



# Institutional/Land Use Controls

Land use controls are used as a tool to manage residual risk related to unexploded ordnance or environmental hazards at Formerly Used Defense Sites (FUDS). Although the Army Corps of Engineers and its contractors follow a rigorous quality assurance program and use the best available methods and equipment, there is always a slight risk of ordnance being left behind. Residual risks can include any potential hazard that exists at a site during a cleanup effort or after a cleanup action is complete, for example, high levels of lead in the soil, contaminated groundwater, or potential unexploded ordnance.

**Land Use Controls**

“...any type of physical, legal, or administrative mechanism that restricts the use of, or limits access to, real property to prevent or reduce risks to human health and the environment.” (DoD 2000)

Land use controls can include any type of physical, legal, or administrative mechanism that restricts the use of, or limits access to, real property to reduce risks to human health and the environment. There are three types of land use controls: educational programs, engineering controls, and institutional controls.

## Educational Programs

Educational programs are intended to increase the effectiveness of engineering and institutional controls and are designed to inform landowners and the community about land use controls, how to identify hazards at a site, and what to do if ordnance or other hazards are discovered. Examples include exhibits, public information sessions, classroom training, and fact sheets.

**Educational Programs**

**Engineering Controls**

**Institutional Controls**

**Engineering Controls**  
Following removal actions, engineering controls are the primary physical means of mitigating risk at sites like the Former Nansmond Ordnance Depot. They are engineered remedies that contain or reduce contamination/hazards or include the installation of physical barriers that limit access to property. Examples include surface sweeps, slurry walls, landfill caps, soil covers, fences, and signs. In some cases, administrative mechanisms are needed to ensure that engineering controls work effectively. For example, law enforcement may be necessary to monitor fences and barriers to minimize trespassing.

**Institutional Controls**  
An institutional control is a legal or institutional mechanism that limits access to or use of property, or that warns of a hazard. An institutional control can be imposed by the property owner, such as use restrictions in a deed, or by a government, such as a zoning restriction. The Department of Defense uses institutional controls to ensure protection of human health and the environment. They are used to manage risk during cleanup activities at a site and as a part of a final cleanup remedy. Institutional controls fall into two categories: proprietary controls and governmental controls.

# Types of Institutional Controls

## Proprietary Controls

A proprietary control is a private contractual mechanism contained in the deed or other documents transferring the property. Proprietary controls involve the placement of restrictions on land through the use of easements, covenants, and reversionary interests. These types of controls allow an original owner of the property to restrict the use of the land even if it has been sold to another owner. State laws vary on the application and enforcement of such restrictions.

### What Is an Easement?

An easement allows the holder to use the land of another, or to restrict the uses of land. For example, a conservation easement restricts the owner to uses that are compatible with conservation of the environment or scenery.

### What Is a Covenant?

A covenant is a promise or legal requirement that binds an owner or subsequent owners to take a certain action, or not to take an action. An affirmative covenant is a promise that the owner will take an action such as maintain a fence on a property that surrounds a landfill. A negative covenant is a promise that an owner will not take an action such as use groundwater for drinking water.

### What Is a Reversionary Interest?

A reversionary interest places a condition on the property. If the condition is violated, the property is returned to the original owner or the owner's successors, even if there have been several transfers in the chain of title.

