manager (RPM) ensures the conditions and boundaries of sites subject to LUCs must be recorded on appropriate installation maps, master plans, real estate records, and the Geographic Information System (GIS) GeoReadiness Explorer (GRX) platform
  - Data collected as part of any project funded by Environmental Restoration, Navy (ER,N) must be loaded to the Naval Installation Restoration Information Solution (NIRIS), including all deliverables and GIS associated with that project
- Installation RPM ensures LUCs are loaded into LUC Tracker and complete periodic inspections
  - General LUC Inspection checklist available or RPMs can create their own
- Installation RPM program CERCLA five-year remedy review to verify LUCs
- Procedures for periodic inspection of LUCs must also be established by Installation Commanding Officers
  - Installation Environmental Program Directors (IEPDs) communicate directly with Installation RPMs to define roles and responsibilities
  - Installation Environmental Program or RPM conducts reviews of all planned construction projects to determine any crossover with LUCs or ER,N Program sites (Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP))
- If the installation becomes excess to the Department of the Navy (DoN) needs and transfer is expected, including federal agency transfer, the regulatory agency shall be notified as soon as possible
  - The DoW Component disposal agent will ensure that transfer documents for real property being transferred out of federal control reflect the use restrictions specified in the remedy decision document

Closing Navy Installations

- DoN has the authority to impose restrictions on the transferee's use of the property. DoN has a perpetual interest in ensuring that restrictions remain viable and are honored by all subsequent owners. By ensuring the specified restrictions remain viable, DoN exposure to liability is reduced.
- The boundaries of sites and the conditions, terms, limitations of LUCs must be described in Findings of Suitability for Transfer (FOSTs) and recorded in deeds. DoN must retain the right to enter and inspect the property to ensure the viability of LUCs and/or to perform any additional remedial response actions.
- Deeds for restricted use property will contain requirements for subsequent owners to report annually at their expense to DoN on the viability of LUCs. Copies of such reports should be sent to regulators as an additional measure of protection since regulators may be involved in enforcing any violations.
- When the property is transferring out of federal control, the DoN managers shall ensure compliance with CERCLA Section 120 and place the appropriate CERLCA notices, covenant, and warranty in the deed.
- Some hazardous substances, hazardous materials, and/or contaminants can remain safely on-site. Safe removal of such remaining hazardous substances, hazardous materials and/or contaminants, or further remediation required due to a land use change, are the responsibility of subsequent owners and are not considered responsibilities of DoN under CERCLA Section 120.

(CNO, 1999)

Federal Agency-to-Agency Property Transfers

- The receiving agency will be responsible for management of LUCs
- The DoW Component transferring the property should notify the receiving agency of the LUCs that are in place at the site
- DoW Components should not approve the use of Defense and State Memorandum of Agreement (DSMOA) funds to pay for monitoring, enforcement, or managing LUCs by state regulatory agencies on property transferred out of DoW control

LUC Management Strategy for Active Installations

- Acceptable ICs include:
  - Base master planning procedures and permitting requirements
  - LUCIPs
- DoN does not have the authority to impose easements or covenants on property
  - The United States holds title to all federal land
  - Only the General Services Administration has the authority to dispense with a property interest
- Some active installations have the option of recording a “Notice of Land Use Controls” at the county registrar of deeds to document the LUC, but these must be coordinated with counsel

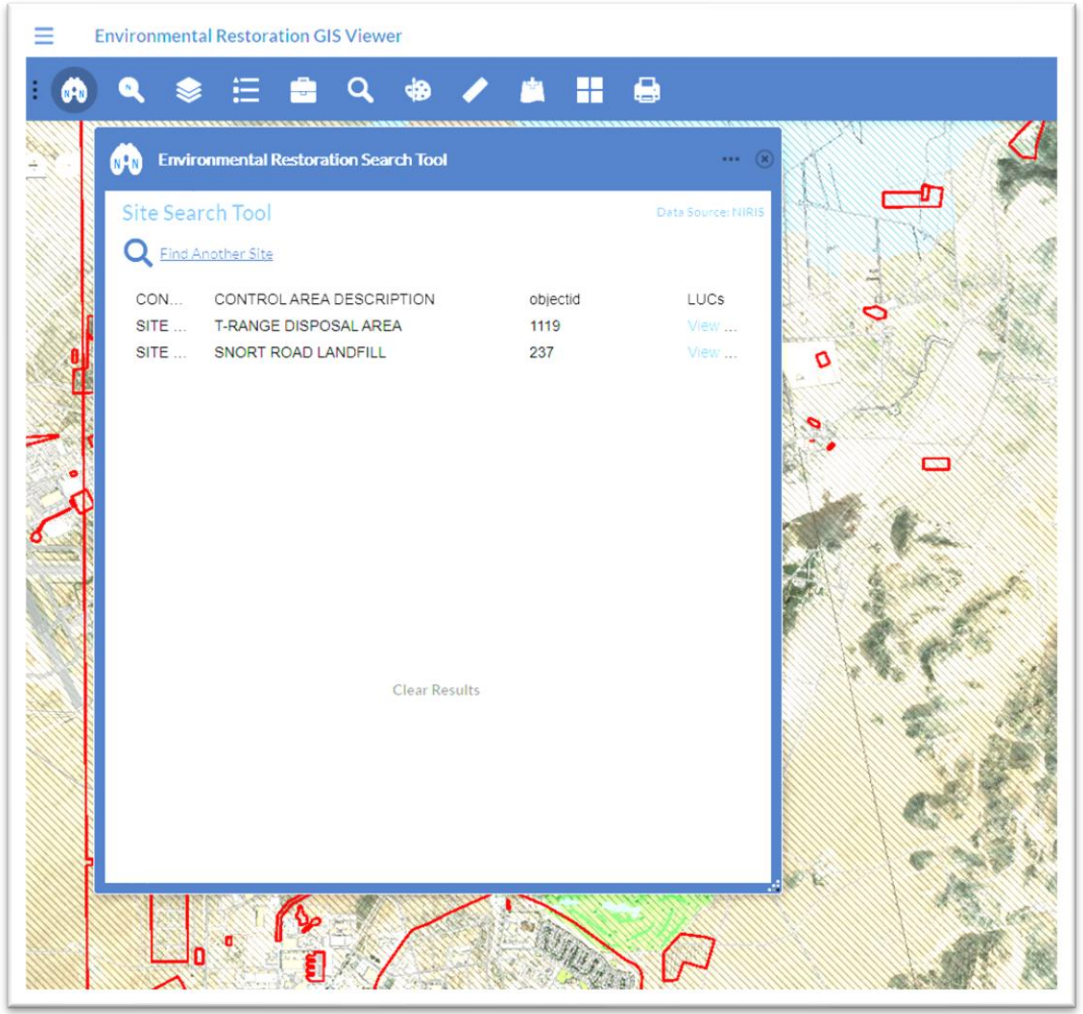
(CNO, 1999)

