



Open Space Residential Development

Four Case Studies



A COMPONENT OF THE CONSERVATION SUBDIVISION DESIGN PROJECT
CONDUCTED BY THE METROPOLITAN AREA PLANNING COUNCIL

FUNDED BY THE EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS

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INTRODUCTION

Though there have been volumes of text written about *cluster* subdivision, and slightly more than half of the 351 communities in Massachusetts have some type of cluster provision in their zoning bylaws, this method of development has been largely underutilized and has come to evoke negative reactions from many residents. This does not have to be the fate of the cluster principle.

The continued subdivision of land affects how our built environment is defined and perceived. Historically, conventional approaches to subdivision development have ultimately produced little more than house lots and streets—a seamless blanket of wall-to-wall subdivisions with no open space. After several decades of this sprawling pattern of development, communities have begun to experience its ecological and economic consequences. Ironically, visionary conservationists and planners had foresight and drafted the first “cluster zoning” provisions nearly 30 years ago. However, although these provisions promoted improved residentially designed development, rarely were they realized. Communities continue to receive conventional “cookie-cutter” layouts or cluster developments that fall short of their promise.

As a response to the negative perception (and often failure) of cluster subdivision, the Metropolitan Area Planning Council (MAPC), funded by the Executive Office of Environmental Affairs, undertook this project to promote and enable the use of Conservation Subdivision Design (CSD), arguably the best reform made to traditional clus-

ter-type zoning to date. By serving as an educational tool particularly for Town planners, planning boards, and developers this project is intended to elevate the use of this alternative land development technique to one that is commonly accepted and utilized.¹

The three main components of the Conservation Subdivision Design Project are: 1) a detailed planning discussion/commentary of the basic elements for consideration within a cluster-type open space subdivision bylaw; 2) a Model Open Space Residential Design/CSD Bylaw² and Model Subdivision Regulations, and; 3) this Casebook of four existing open space/cluster subdivisions in Massachusetts. The first two components are included in a booklet that is available from MAPC.³ This Casebook is the third component.

PURPOSE

The primary purpose of this Casebook is to show, by example, attractive and profitable residential subdivision developments that also achieved the preservation of resources of several Massachusetts’ communities. This casebook presents local officials, developers, landowners, homebuyers, activists, and others with positive examples of cluster-type subdivision and the benefits of land development practices that consider environmental, cultural, and fiscal resources as equally important priorities.

Several myths and misperceptions about open space/cluster development in Massachusetts were brought to MAPC’s attention during the course of this project. These myths include:

- **Myth #1:** Cluster/open space developments are not profitable for the developer.
- **Myth #2:** Cluster/open space developments are undesirable places to live and the homes cannot and will not sell for as much as homes in conventional subdivisions.
- **Myth #3:** The land left undeveloped as open space is not valuable land, rather it is nothing more than the left over, undevelopable land.
- **Myth #4:** The special permit requirement is an obstacle to the creation of cluster/open space subdivisions in Massachusetts and no developer will choose to build such a subdivision.

As a secondary purpose, it was our hope that this Casebook would dispel these general myths and misperceptions that pervade regarding cluster/open space developments.

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- 1 Randall Arendt is the author of this development technique and has written extensively about it. For sources of information refer to the List of References at the back of this document.
 - 2 MAPC has been working collaboratively with the Green Neighborhoods Alliance on the creation of the model bylaw. Green Neighborhoods Alliance is a group representing diverse land-use interests who have come together to promote CSD and to work for the preservation and protection of the North Shore region of Massachusetts. Contact Mass Audubon Society, North Shore Conservation Advocacy, for more information at (978) 927-1122.
 - 3 Copies of *The Conservation Subdivision Design Project* are available from the Metropolitan Area Planning Council at (617) 451-2770, 60 Temple Place, 6th Floor, Boston, MA 02111.

THE CASES

Four examples are presented in this Casebook. Each utilizes photographs, site plans, and tables of statistics to present the built environment of each development. The development process, as guided by the special permit, is also discussed. Parties involved in these developments were asked specifically for an explanation of the real and perceived obstacles posed by the special permit requirement for cluster subdivisions in Massachusetts. As these cases explain, the special permit requirement did not stand out as an obstacle or hindrance to the development process.