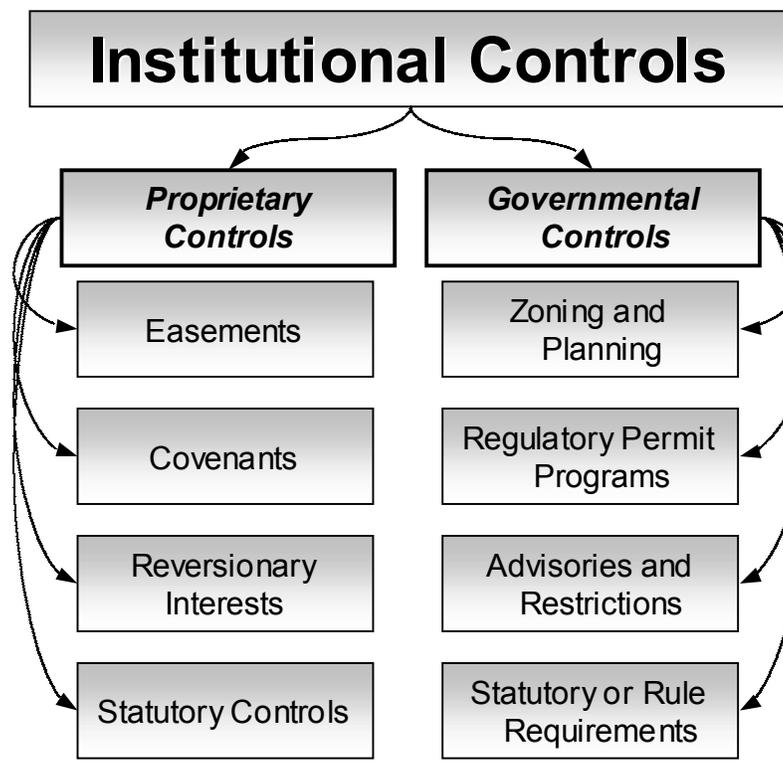
## Governmental Controls

Governmental controls are restrictions that are within the traditional police powers of state and local governments to impose and enforce. Permit programs and planning and zoning limits on land use are examples of governmental controls. The following are some possible governmental controls:

- *Zoning* – Use restrictions are imposed through a local zoning or land use planning authority. Such restrictions can limit access and prohibit disturbance of a remedy. However, not all jurisdictions have zoning authorities. Zoning ordinances are subject to change, depending on political pressures and other interests. A zoning ordinance does not necessarily establish a permanent control. It needs to be monitored and enforced over the long-term. The local government must be willing to make a commitment of resources to enforce it.
- *Siting restrictions* – These restrictions control land use in areas subject to natural hazards, such as earthquakes, fires, or floods. Such restrictions are created through statutory authority to require that the state implement and enforce certain land use controls through local ordinances.
- *Groundwater restrictions* – These restrictions involve a specific classification system used to protect the quality or use of groundwater. The system operates through a state well permitting program. Under this program, criteria must be established and met before a use permit or construction is allowed.

- *Advisories* – A local health department may be willing to issue periodic advisories to users of the affected properties reminding them of the hazards associated with the property. This could also include installing and maintaining warning signs on site. The disadvantage of this approach is that some people will choose to ignore the advisory.

- *Statutory or Rule Requirements* – The Army Corps will have a mandatory 5-year review requirement under CERCLA to ensure that the remedy is functioning as anticipated, including ensuring that the institutional controls are being implemented and are effective. RCRA Closure Rules require that a notice be placed on a deed notifying potential buyers of the type, quantity and location of hazardous waste at a facility, when hazardous waste is left onsite. This notice must also be provided to the local zoning authority. Note: Although deed notices are an effective information tool, they are not enforceable if the use restriction is not observed.



## Institutional Controls at FNOD

The Army Corps began addressing institutional controls in 1998 in the Engineering Evaluation/Cost Analysis (EE/CA) report that was completed at the site to address ordnance. The EE/CA listed the following goals for institutional controls:

- To inform any person who may disturb the surface of the land or conduct excavation activities that residual ordnance may be present in the subsurface soil.
- To ensure a safe course of conduct in accordance with an acceptable plan if residual ordnance is discovered.

Common concerns among landowners are the economic burden of imposing institutional controls on property, including the effect on property value when the property is sold, and the continuance of institutional controls when the property is subdivided and transferred or otherwise conveyed to another party.