Installation/Base Master Plans (Plan)

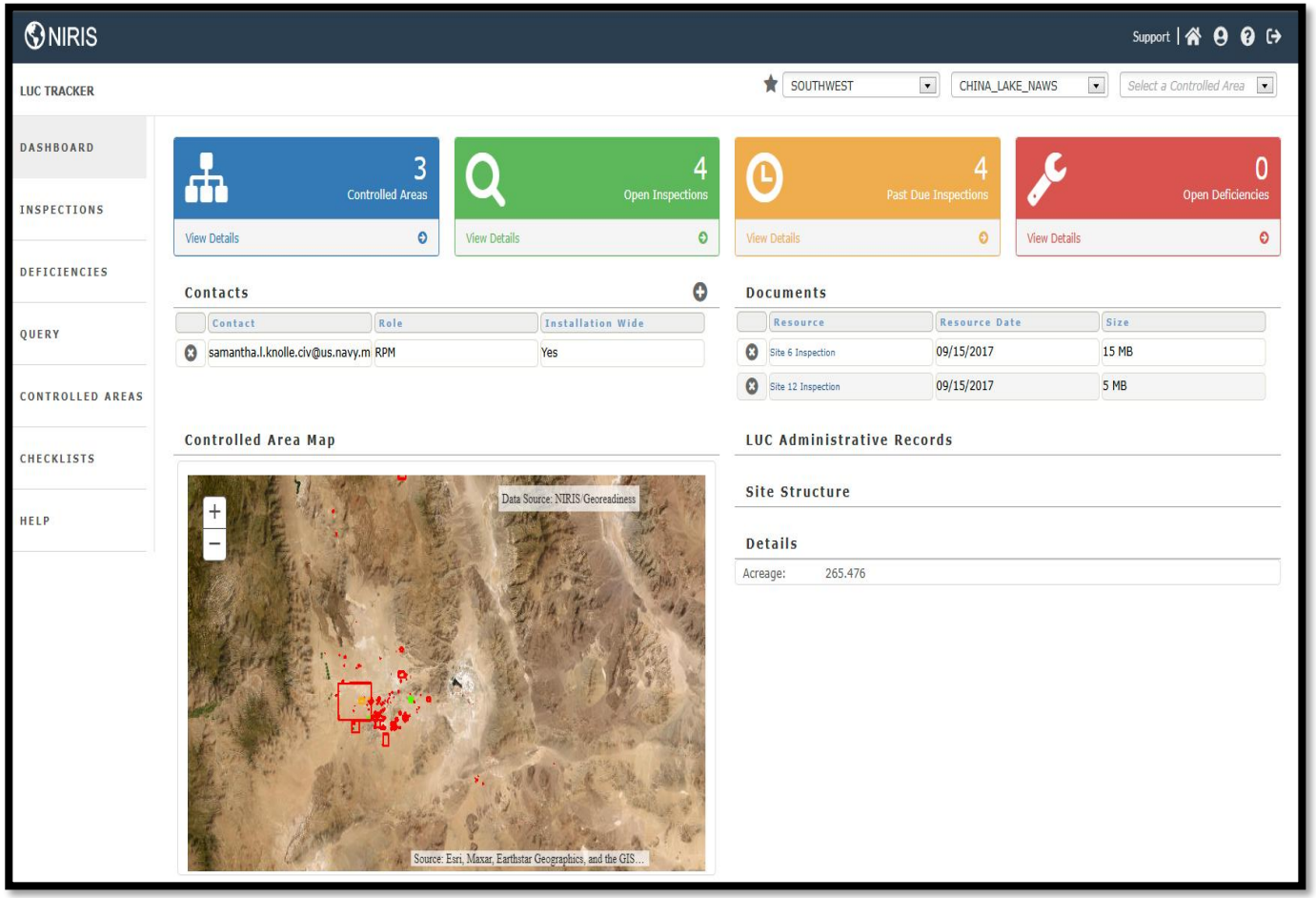
- 10 USC 2864: Master plans for major military installations
  - Plans Required.-(1) At a time interval prescribed by the Secretary concerned (but not less frequently than once every 10 years)
  - The Commander of each major military installation under the jurisdiction of the Secretary shall ensure that an installation master plan is developed to address environmental planning, sustainable design and development, sustainable range planning, real property master planning, military installation resilience, and transportation planning
- Updates to the environmental sections of the Plan are coordinated between the IEPD and the RPM