Appendix A presents the Subdivision Information Form created and utilized during the selection and information gathering stages of this project. Based upon this questionnaire, several categories of information emerged and are discussed where information was available, including financing and developer profit, home value and appreciation, open space, and the special permit and development process. Additionally, there is a discussion of unique aspects, such as affordable housing in Amherst and wastewater in Acton.

The reader must keep in mind that while the cases presented here are indeed well-designed open space/cluster subdivisions, none of them explicitly utilized the Four-Step design process characteristic of Conservation Subdivision Design by Randall Arendt. However, each of the cases selected were truly representative of the cluster/open-space design model, where house lots are reduced from the requirements in the underlying

zoning district, but without any significant increase or decrease in the overall housing density of the project.

This casebook simply presents four good examples of existing alternatives to conventional “cookie cutter” subdivision design in Massachusetts. MAPC does not claim that these four are the best open space or cluster subdivision examples in the state, only that they are noteworthy and present well as case studies. In other words, they each have a lesson to teach us.

Assabet Estates

Westborough, Massachusetts Open Space Community

SUMMARY

This development achieved the following:

- preserved 74% of the parcel as open space; the majority as contiguous open space adjacent to the Assabet River and the SuAsCo Reservoir
- reduced the lot sizes from 50,000 to 15,000 square feet
- eliminated lots abutting the Assabet riverfront area
- preserved an old stone “cow chase”
- maximized view sheds from several parcels
- reduced roadway from 2,453 feet (conventional plan) to 1,679 feet (open space plan)
- the landowners who sold their farmland for this development retained two parcels on the northeastern edge; one was the existing farmhouse and barn which remain occupied



An old stone cow chase, historically used by farmers to lead cattle to water, was preserved in this open space community design and remains a prominent aesthetic feature.

SUBDIVISION PROFILE

Original Concept Plan Engineer: Frances Zarette, P.E., Land Design, Inc., Shrewsbury, MA

Developer: Jon Delli Priscoli, Brigham Development Company, Marlborough, MA

Total Parcel	Lots/Units allowed by Conventional Plan	Lots/Units allowed by Cluster Plan	Lots/Units built under Cluster Plan	Protected Open Space
32.6 acres	18 single family lots (50,000 sq. ft. each)	18 single family lots (8,000 sq. ft. min.; 15,000 sq. ft. max.)	18 single family lots (15,000 sq. ft. each)	24 acres (74%)

Zoning: This parcel lies in the Residential Zoning District and was developed as an Open Space Community (OSC). Under Westborough's Zoning Bylaw, Section 4300, any applicant with a proposal for the subdivision of land into a development with the potential to create more than six residential house lots on a property or set of contiguous properties in common ownership must prepare and file an OSC Concept Plan. The application procedure is as follows:

- 1) Applicants submit Concept Plans for both an OSC and conventional design. At the first of two public hearings, the Planning Board will review and shall decide which plan the developer will build. If they are to build an OSC, the Board will grant the developer a Special Permit with conditions.
- 2) Applicants then proceed under Subdivision Rules & Regulations where they will submit Preliminary and Definitive Subdivision Plans. A public hearing will be held at which the Definitive Plan will either be granted or denied.

Yield: Based on conventional yield—the total number of lots shall not exceed the number of lots which could reasonably be expected to be developed under a conventional plan in full conformance with zoning, subdivision regulations, and health codes. The formula yielded 21 lots, however the maximum number of buildable lots was 18.

Conservation tools: Open space will ultimately be owned and managed by a Homeowners Association. As a condition of Definitive Plan approval the open space had to be placed under a Conser-

vation Restriction granted to the Town and approved by the state Executive Office of Environmental Affairs.

Incentives: There are many in Westborough including:

- OSC carries less rigorous requirements for roadways and lot sizes, which translate into reduced infrastructure. In other words, this developer was required to do less construction but could still build the same number of lots with the same size houses as those allowed in a conventional subdivision.
- Because the Special Permit is granted at the Concept Plan phase, developers are assured that they will be able to build an OSC before they invest significant time and money in hard engineering costs. This up-front permit process removes much of the uncertainty feared by many developers in other Special Permit processes.
- Because the Planning Board decides when an OSC will be built, incentives to entice a developer to choose OSC are not necessary. In this case, this developer found that because the Board favored this type of development it did work cooperatively with him throughout the process.

