

# CHAPTER 6

## POTENTIAL DEVELOPMENT MAPPING

### **Introduction**

---

This section of the Community Development Plan builds on the results of the mapping and inventory of Wendell's natural, open space, scenic, and recreational resources that were conducted for the Town's Open Space and Recreation Plan (2002). The Wendell Open Space and Recreation Plan was approved by the Massachusetts Executive Office of Environmental Affairs, Division of Conservation Services.

This section discusses a methodology for identifying the potentially suitable locations for development. The methodology focuses first on identifying which areas of Wendell may be unsuitable for any future development due to the environmental and open space constraints that were documented in the Open Space and Recreation Plan. It removes those areas from consideration, and then works with the remaining areas to identify potentially suitable locations for new homes and businesses. The methodology presented here is similar to that which was used for the recent buildout analyses which were sponsored by the Executive Office of Environmental Affairs (EOEA) and conducted for communities statewide. However, the absolute and potential constraints considered here are slightly more extensive. The methodology also incorporates work from the Open Space and Recreation Plan, including the Action Plan Map, which identified potential greenway areas in Wendell and priority areas for future protection from development.

The results of the analysis to determine which areas of Wendell may be constrained from future development and which areas may potentially be suitable for new development are shown on the Development Suitability Map.

Figure 6-1 lays out the general methodology used to identify land within the Town of Wendell that is potentially suitable for development. The narrative which follows the figure provides the details of the approach for each step in the methodology.

## Figure 6-1: Methodology for Identifying Potential Locations for Future Development

**Step 1 – Absolute Constraints.** Using the data collected for the Open Space and Recreation Plan as a starting point, identify land areas with environmental constraints that make the areas unsuitable for future development. Absolutely constrained lands include wetlands, water bodies, Zone I recharge areas for public drinking water supplies, steep slopes of over 25%, and parcels that have been permanently protected as open space. Remove these areas from further consideration for development.



**Step 2 – Developed Land.** Identify areas with developed land, such as land currently in residential, commercial, or institutional use.



**Step 3 – Potentially Developable Land.** Identify land areas that are *neither* presently developed (from Step 2) *nor* absolutely constrained (from Step 1).



**Step 4 – Potential Constraints.** Identify which land areas are potentially developable (from Step 3), but which may still be undesirable or unsuitable for development because of certain additional environmental characteristics. Potential constrained lands include areas with slopes of 15-25%, aquifer areas, Interim Wellhead Protection Areas, and sensitive habitat areas. This step relies on mapping conducted for the Wendell Open Space and Recreation Plan.



**Step 5 – Suitable Land for Future Development.** From the potentially developable land, identify which areas may be the most suitable for new residential development, new business development, or a small traditional neighborhood district, taking into account the potential constraints that were identified in Step 4 and other considerations such as current infrastructure and zoning.

### Step 1: Identify Areas with Absolute Environmental or Open Space Constraints

---

This step identifies land with environmental or open space constraints that make it unsuitable for new development. The areas with these constraints are shown on the natural resource maps created for Wendell's Open Space and Recreation Plan (2002). Areas with one or more of these constraints are also excluded from the potentially developable areas shown on the Development Suitability Map in this Community Development Plan. The Development Suitability Map is shown at the back of this chapter.

The following areas are considered to be constrained from development:

- National Wetlands Inventory wetlands. The location of these wetlands has been documented by the U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI) project. Wetlands in Massachusetts are protected from development under the Massachusetts Wetlands Protection Act (Massachusetts General Laws, Chapter 131, Section 40). The NWI project provides an approximation of the wetlands that are subject to the Wetlands Protection Act. Wetlands are required to be verified on a case-by-case, parcel-by-parcel basis to be fully protected from future development.
- 100 foot buffer area of wetlands. The State Wetlands Protection Act regulates and restricts development within 100 feet of wetlands. Some development within this buffer area can be allowed.
- Rivers, ponds, and other water bodies. The locations of these water resources have been identified by MassGIS, using NWI data on pond and lake locations and MacConnell land use data on other water bodies (land use code = 20 (Water)). Riverfront areas were added to the Wetlands Protection Act after the passage of the Rivers Protection Act in 1996.
- 400 foot buffer areas of streams within the Chicopee River Watershed. The MDC Watershed Protection Act regulates and restricts development within 400 feet of streambanks within the Chicopee River Watershed.
- 200 foot buffer areas of other rivers. The Massachusetts Wetlands Protection Act regulates and restricts development within 200 feet of riverbanks.
- Public water supplies and Zone I recharge areas. The locations of these resources have been documented by the Massachusetts Department of Environmental Protection (DEP). The land uses in Zone I areas (the 400-foot radius area around public water supplies) can have an immediate effect on well water quality.
- Areas with a slope of over 25%. The information on slopes has been derived from contour line data produced by the U.S. Geological Survey. It is generally considered unfeasible to build on slopes of 25% or greater, due to the high costs of construction, the likelihood of erosion, and the difficulty of traversing such steep terrain.
- Permanently protected open space areas. These areas have been located using information provided in the Wendell Open Space and Recreation Plan (2002) and from MassGIS. The open space data has been updated to include parcels that have become permanently protected since the completion of the Open Space and Recreation Plan. Using this updated data, it has estimated that just over half (52%) of Wendell's total acreage is permanently protected from development.