Installation Planning

- Installation Planners should access GRX during the planning phase to determine the location of infrastructure and any restrictions to ground disturbance
- LUC layers and information available in LUC Tracker and through GRX viewer



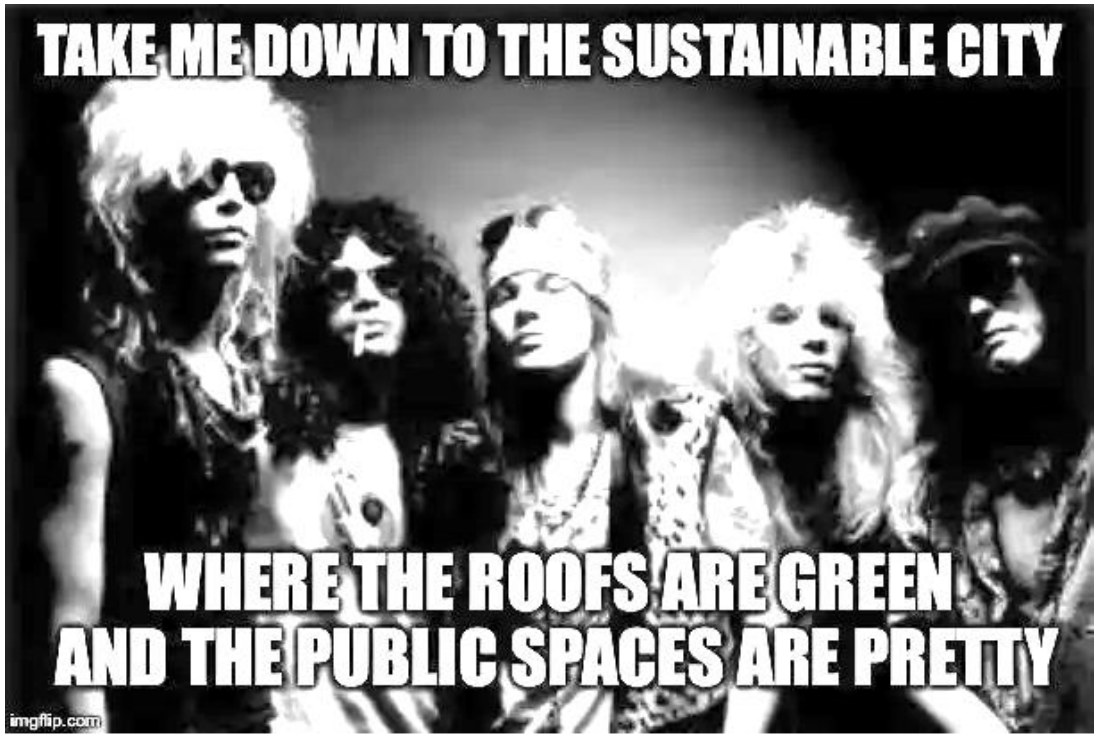
LUC Tracker Database Overview



- NIRIS application used to:
  - track LUC information,
  - notify stakeholders when inspections are due,
  - track the status and completion of inspections, and
  - provide a search tool for data mining and information retrieval

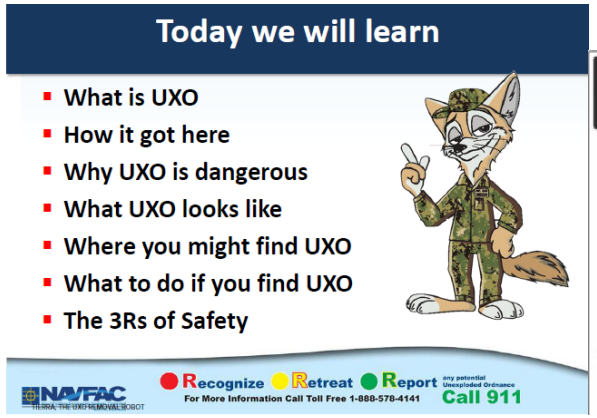
Land Use Covenants

- BRAC: Land Use Covenant
- Active: No Land Use Covenants



LUC Success - MRP

- MRP/UXO Site 6 – Murphy Canyon Naval Housing, San Diego, CA
  - Inside former Camp Elliot footprint which was used for military training exercises during WW II
  - LUCs in place include:
    - Engineering Controls: Fences, locked gates, warning signs
    - Institutional Controls: Intrusive work requires ESS/ESSDR, 3Rs training. Public Outreach: move-in flyers, bi-annual newsletters, annual elementary school assembly training, bi-annual community expos, PPV staff & contractor training in English and Spanish