AFFECTS ON THE DEVELOPERS' PROFIT

According to Zarette, in Westborough and similarly priced communities, where the land values are high the cost to lay infrastructure becomes

insignificant primarily because prices charged for the lot and house can be high enough to cover any infrastructure costs. Faced with this scenario, reduced infrastructure costs alone would not have been enough of an incentive for him to build a cluster (if profit was indeed the only motivation). The decision itself was not an issue however, as the OSC design was chosen by the Planning Board.

Developer Jon Delli Priscoli, who completed Zarette's design and was responsible for the permitting and building of this OSC, commented that the price of land is what really drives this and all development. Because this land was so expensive, every little bit of saving in infrastructure was certainly a help to his profit margin. Infrastructure savings did result from reduced road length and width, and reduced requirements for two-side sidewalks and street lighting. Because all lots are served by town water and sewer and the roadway to service the homes was shorter there were also savings in the associated shorter distances to run these pipes.

HOME VALUE AND APPRECIATION

According to the Westborough Assessors office lots in an OSC (at 15,000 sq. ft.) are assessed marginally the same as conventional size lots (at 50,000 sq. ft). The assessors believe this to be reasonable because the market does bear the smaller lots—the fact in Westborough is that people pay the same amount of money for a similarly sized home on a 15,000 as they would on a 50,000 sq. ft. lot. Simply put, one lot equals one

Square footage	Bought in 1996 (nearest 1,000) for:	Sold in 1998 (nearest 1,000) for:
2,954	\$289,000	\$378,000
2,938	\$289,000	\$365,000
2,745	\$250,000	\$366,000
3,397	\$255,000	\$359,000

lot, regardless of its size. The bottom line is that each is only one buildable lot on which the same one house could be built, and reduced lot sizes in an OSC do not significantly diminish the assessed value of the property.

While a 15,000 square foot lot (land only) is assessed at approximately \$121,000 a comparable conventional subdivision lot will be assessed at approximately \$126,000. There is an added value of 25% for lots with a water view, however the value of open space proximity is not something that the assessors factor into their valuation. According to Assistant Assessor Joseph Wisboro, open space value is hard to quantify, however, he believes that it is most likely a factor in the decision of the homebuyer.

The median square footage of Assabet Estates' houses is around 3,200. Four of the eighteen homes were originally purchased in 1996 and then resold in 1998—all reaped reasonable resale values (see table above).

OPEN SPACE

Seventy-four percent (74%), or 24 acres, of this parcel is preserved in perpetuity as open space with the potential for passive recreation use only.