The permanently protected open space areas include both publicly and privately owned properties. The publicly owned properties include land areas, such as state forests, that are owned by a Massachusetts state conservation agency, as well as parcels that owned by the Town of Wendell and under the jurisdiction of the Conservation Commission. Privately owned properties that are permanently protected as open space are owned by conservation groups, such as Mount Grace Land Trust, or have deed restrictions to prevent development.

## **Step 2: Identify Areas that Contain Developed Land Uses**

---

This step identifies land that is currently developed. This identification relies on the 1999 MacConnell land use data provided by MassGIS. Table 6-1 lists the land uses which are considered to be developed. The areas with developed land uses are shown on the Development Suitability Map.

**Table 6-1: Developed Land Uses**

<b>Land Use Code</b>	<b>Land Use</b>	<b>Land Use Description</b>
8	Spectator Recreation	Stadiums, racetracks, fairgrounds, drive-in theatres
9	Water-Based Recreation	Beaches, marinas, swimming pools
10	Residential	Multi-family
11	Residential	Homes on lots less than a quarter-acre
12	Residential	Homes on lots a quarter-acre to a half-acre
13	Residential	Homes on lots larger than a half-acre
15	Commercial	General urban; shopping centers
16	Industrial	Light and heavy industry
17	Urban Open	Parks, cemeteries, public and institutional buildings and greenspaces
18	Transportation	Airports, docks, divided highway, freight storage, railroads
19	Waste Disposal	Landfills, transfer stations, sewage lagoons

## **Step 3: Identify Areas that are Potentially Developable**

---

This step identifies land that is potentially developable. The potentially developed land is defined as the areas that are *neither* presently developed (from Step 2) *nor* absolutely constrained from development (from Step 1).

## **Step 4: Identify Areas with Potential Environmental Constraints**

---

This step identifies land that is not absolutely constrained from development, but which may still be undesirable or unsuitable for new development because of other potential environmental constraints. The areas with potential constraints are shown on Development Suitability Map.

The areas that are potentially constrained from development include:

- Areas with a slope of 15 to 25%. The information on slopes has been derived from contour line data produced by the U.S. Geological Survey (USGS). Building on slopes of 15 to 25% can result in adverse environmental impacts, including erosion.
- Aquifers. The locations of these underground resources have been identified by MassGIS and the Massachusetts Department of Environmental Protection (DEP). The potential yield of the aquifers was determined using surficial geological data provided by MassGIS and maps produced by the United States Geological Survey (USGS). Aquifers provide the source for drinking water supplies such as community wells. Underground aquifer levels are maintained by groundwater flow from aquifer recharge areas. Protecting groundwater and aquifer recharge areas from degradation is important to maintaining the quality of drinking water supplies.
- Interim Wellhead Protection Areas and Zone II Areas. Data on the Interim Wellhead Protection Areas and Zone II Areas come from the DEP. These areas surround public water supplies. A wellhead protection area includes the sections of an aquifer from which a well would be expected to draw during an extended dry period (up to 6 months) without precipitation. As a result, land uses within wellhead protection areas can have an impact on drinking water quality. The location and extent of Zone II Wellhead Protection Areas have been verified through DEP hydro-geologic modeling and officially approved. In the absence of hydro-geologic modeling studies, an Interim Wellhead Protection Area may be established by the DEP. The radius of an Interim Wellhead Protection Area will vary from 400 feet to half a mile, depending on a well's known pumping rate or DEP default values if the pumping rate is unknown. There are no Zone II areas within the Town of Wendell.
- Estimated Habitats of Rare Wildlife in wetland resource areas, Priority Habitats of Rare Species, and Core Habitats for Rare Species and Natural Communities. The locations of these resources have been identified by the Massachusetts Natural Heritage and Endangered Species Program (NHESP), as the primary and most-important habitat areas for the State's rare and endangered species. Development in the Estimated Habitats of Rare wetlands Wildlife is regulated under the State Wetlands Protection Act. The other rare and endangered species documented by the NHESP are protected under the Massachusetts Endangered Species Act.
- Areas with Prime Farmland Soils. The areas with prime farmland soils have been identified using the 1979 U.S. Department of Agriculture, Soil Conservation Service map, "Important Farmlands in Franklin County." Prime farmland soils have the best combination of physical and chemical characteristics for crop production, and protecting areas with prime farmland soils for agricultural purposes can help farming activities remain viable within the community.