LUC Success - IRP

- IRP Site 19 – Pearl Harbor Sediment Site
  - Pearl Harbor Sediment – Joint Base Pearl Harbor-Hickam, Oahu, HI
- LUCs in place include:
  - Access Restrictions: Navy owns and controls access to all submerged areas of Pearl Harbor and most of the surrounding shoreline
  - Seafood Consumption Advisories: The Department of Health has published a fish consumptions advisory, distributed literature to the public, and posted advisory signs along the shoreline warning against fish consumption

LUC Success - IRP

Naval Base Point Loma - Old Town Campus Revitalization, San Diego, CA

- Fosters early, meaningful public participation in environmental cleanup
- Key Outreach Components & Tools:
  - Restoration Advisory Boards (RABs)
  - Community Involvement Plans (CIPs)
  - Information Repositories: Admin Record
  - Public Meetings & Workshops
  - Digital Communication: Websites and email distribution lists

Lessons Learned From LUC Practices

- Key lessons learned from LUC practices include:
  - getting direct input with planning, design, construction project manager, designers and planners
  - the importance of customer and community engagement
  - flexibility in zoning regulations
  - considering environmental impact
  - balancing economic development with social needs
  - ensuring clear and enforceable regulations
- Pay particular attention to crucial insights like the need for site-specific analysis, prioritizing long-term planning, and adapting to changing demographics and market conditions to achieve sustainable land use outcomes

Lessons Learned: Key Points

Community Participation:

- Involving residents and stakeholders early in the planning process is vital for building consensus and addressing concerns regarding land use changes

Adaptive Zoning:

- Rigid zoning can hinder development; flexible zoning mechanisms that allow for mixed-use development and adjustments based on changing needs are often more successful

Maintenance Mechanisms:

- Establish clear guidelines and robust mechanisms to maintain the integrity of LUCs and plans

Specific Lessons from Different Aspects of LUCs:

Zoning:

- Avoid overly restrictive zoning that hinders innovation and economic growth
- Consider form-based zoning to promote design quality and pedestrian-friendly environments

Development Agreements:

- Utilize development agreements to negotiate specific land use conditions with developers, potentially securing public benefits

Open Space Preservation:

- Identify and protect critical open spaces to maintain ecological balance and provide recreational opportunities

Transportation Planning:

- Integrate land use planning with transportation strategies to promote walkability, bikeability, and efficient mobility options

Life Cycle Considerations:

- Incorporate life-cycle risks from extreme weather events into land use planning to address potential impacts
- Consider using custom LUC Inspections Forms (i.e., LUC Tracker in NIRIS) to capture LUC effectiveness

A State's Perspective Active and BRAC LUCs

Stacey French, P.E.

South Carolina Department of Environmental Services

State’s Perspective

- When remedies include LUCs, it is important that key components are specifically mentioned in whatever decision/enforceable document is applicable for that site.
- Project teams should understand that the Remedy Selection document is the “why” and “what” and the LUCIP is the “how” and “who”.
- Stakeholders should be provided the information or ability to confirm that each LUC has been implemented and is working as intended.

LUC Implementation Pathway

Record of Decision (ROD)

- ✓ Identifies LUC components of final remedial action
- ✓ Documents Remedial Action Objectives (RAO) and how risks will be addressed

LUC Implementation Plan (LUCIP)

- ✓ Provides the framework to implement and maintain LUC components of remedy
- ✓ Describes performance objectives and strategy for LUC implementation
- ✓ Identifies requirements, tasks, and tools to implement each LUC component
- ✓ Identifies the responsibilities for LUC implementation and long-term operation and maintenance

LUC Implementation

- ✓ Conduct actions to administer and/or implement LUCs
- ✓ Ensure resources in place to facilitate LUC implementation
- ✓ Establish working procedures for day-to-day LUCs execution

Long-Term Operation & Maintenance (O&M)

- ✓ Continuing long-term actions to maintain and implement LUCs
- ✓ Annual monitoring, inspection and reporting of LUCs

Corrective Measures Study and Permit revision (CMS & Permit Mod)

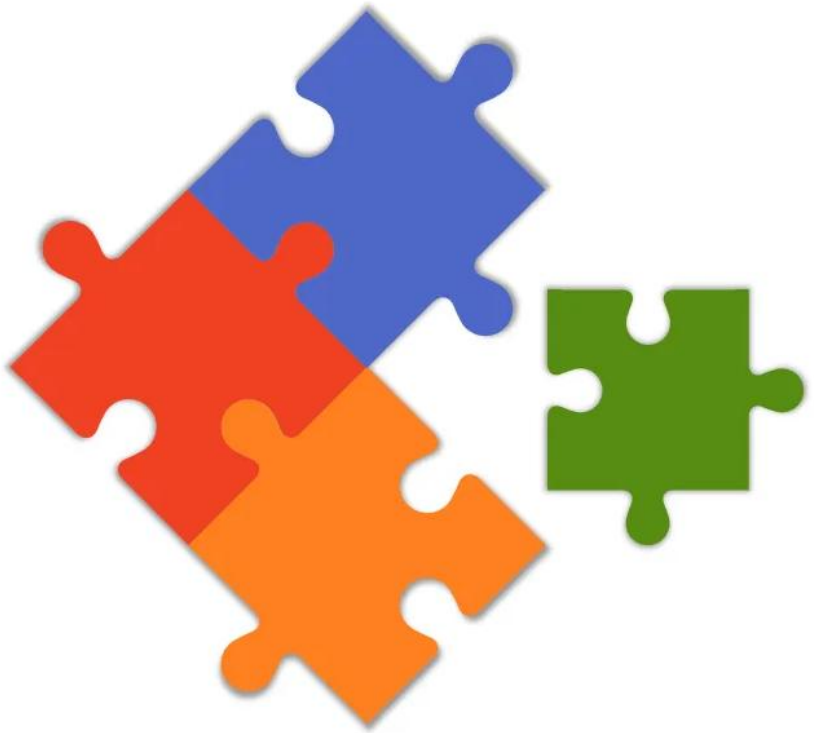
Corrective Measures Implementation Work Plan (CMI WP)

