

*Devens is located on land once owned by the U.S. Army. For nearly 80 years from World War I until 1996, Devens' 4,400 acres were used for housing, research, education, administration, and military training purposes. While some of the military activities resulted in contamination of land and resources within Devens (brownfields), some buildings and infrastructure that the military left presented a prime opportunity for responsible and sustainable infill redevelopment that maximized the use of existing infrastructure and resources and minimized sprawl, deforestation and other environmental impacts.*

### **What is Infill Redevelopment?**

Infill redevelopment is the process of developing sites that are or were previously in established neighborhoods and business districts. Infill sites are already served by public infrastructure, such as roads, drainage, utilities, and water and sewer lines. Redevelopment in these areas can also take advantage of existing buildings and infrastructure such as parking lots, utilities and roadways. Redeveloping in these areas is smart because it helps preserve land areas that may be more sensitive to development such as forests, wetlands and watercourses. Most of the redevelopment of Devens is infill redevelopment. Infill redevelopment has many benefits because it allows for a community to spend less money and time building new infrastructure by taking advantage of the roadways and buildings that are preexisting.



*Transitions women's shelter – a 13-unit infill redevelopment for homeless women with children centrally located within a former military residential area that was redeveloped and reused for civilian residents.*

### **Adaptive Reuse and Embodied Energy**

Adaptive reuse is a method of redevelopment that involves the process of reusing infrastructure and buildings for a purpose other than what it was

originally intended for. This method has gained popularity as the true cost or “life-cycle” cost of building and construction materials is recognized. Life cycle costs take into consideration the cost of a product or material over its entire lifespan – from extraction, processing, delivery, use and disposal. Life cycle costs consider the embodied energy – the amount of energy consumed by the entire lifespan of the infrastructure or building. When we consider total life cycle costs, infill redevelopment and adaptive reuse often make the most sense from an economic, environmental and social perspective.



*27 Jackson Road - Adaptive reuse of a former military intelligence building that is now home to Mount Wachusett Community College and a number of other businesses.*

Adaptive reuse of existing buildings and infrastructure has been a major focus of the redevelopment efforts in Devens. In addition to the reuse of many industrial/commercial type military buildings and their supporting infrastructure, a



*Former officers housing on Walnut Street in the Devens Historic District and redeveloped for civilian use.*

number of historic former military housing units have been redeveloped for civilian use – a great way to help preserve a piece of Devens military history and culture. Although there is still undeveloped land available for development within Devens, a number of new buildings that were constructed after the base was closed are now being redeveloped and repurposed for new uses. This adaptive reuse and infill redevelopment maximizes the use of existing infrastructure and minimizes life cycle costs associated with redevelopment.

### **Why is Infill Redevelopment Important?**

Sprawl is defined as the linear stretching of a community's size due to a lack of redevelopment and infill. Inexpensive, low-density residential, commercial and industrial development in remote areas contributes to sprawl and inefficient investment in infrastructure and transportation systems, such as roads and transit. These forms of development are unsustainable because they decentralize development and lead to increased costs for extended infrastructure and services. Sprawl creates more automobile-dependent communities which, in turn leads to more road congestion and more greenhouse gas emissions. When a community is more compact it helps provide increased options for people to get to and from places – like walking, transit and biking. Infill redevelopment reduces sprawl by facilitating the creation of more compact and efficient development patterns. This also helps preserve valuable forests and farmland, improve air and water quality, and contribute to a healthier and happier population.

Infill redevelopment helps fill “gaps” in communities and plays a key role in efficient land-use, community revitalization, and economic development by reusing existing infrastructure, directing reinvestment to high-priority growth areas, creating jobs and protecting our natural environment. This is what the redevelopment of Devens is all about.

### **What are Brownfields?**

A brownfield is a property that may be impacted by a hazardous substance, pollutant, or contaminant. The US EPA estimates that there are over 450,000 brownfield sites within the U.S. Brownfields typically include old gas stations and industrial sites where hazardous chemicals, materials and/or substances may have been used or stored. Due to its past military uses (vehicle storage and maintenance areas, firing ranges, use of munitions and explosives, use of pesticides and hazardous cleaning solvents), Devens contains a number of brownfield sites, however most have been remediated. Because of the past history, Devens is also listed as a US EPA Superfund Site. Superfund sites are polluted locations requiring a long-term response to clean up hazardous material contaminations.

When the military base closure was announced and redevelopment efforts began, one of the first things done by the Army, US EPA, and the State of

Massachusetts, was the development and implementation of a long-term remediation and action plan for timely and responsible clean-up of the contaminated sites. Cleaning up and reinvesting in the redevelopment of contaminated properties helps to increase local tax bases, facilitates job growth, utilizes existing infrastructure, takes development pressures off of undeveloped, open land, and both improves and protects the environment. The US EPA estimates that for every one acre of redeveloped brownfields, we protect 4.5 acres of natural landscape. Although remediation of brownfields can be expensive, the increased land value as well as funding and



1 acre of brownfield redeveloped  
=  
4.5 acres of greenfield preserved

Source: EPA | Graphic: Minnesota Brownfields

assistance from organizations like the US EPA helps offset these higher costs.

### **What does this mean for Devens?**

Once a brownfield site has been remediated to local, state and federal standards, it is safe for redevelopment and infill. Since most brownfield sites are within previously developed areas, there are usually significant cost savings that can be gained by reusing existing infrastructure. Brownfield redevelopment projects include many sustainable development principles such as energy efficiency, waste minimization, ecosystem preservation, and natural resource conservation. This is why the clean-up and redevelopment of Devens is so important. The clean-up and infill redevelopment of Brownfields provides significant environmental, social and economic benefits for Devens and the surrounding region by eliminating point-sources of pollution and providing a cleaner environment for building and recreation. While there is still some clean-up and monitoring occurring at Devens, over the past 20 years, MassDevelopment and the Army have partnered together to remediate the majority of brownfield sites to redevelopment standards within Devens. This cooperative effort has led to a significant amount of industrial, commercial and residential redevelopment on former brownfield sites within Devens.

Today there are more comprehensive regulations and oversight in place than in the past to help minimize the likelihood of future contamination. The Devens Enterprise Commission is the local regulatory authority overseeing the redevelopment of Devens and their regulations, coupled with the state and federal regulations and oversight, are helping to ensure clean up and redevelopment of these former brownfield sites is safe.

For more information on infill redevelopment and brownfields, go to:  
<http://www.sustainablecitiesinstitute.org/topics/land-use-and-planning/urban-infill-and-brownfields-redevelopment>  
<https://www.epa.gov/brownfields/overview-brownfields-program>

# Infill Redevelopment and Brownfields



**How Devens is promoting redevelopment in a more sustainable manner**