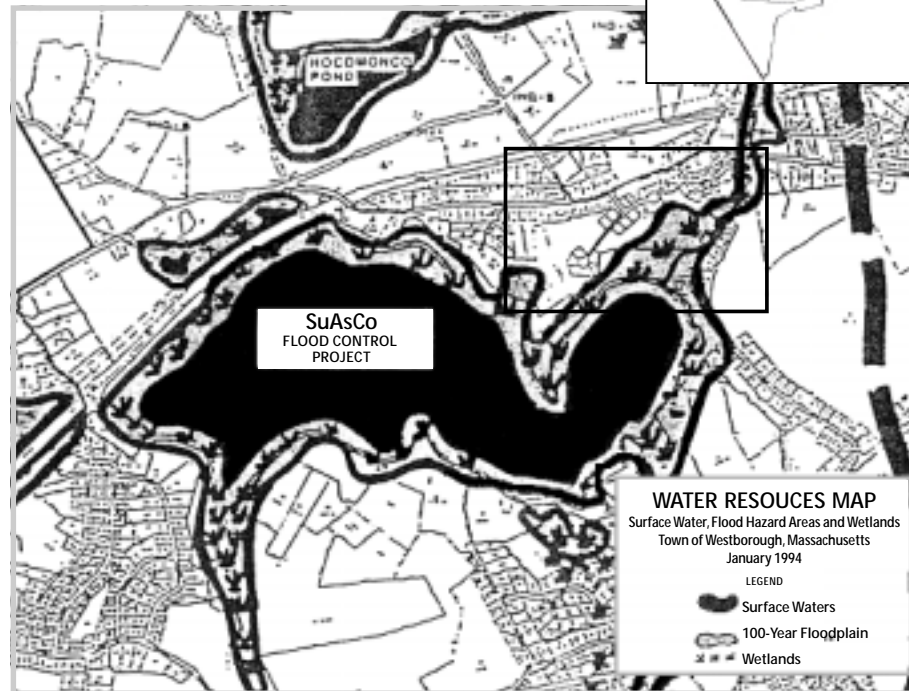
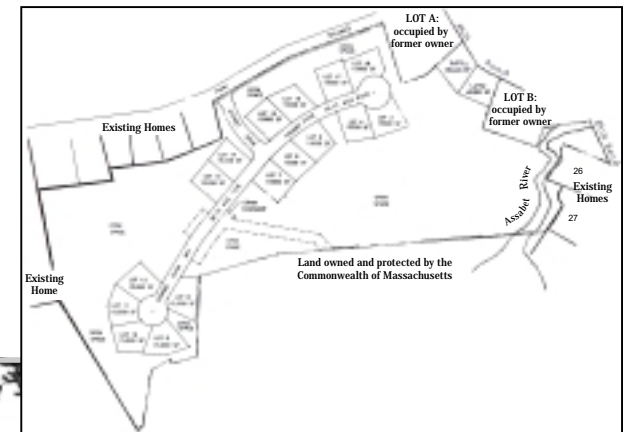
Both the Special Permit decision and Definitive Subdivision approval specified that a Conservation Restriction shall be placed on the open space and granted to the town prior to the release of lots for building purposes. A Homeowners Association was formed to ultimately care for and maintain the open space. To date, it

is still owned by the developer with plans to release the land when the Town accepts the roadways. According to the town, there is still roadwork that must be done prior to acceptance.

All of the open space lies adjacent or connects to the SuAsCo Flood Control Project, a lake known locally as Mill Pond (the headwaters of the Assabet River). The Assabet flows north from

Mill Pond and along the eastern border of this parcel. Historically, the land adjacent to the Assabet Estates parcel was wetland. Ultimately, the River was dammed in the name of flood control and many historical parcels now lie under water.

The Planning Board's review of the OSC Concept Plan stated that the "six houses on the end of the



The Water Resources Map shows the location of this subdivision in relation to surrounding wetlands and waterbodies (parcel further detailed above). All of the houses in this OSC were sited outside of the river and ponds' 100-year flood plain. The assessors parcel map shows a closer look at the layout of the house lots within the parcel boundaries.



The open space has been left in its natural state, much of it as wild meadowland. Here the meadow abuts the road that separates the two cul-de-sacs and is home to a resident fox.



When entering Assabet Estates the dominant view is of the edge of the preserved meadow and the Mill Pond (SuAsCo Flood Control Project) beyond, not of the houses.

short cul-de-sac are set smack in the middle of the open field, in effect breaking up the continuity of the field and altering one of the property's prime open space attributes." As a response to this the developer drew the houses away from the center of the field and also moved two lots out of the open space to become as-of-right lots on the edge of the property. The result is not only visual retention, but actual integrity of the original field. The developer stated that it was his wish to leave the field "raw" and intact while still accommodating the allowed development potential of the parcel.

DEVELOPMENT PROCESS

Prior to development this parcel was a farm. The farmers who sold the land to become Assabet

Estates remain today in the original farmhouse and barn. The developed land consisted of what was historically a hay field, meadows, and a forested area containing wetlands.

The farmers hired Frances Zarette, who designed the original Concept Plan and took care to preserve and respect the character of the parcel. It was not possible to preserve the entire field and meadow area from development because the forested area contained too much wetland. Zarette's process for creating this concept plan consisted of several steps. First, walking the land and creating an inventory of existing conditions. Second, locating pockets of land where houses would best fit. Finally, laying the roads to serve the "pockets of houses." Without his knowing it, Zarette's steps are similar to those of the four-step conservation subdivision design process coined by

Randall Arendt (See List of References).

Working off of Zarette's original design, Jon Delli Priscoli took over as project developer in the early stages and saw the project through the entire approval and permitting process. He completed all infrastructure and built 50% of the allowed homes, then sold the remaining finished lots to another builder.