CMI Progress Implementation Progress Reports (CMI Progress Reports)

Corrective Measures Report & Permit Modification / ROD

Important Technical Components

- RAOs
  - What the cleanup will accomplish (cleanup goals)
  - Understanding of how risks will be addressed
- Description of Alternatives
  - Description of remedy components, including LUCs
  - Common elements and distinguishing features of each alternative, and expected outcomes of each alternative
- Selected Remedy
  - Rational for the selected remedy
  - Description of the selected remedy
  - Summary of estimated remedy costs
  - Expected outcomes of the selected remedy



CMI WP/LUCIP

- Implements LUC components of the remedy
- Maintain LUCs to ensure long-term protectiveness

Examples of Successful Implementation in South Carolina

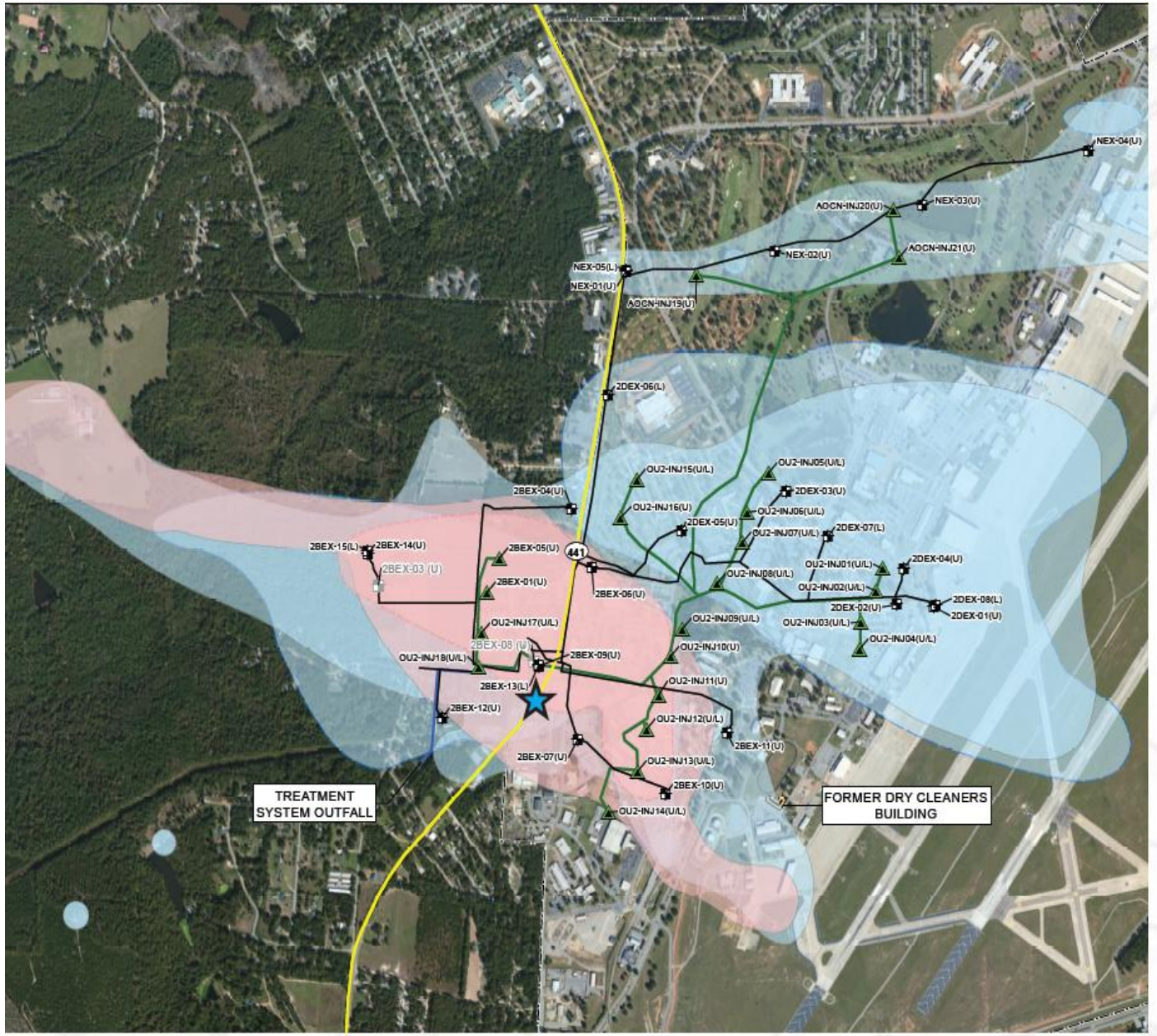
- Shaw Air Force Base (AFB)
  - Air Force Active Installation
- US Army Garrison and Ft. Jackson
  - Army Active Installation