## **Step 5: Identify Potentially Most Suitable Areas for Future Development**

This step develops specific criteria for determining the potentially most suitable locations for different types of development, including new homes and new businesses.

The process to identify the most suitable locations for new development starts with the potentially developable land areas resulting from Step 3 above. The potentially developable areas are then considered in terms of the potential constraints discussed in Step 4, and in terms of other factors such as current infrastructure and zoning. This step also considered the results of the Open Space and Recreation Plan, especially the Action Plan Map. The Action Plan Map indicates Wendell's permanently protected and temporarily protected (through Chapter 61, 61A, or 61B) open space areas, potential greenway spaces, and priority areas for protection for development.

The areas in Wendell that the Community Development Plan Committee considered the potentially most suitable for future development met all of the following criteria:

- They do not have any absolute constraints (slopes over 25%, wetlands, permanently open space protection, etc.) that would prevent development.
- They have slopes of 15% or less.
- They are located along a paved roadway.
- They are located near current civic and public activity centers.
- They are not in areas with sensitive environmental habitats, as documented by the Massachusetts Natural Heritage Endangered Species Program.
- They were not designated as potential greenways or priority areas for protection in the Wendell Open Space and Recreation Plan.

Based on these criteria, the Community Development Plan Committee has identified two areas in town that it feels could potentially be the most suitable for future development. These areas are marked on the Development Suitability Map with a pink asterisk; they include Wendell Depot and Wendell Center (town offices/town common). The committee feels that since these two areas already serve as focal points for activity and businesses in Wendell, they could be the most suitable parts of town for future growth. These areas could also possibly be appropriate for designations as traditional neighborhood districts which allow a mix of land uses and a slightly higher density of development than is permitted elsewhere in town.

Currently, all of Wendell is zoned as Rural Residential and Agricultural. This zoning district requires three-acre minimum lot sizes for single-family homes and duplexes, and four-acre minimum lot sizes for three-unit dwellings and for lots with both a primary and a secondary dwelling.

Wendell is a rural community with many unpaved roads, no public sewer infrastructure, and no public water lines. It may be challenging for Wendell to accommodate higher densities without more extensive infrastructure and septic/sewer infrastructure (either public sewer or shared septic systems.)

The Town of Wendell recently received State funding to complete a study of potential future options for sewer and septic services. While the exact scope of the study is currently still being determined, the study is expected to examine the possibility for a small shared system to be installed in the vicinity of the town common to serve public buildings and some private residences. The study will likely also consider the potential for a shared septic system to be connected with the Lake Grove School, and the feasibility of connecting sections of Wendell to the Town of Erving's sewer system. This study will assist Wendell is assessing whether some areas of town, such as Wendell Depot and Wendell Center, could successfully accommodate higher densities. The Town will also need to further investigate soil conditions and septic system constraints to ensure that any higher density development will not threaten the quality of Wendell's aquifer recharge areas.

Regarding soil mapping, there is currently limited soil data available, and none of it is available in a digital format. However, the Greenfield office of the Soil Survey Division of the United States Department of Agriculture's Natural Resource Conservation Service is currently working to update its soil maps for Franklin County. Approximately 75% of the fieldwork for the project has been completed, and the information should be available in digital, GIS-compatible format in early 2005. The new maps will have four times the detail of the previous (1967) soil maps. When this new soil information becomes available, it could a useful resource for the Town of Wendell as the Town investigates and considers the possibility of allowing slightly higher density development in some areas of Wendell.

## **Recommendations**

---

- Assist with the study of potential future public water and sewer options for Wendell.
- Further investigate whether the Wendell Depot or Wendell Center areas could be appropriate for slightly higher development densities. Also further consider whether one or both of these areas could be suitable for traditional neighborhood districts allowing a mix of developed land uses. As appropriate, consider revisions to Wendell's zoning to support these changes.
- Revisit the Action Plan Map created for the Open Space and Recreation Plan and consider whether any changes should be made to the identified priority areas for future open space protection.
- When it becomes available, use the updated soil data from the USDA's Greenfield Soil Survey office to inform Town planning and zoning discussions and initiatives.