APPROVAL TIME FRAME

- **January 1993:** Concept Plan submitted consisting of the Conventional and Open Space Community designs
- **March 1993:** Public Hearing initially held on Assabet Concept Plan (continued twice)
- **May 1993:** Special Permit for Assabet Es-

tates Open Space Community granted with conditions

- **October 1993:** Application for Preliminary Subdivision Plan received by Town
- **January 1994:** Submission of Definitive Subdivision Plan by developer



This OSC included two as-of-right lots on an existing public way. From the rear of one of these lots there is a clear view across the meadow to Mill Pond.

- **March 1994:** Public Hearing held (continued until later the same month) and Planning Board approved the Definitive Subdivision Plan with conditions

SPECIAL PERMIT

It is mandatory in Westborough to file a Concept Plan upon which the Planning Board will decide whether a development will be built according to the conventional or open space design plan. In this case, the Board determined that Assabet Estates would be an Open Space Community and so granted a Special Permit. Approval language indicated that “the development of this property as an OSC would be more beneficial to the Town than would likely be the case under conventional subdivision.” According to the Board, the conventional plan “layout unne-



The view from the open space at the edge of Mill Pond looking toward the houses clustered on Edward Dunn Way (those located closest to the water’s edge) does not reveal the houses themselves, rather the edge of the pre-existing forest.

essarily impact[ed] wetland resources, particularly in light of the fact that there [were] other options available for lot design and routing roads more effectively.”

The Special Permit was granted with several conditions, including:

- lot density, street layout, sewer, water, drainage, and other design details to all be deter-

SUBDIVISION AND BYLAW WAIVERS

Requirement:	Waiver granted:
Sidewalks installed on both sides of proposed roadways	installation of sidewalks on only one side of proposed roadway
Road width – 26 feet	24 feet allowed
Street lights at intersections, curves, and cul-de-sacs	installation of a street light only at the intersection of Fisher Street and Assabet Drive; a light base and hook-up provided in the west cul-de-sac



Roads are 24' wide; granite curbing was unnecessary and therefore not required. Several stone walls were preserved by this design. At the time this report was written, the developers' obligations to the roadways were not yet completed.

mined during the forthcoming Preliminary and Definitive Plan approvals;

- the open space parcel shall be placed under a Conservation Restriction.

After receiving a Special Permit Delli Priscoli then proceeded with the Preliminary and Definitive Subdivision Approval processes. The process took approximately six months from October 1993 to March 1994—not an unreasonable amount of time according to this developer. He also characterized Westborough as neither easy nor unreasonable to deal with, rather in his opinion the development process was “reasonable.”

LESSONS LEARNED/FURTHER CONSIDERATIONS

Consider a cluster-type bylaw, such as Westboroughs' OSC, that allows the same yield as it

would on the parcel developed under a conventional by-law (in other words, it precludes a density bonus). An important question becomes how alternative versus conventional development affects a developers' profit. There are a few scenarios under which a developer can achieve equivalent profit for either design:

1. the houses in the OSC must be comparable in selling price to those in a conventional development;
2. if houses in the OSC command a lower price tag than they would if in conventional style development, then infrastructure reductions (and other cost savings) in the OSC must result in enough savings to cover that loss; or,
3. some combination of lower priced houses in the OSC with infrastructure savings can yield an equivalent profit.

It stands to reason that if, for example, homes in an OSC sell for the same amount as in a conventional and the developer saved money from infrastructure reductions, that the OSC will actually yield higher profits than could a conventional development. In this case study large, expensive homes were built on smaller, clustered lots and the developer saved money due to reduced infrastructure requirements. It was likely that this OSC was actually more profitable than a conventional development could have been. (The price

paid for the land was a constant—the land was purchased prior to the decision of the Planning Board to chose either an OSC or conventional development plan.)

Evidence of developer cost savings can be found in a study that compared conventional subdivision with well-planned, cluster-type projects. In a study for the National Association of Homebuilders, Sanford Goodkin compared costs associated with site development (clearing, grading, paving, drainage, landscaping, etc.) for a conventional plan and a cluster plan and concluded that the cluster approach saved the developer money, costing 34% less (See List of References).