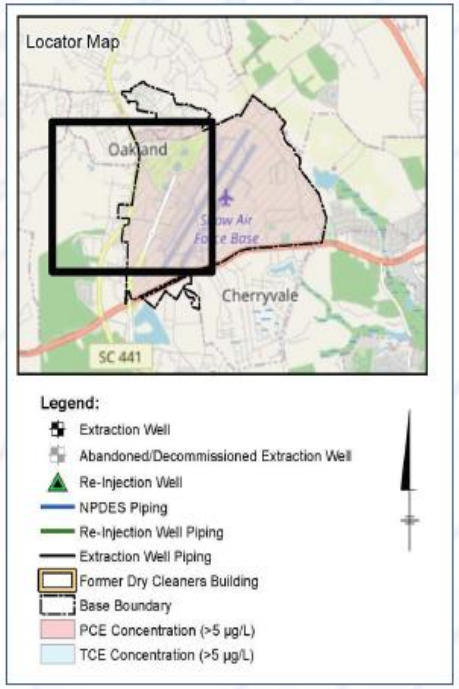
Shaw AFB

- LUCs On-base
  - Remedies selected through the Resource Conservation and Recovery Act (RCRA) CA process and LUCs implemented through Corrective Measures Implementation Plan
  - Base Master Plan for LUCs on base

- LUCs Off-base
  - Groundwater plume that extends off base
    - Active treatment system on base that includes extraction wells both on and off base
    - Point of use treatment systems and connection to public water system
    - Bilateral Agreements filed in chain of title for property owners who elect to