On July 22, 1999, EPA listed FNOD on the National Priorities List (NPL) for remediation under CERCLA. In May 1999, the Army Corps and EPA signed a Technical Memorandum identifying 13 action items to be completed at the site to address potential ordnance issues. This memorandum provided the context for the Land Use Control Options Paper that has been developed.

The Corps also has initiated surface clearances at five Areas of Concern (AOCs). Land use controls may be necessary for other areas at the site beyond the following five AOCs that have been identified as highest priority by EPA and the Corps:

- TNT Removal Area – Several removal actions have been conducted in this area. For this study, the investigation area was expanded beyond what was previously studied to ensure no further disposal took place in the area.
- Athletic Field (South and North) – This area was included in the geophysical survey because of its terrain.
- Renovation Plant Area – This area was previously used to renovate shells.
- Buildings L-11 and L-12 – These magazine buildings were destroyed in the 1920s by fire.
- Building E410 – This magazine building was destroyed by fire in 1937.

## The Institutional Controls Work Group

In November 2000, the Army Corps convened a work group to further address institutional controls for the Former Nansmond Ordnance Depot (FNOD) project. The work group consists of the following representatives of the community:

**Jim Bennett**

Dominion Lands

**Sue Bulbulkaya**

Virginia Department of Environmental Quality (VDEQ)

**Steve Cline**

GE

**Kevin Farren**

SYSCO Food Services of Hampton Roads

**Tim Fink**

Tidewater Community College (TCC)

**Paul Fisher**

City of Suffolk – Plans and Policy Coordinator

**Pat Genzler**

Virginia Community College System (VCCS)