Cluster developments are often categorically criticized as resulting in lower-valued homes that will not yield a reasonable return of investment. Assabet Estates dispels this myth. Its homes have a comparable, if not higher, assessed value and sales price than similar homes in Westborough. In 1990, Jeff Lacy examined market appreciation rates in Amherst and Concord, Massachusetts, for conventional housing development versus clustered housing with permanently protected open space and showed that the latter resulted in a higher rate of return on investment (See List of References).

Bellows Farm

Acton, Massachusetts

Open Space and Landscape Preservation Development

SUMMARY

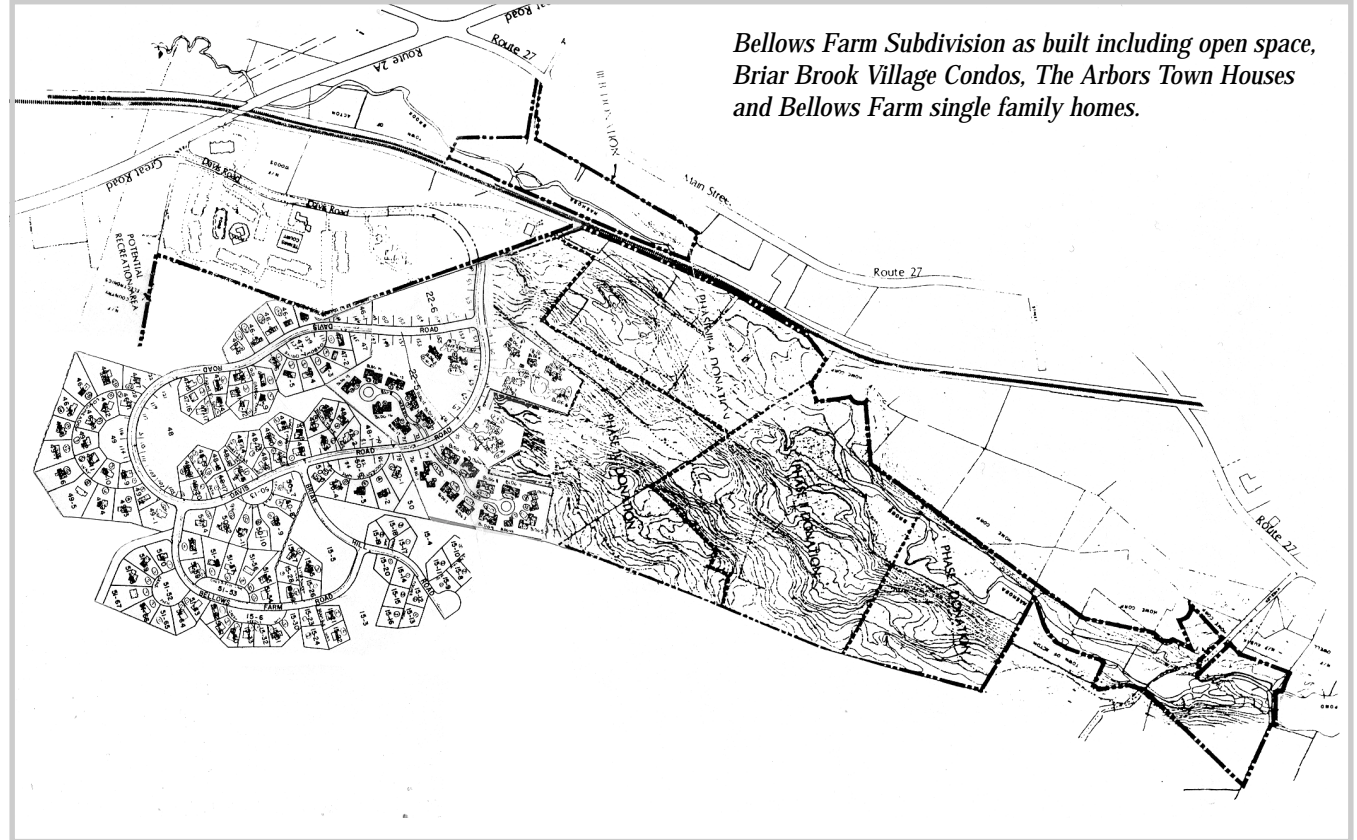
This development achieved the following:

- use of a central private waste water treatment plant
- incorporation of Exclusive Use Areas
- created affordable housing (four single-family homes)
- provided a variety of house lots sized from approximately ¼ to one acre
- added open space with trail connections to existing open space

SUBDIVISION PROFILE

Developer: Ronald Peabody, Northwest Development, Acton Massachusetts

Zoning: The Bellows Farm subdivision was approved as a Planned Conservation Residential Community (PCRC). Based upon final approvals (see Development Process), Phases I, II and III are located within the PCRC zoning district and in Zone 3 & 4 of the Groundwater Protection Overlay District. Phase IV, as revised, is located partially within the PCRC zoning district and within the



Bellows Farm Subdivision as built including open space, Briar Brook Village Condos, The Arbors Town Houses and Bellows Farm single family homes.

Total Parcel	Lots/Units allowed by Conventional Plan	Lots/Units allowed by Cluster Plan	Lots/Units built under Cluster Plan	Protected Open Space
235 acres	235 units	177 attached 2 bedroom Town Homes /354 total bedrooms	117 3-4 bedroom homes /351 total bedrooms	Minimum of 60% of total parcel required <i>Minimum = 141.51</i> <i>Provided = 154.07</i>

R-10/8 residential zoning district. The portion within the R-10/8 district is also located in Sub-district A of the Affordable Housing Overlay District.

Yield: According to the 1982 PCRC bylaw, the maximum number of dwelling units permitted shall be the number obtained by dividing the total area of the tract including the open space by one acre.

Conservation tools: Approximately 154 acres were preserved as open space of which 130 were conveyed to the Town of Acton in the care of the Conservation Commission as open space. Approximately 24 acres are owned and managed by the Home Owners Association.

FINANCING

Bellows Farm is one cluster type development in a portfolio among others. Although the ability to obtain financing is not problematic due to Northwest Development's track record, Mr. Peabody stated that it was achieved with a significant time investment. Many of the concepts regarding cluster type developments such as reduced lot sizes, shared amenities and legal entities and structures are unique and due to their unconventional nature generally do not receive the same level of attention as conventional subdivision development. Mr. Peabody continued by stating that the real estate industry as a whole, including brokers, lenders and developers are generally not knowledgeable about the basic concepts of cluster type development; and therefore it is often perceived as risky.

AFFORDABLE UNITS

During the Phase II, III and IV Special permit and Definitive Subdivision Approval Process, the proponent proposed a voluntary affordable housing contribution consisting a four dwelling units with a maximum sales price of \$94,500 and one dwelling unit with a maximum sales price of \$120,000. These units were proposed to be smaller (1,500 to 1,800 sq. ft. and 2-3 bedrooms) than the market rate units (1,900 to 2,300 sq. ft. and 3 bedrooms). Ultimately, the developer purchased five existing homes for rehabilitation and constructed one new home. These units were provided off site according to the Local Initiative Program (LIP) guidelines.

HOME VALUE AND APPRECIATION

The Arbors, the Phase I town house component was built in 1988 and 1996. Based upon assessor databases units along Blue Heron Way and Winding Wood Lane, built between 1995-1996, had sale prices ranging from 232,000 to 388,153 between 1996-1997. The lowest sale price of 232,000 was Blue Heron Way #14. The two highest sale prices were #10 and #12 Blue Heron Way. Based upon similar locations at the end of a cul-de-sac and being corner or end units, the only

reasonable explanation for the significant sale price difference may be related to the total square footage of Effective Floor Area (EFA), which is defined as all space, both finished and unfinished. #14 had 2,089 EFA while # 12 had 2,685 and # 10 had 3084.

The second and third lowest sale prices were located at #1 and #10 Winding Wood Lane. #1 had an EFA of 2,625 and #10 2,559, both of which comparable to higher priced units. An explanation for the price difference may be related to the specific location and lot size.

Within Bellows Farm Phase II, the single family homes were built in 1998. Along Longmeadow Way, sale prices ranged from 393,257 to 499,162. The lowest sale price of 393,257 was #22 with 2,906 sq. ft of living area, the first lot and located along the main interior road. The two highest were #7 at 471,335 with 2,937 sq. ft. of living space and #10 with 2,778 sq. ft. of living space. Again, it seems as though sale



Townhouses along Blue Heron Way.