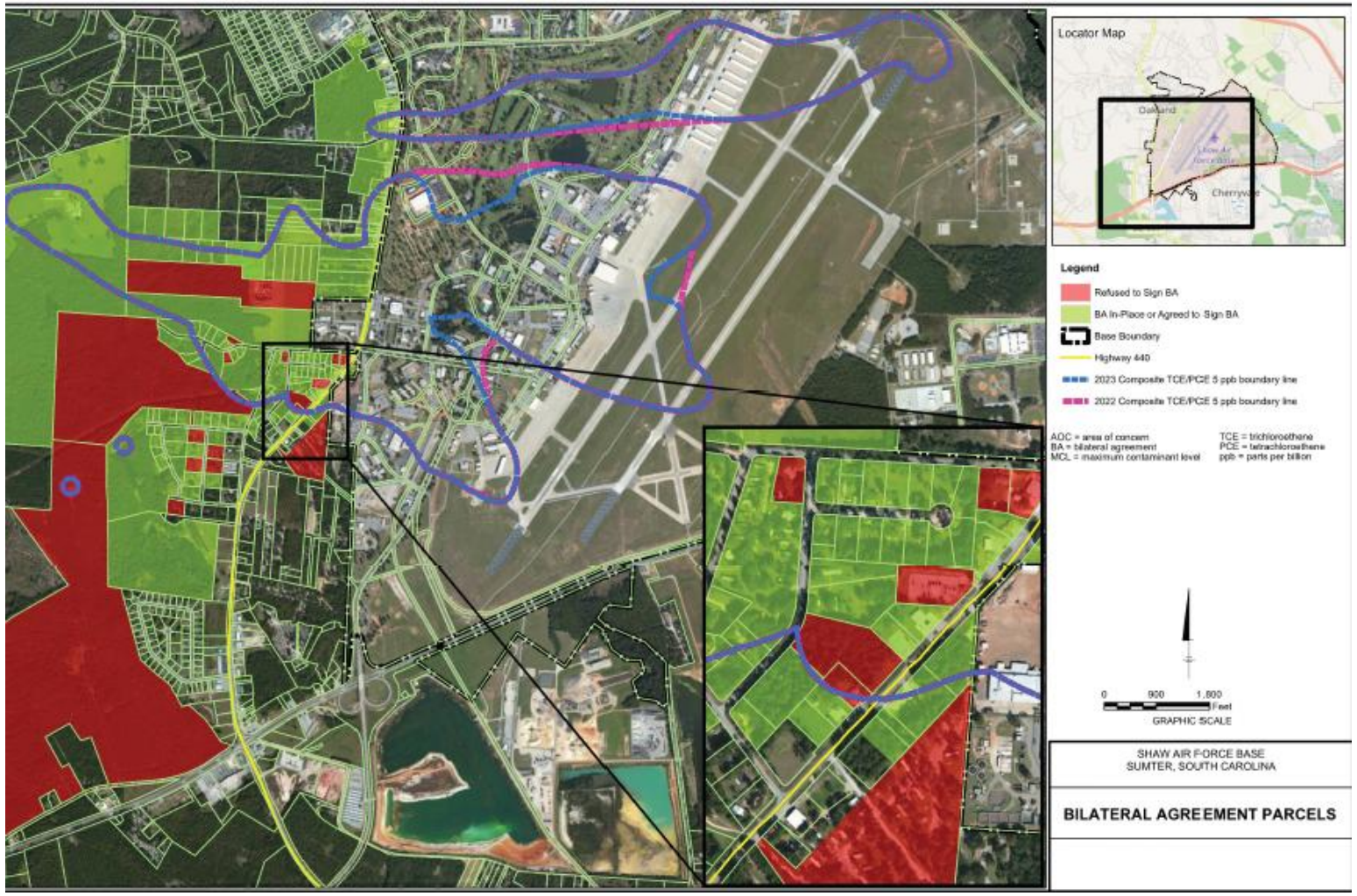
Shaw AFB Groundwater Treatment Plant #1

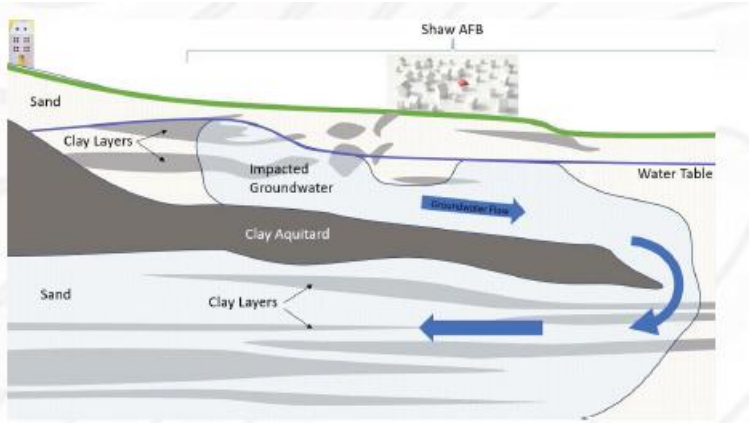




- ★ Depicts the approximate location of the Groundwater Treatment Plant (GWTP) building.
- **Black lines** depict extraction well piping where groundwater is pumped from the extraction wells to the GWTP.
- **Green lines** depict re-injection piping where treated groundwater is pumped from the GWTP building to injection wells that inject the clean groundwater back into the ground.
- **Shaded pink and blue** areas depict the extent of PCE/TCE contamination based on groundwater sampling results.

LUCs for Off-base Contamination





Property Owner Communication Protocol

- Quarterly / Annual On- and Off-Base Groundwater Sampling
- Annual Evaluation of Data (CMIPR) – Establishes Footprint of VOC Plume
- Quarterly Review of Property Transactions
- Bilateral Agreement Invitation
- Annual Well Inventory
  - FOIA to South Carolina Department of Environmental Services (formerly DHEC)
  - Contact with Local Drillers
- Annual LUC Notification
- Groundwater Monitoring Results Letters (only to homeowners with a monitoring well located on their property).

U.S. Army Garrison and Ft. Jackson

- Administrative LUCs
  - The RCRA Permit is the primary administrative LUC for sites with LUCs selected as a portion of a remedy. Permit includes a Land Use Control Management Plan (LUCMP) that lays out expectations of selection of LUCs as a portion of the remedy.
  - Solid Waste Management Units (SWMUs) and Areas of Contamination (AOCs) that require LUCS are noted in the Base Master Plan
  - The routine management and its associated compliance with LUCs will involve using the existing Record of Environmental Consideration (REC) process.

LUCMP and REC Process

US Army Garrison, Fort Jackson
SC3 210 020 449

Land Use Control Management Plan

I. DEFINITION

As used herein, the term "land use control" or "LUC" with regard to real property, means any restriction or control that limits the use of and/or exposure to any portion of that property, including water resources, arising from the need to protect human health and the environment. The term encompasses “institutional controls”, such as those involved in real estate interests, governmental permitting, zoning, public advisories, deed notices, and other “legal” restrictions. The term also includes restrictions on access, whether achieved by means of engineered barriers (e.g., fence or concrete pad) or by human means (e.g., the presence of security guards). Additionally, the term includes both affirmative measures to achieve the desired restrictions (e.g., night lighting of an area) and prohibitive directives (e.g., no drilling of drinking water wells for the duration of the corrective action). Considered altogether, the LUCs for a facility will provide a tool for how the property should be used in order to maintain the level of protectiveness that one or more corrective actions were designed to achieve.

Date Received _____
Project # _____

RECORD OF ENVIRONMENTAL CONSIDERATION
Directorate of Logistics and Engineering, Environmental and Natural Resources Division (ENRD)

1. Project Title: _____
2. Brief Description of Project: _____
3. Proponent: _____
4. Name, address, and phone number of proponent POC: _____
5. Current land use of project site: _____
6. Will there be any soil disturbance or fill material required? Yes _____ No _____
7. If yes, how many acres will be disturbed or filled (to the nearest 1/4 acre)? _____
8. Will there be any tree removal or pruning? Yes _____ No _____
9. If yes, how many trees will be removed? _____ How many will be pruned? _____
10. Provide 3 copies of a general map of the project area that shows the location relative to a prominent landmark such as a road or building.
11. If trees are to be removed or pruned, provide 3 copies of a site specific map denoting the affected area and specifying the dimensions of the area of removal or pruning.
12. Approximate date when the proposed action/project will be initiated (Month/Year): _____
13. Anticipated completion date and/or duration of the proposed action: _____
14. Approval of REC required by date: (Month/Year) _____

PROPONENT SIGNATURE: _____ DATE: _____

Three copies of completed REC and 3 copies of each map must be submitted.
If you have any questions, please call the Environmental and Natural Resources Division at 751-5011

TO BE COMPLETED BY THE ENRD

15. Reason for using Record of Environmental Consideration (choose one):

a. The proposed project is adequately covered in an EA/EIS entitled _____ and dated _____. The EA/EIS may be reviewed at _____.