**Ken Hafner**

Army Corps, Norfolk District – Project Manager

**Tom O'Grady**

City of Suffolk – Economic Development

**Don Perry**

Continental Properties

**Keri Robertson**

Army Corps, Norfolk District – Project Engineer

**Ed Romm**

Hampton Roads Sanitation District

**Rob Thomson**

EPA – Region III

**Brett Waller**

VDOT – Suffolk District

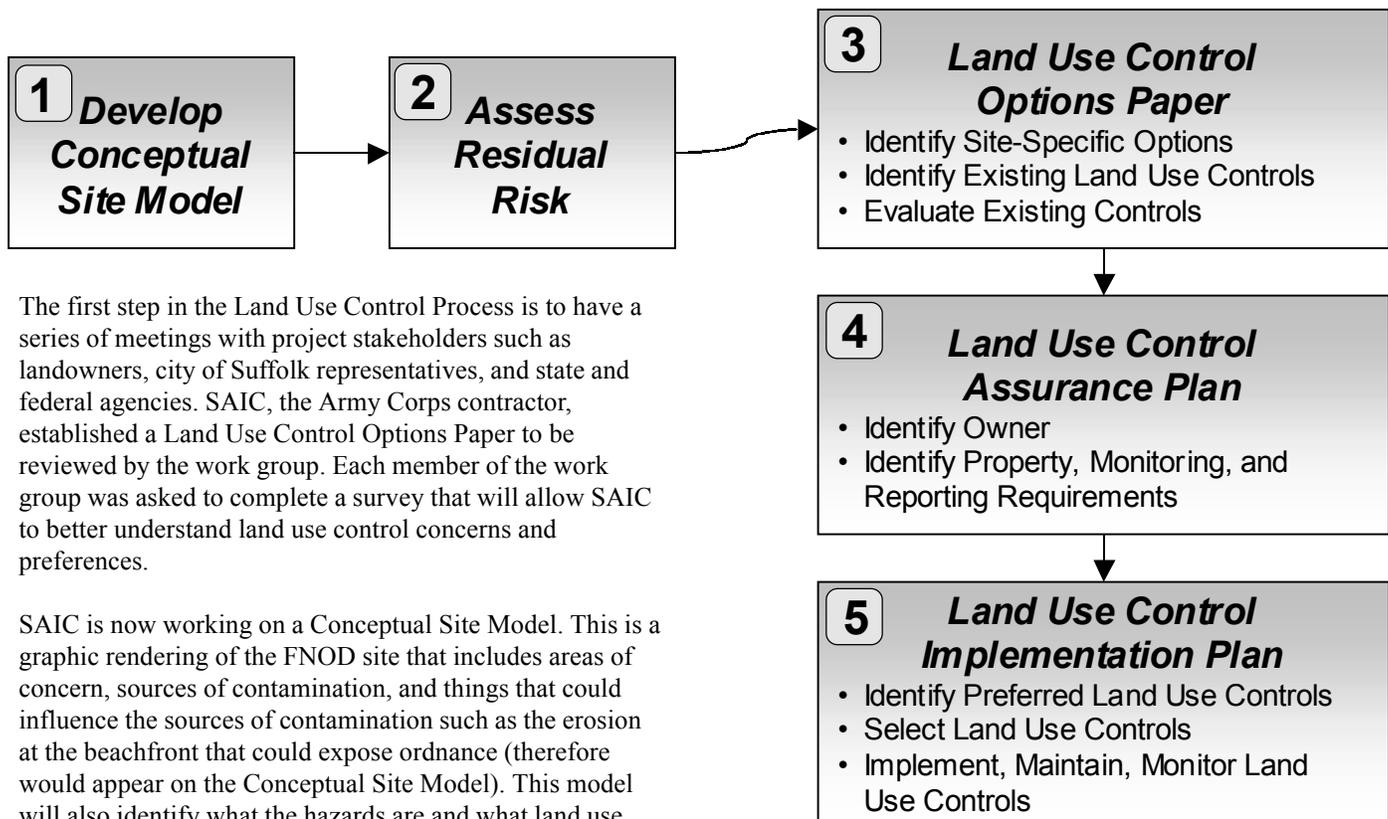
**Ed Wallingford**

VDOT – Central Office

**Durwood Willis**

Virginia Department of Environmental Quality (VDEQ)

# The Land Use Control Process at FNOD



The first step in the Land Use Control Process is to have a series of meetings with project stakeholders such as landowners, city of Suffolk representatives, and state and federal agencies. SAIC, the Army Corps contractor, established a Land Use Control Options Paper to be reviewed by the work group. Each member of the work group was asked to complete a survey that will allow SAIC to better understand land use control concerns and preferences.

SAIC is now working on a Conceptual Site Model. This is a graphic rendering of the FNOD site that includes areas of concern, sources of contamination, and things that could influence the sources of contamination such as the erosion at the beachfront that could expose ordnance (therefore would appear on the Conceptual Site Model). This model will also identify what the hazards are and what land use controls are needed. This information leads into the assessment of residual risk which is necessary to achieve an understanding of the types of hazards that need to be addressed by the land use controls.

Ideal institutional controls are long term and durable and provide adequate notice to affected parties and the community. The residual risk assessment will determine how long a risk will remain and how long controls would be necessary at each site. It is ideal to incorporate a combination of land use controls so weaknesses of some controls can be strengthened by others.

After the contractor assesses the residual risk, the work group will identify site-specific land use options and evaluate proprietary and government controls. This will be incorporated into a final draft *Land Use Control Options Paper*. The next step is to create a Land Use Control Assurance Plan that will identify the property owner and the monitoring and reporting requirements for each. Following this, SAIC will develop Land Use Control Implementation Plans, which will highlight the selected land use controls for each of the affected sites and how they will be implemented, maintained, and monitored.

## Contact Information

For more information about the Former Nansmond Ordnance Depot project, please contact the following people:

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## Information Repository

Information about the Former Nansmond Ordnance Depot project is available for public review at the Information Repository:

Tidewater Community College Library  
Information Desk  
7000 College Drive  
Portsmouth, VA

Library Hours:  
8 a.m. to 9 p.m. Monday through Thursday  
8 a.m. to 4:30 p.m. on Friday  
8:30 a.m. to 12:30 p.m. on Saturday