OR

b. The proposed project is categorically excluded under the provisions of CX _____ AR 200-2 Appendix B, because _____

16. Project Approved by DPTM: Yes_____ No _____ NA_____ Signature _____ Date _____
17. Signature: _____ Date: _____
National Environmental Policy Act Coordinator, Environmental Management Office
18. Concurrence: _____ Date: _____
Team Leader, Environmental Management Office
19. Needs to be reviewed by: WO_____ FO _____ EMO _____ Review suspense date: _____

LUCs MMRP

Remedy selected in RCRA Permit including:

- LUCs
  - Notation in Base Master Plan
  - Use of Environmental Consideration Process (REC process)
  - Informational LUCs
  - Engineering Controls - signage

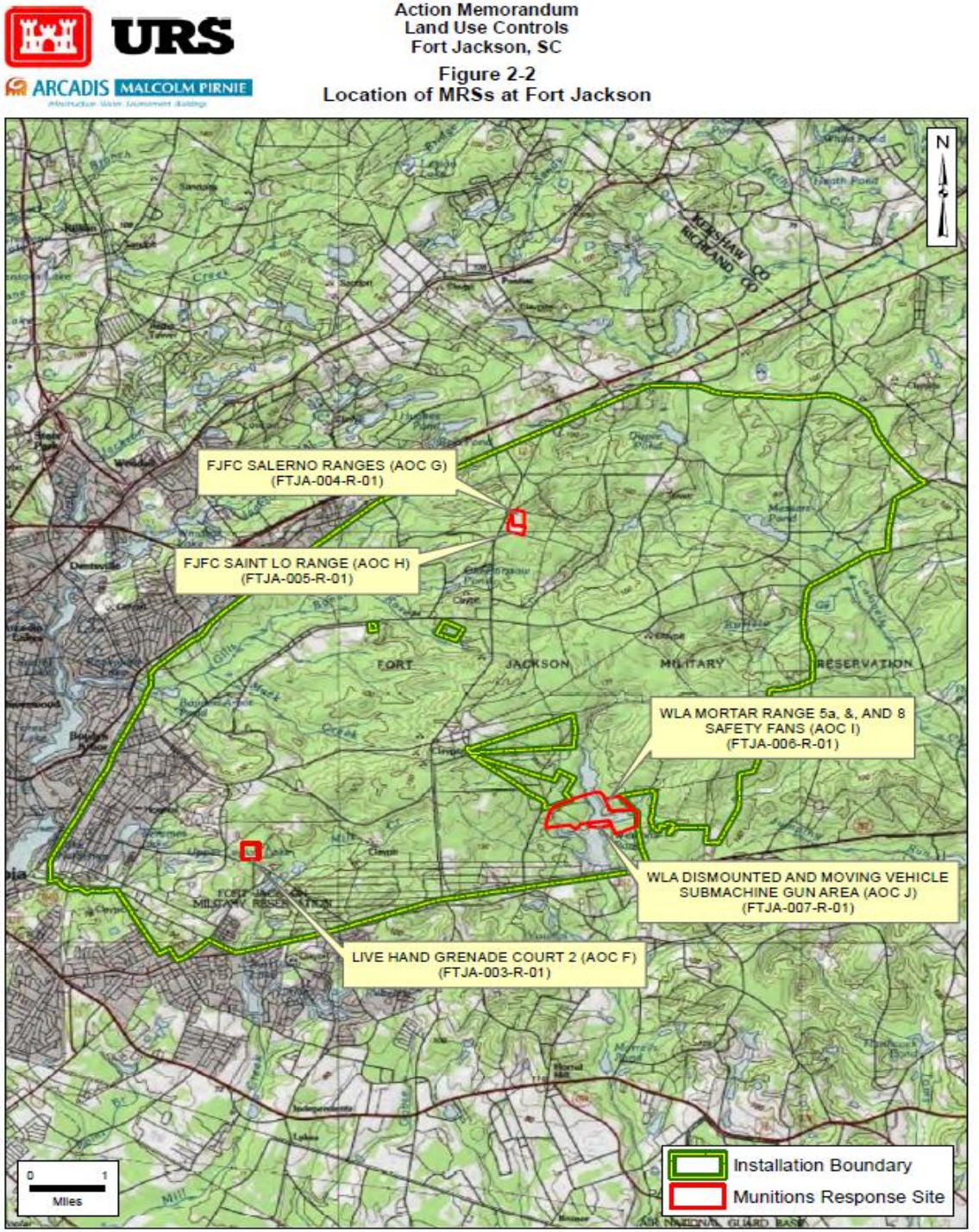
AOC F- Live Hand Grenade Court 2

AOC G- Salerno Ranges

AOC H- St Lo Range

AOC I- Mortar Range 5a, 7, & 8 Safety Fans

AOC J- Dismounted and Moving Vehicle Submachine Gun Area



Recap - Takeaways

- LUCs should be clear in decision documents, initial and long-term implementation should be recordable and verifiable by all stakeholders.
- LUCs that are a portion of a final remedy should “run with the land”
- Need measures in place to monitor LUCs
- Need to clearly identify who is responsible for implementing and monitoring LUCs

LUC Implementation Pathway

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Recap – Parting Words

- Depending on the state that you are working in, the DSMOA / Federal Facilities program may be managed under a variety of regulatory programs
- There are options for crafting a process to effectively implement LUCs that will “run with the land”
- Partnering is a key to achieving our common goal of cleaning up sites and ensuring that they will remain protective

Wrap-up and Q&A

Thank you!

Please fill out a brief survey here:

https://forms.osi.office365.us/r/tSxNQjkqzJ

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