Single family homes along Longmeadow Way.

price is somewhat influenced by location. However, it is interesting to point out that the specific size of a lot may not be as much of a determining factor. For example, unit #10, having the highest sale price of 499,162 is located on a 30,666 sq .ft. lot while #8 with a sale price of 452,380, 2,778 sq. ft. of living area is located on a 40,946 sq. ft. lot.

Mr. Peabody noted that cluster type developments are frequently appraised for less than conventional subdivision development, however this is often due to a comparison with condominium type development rather than single ownership. In the case of Bellows Farm, particularly it's incorporation of Exclusive Use Areas (EUA see below), Northwest Development felt as though this comparison was not appropriate and resulted in a diminished appraisal and ultimately a diminished value. Therefore, with the understanding that a comparison did not exist, Northwest Development proposed that the units be appraised and

the value determined by comparison to units within the development. Northwest Development and the Assessor's office worked cooperatively to implement this work plan.

OPEN SPACE

The northern and northeastern boundary of the parcel lies adjacent to the Town of Acton's Nashoba Brook Conservation Area. According to the original Subdivision Master Plan approval in 1986, approximately 119 acres comprising the northern most portion of the parcel

was conveyed to the Town of Acton in 1987 as Conservation /Open Space Donation. In addition, the original approval placed a condition that an access easement shall be provided from Davis Road to the conservation property.

According to the Phase II, III and IV revised approval in 1995, The Conservation / Open Space Donation did not alone comprise the minimum open space area of 60%

as required in the Bylaw. Therefore, the record stated that Planning Board assumed that documentation was presented during the 1986 permit process, showing additional open space within the construction Phases II, III and IV to meet the 60% requirement. During the approval of the revised Phase IV, a condition requiring a second point of access to the Town conservation land and a 4 car gravel parking lot at the end of Briar Hill Road was included.

Although the 1982 PCRC bylaw did not regulate the quality of the common open space as it relates the % of wetlands, this issue was reevaluated as part of the Phase IV revised permit process in which the revised PCRC bylaw of 1997 contained a new provision stating "the minimum



The central community open space area consists of a club house, in-ground pool (on right), tennis courts (on left) and an open field as seen in the foreground.

required area of the Common land shall not contain a greater percentage of wetlands than the percentage of wetlands found in the overall tract of land on which the PCRC is located". Based upon this provision, it was calculated that the overall tract contained 31 acres of wetlands or 14.25%. Therefore, of the minimum 141 acres provided as common open space, 123.27 acres was upland resulting in a total of 17 acres or 12% classified as wetlands. The remaining 17 acres of wetlands was incorporated into the open space along with an additional voluntary increase of 13 acres within the residential development.

According to the Master Deed governing Bellows Farm, that open space shall be used for a combination of the following: passive recreation, drainage and utility easements, conservation purposes, storm water drainage and active recreation including a pool, tennis courts, sports complex and ancillary parking.

TREATMENT PLANT

The entire Bellows Farm development, both the Arbors town houses and Bellows Farm single family lots, in addition to the adjacent Briar Brook apartment complex all share one common waste water treatment plant. Massachusetts law requires that there be only one owner of a common treatment plant, however there were actually three distinct condominium associations involved. The Arbors, Bellows Farm and Briar Brook condo associations created a joint association, Farm Brook Trust which would, in name, be the owner of their common wastewater treatment plant.

The plant was originally constructed in the late 1970s to serve the Briar Brook apartments only; they generated over 10,000 gallons per day (gpd) of sub-surface discharge therefore requiring treatment according to 314 C.M.R. 5, (the Massachusetts Discharge Permit Program). Because the soils were not conducive for on-site septic systems, the developer of Bellows Farm proposed to connect to the Briar Brook treatment plant. The Arbors development was connected, and the capacity of the treatment plant was increased to 60,000 gpd. Recently the capacity was increased again to 120,000 gpd to serve the remainder of the single family homes.

The permit process involved both the local Board of Health and the Massachusetts Department of Environmental Protection. According to Doug Halley, Health Inspector, the treatment plant is maintained and operated by a private engineering firm. The operator is required to submit monthly reports to both the local Board of Health and the Department of Environmental Protection. The report includes water quality testing of the discharge and groundwater monitoring samples. The Town of Acton established an enterprise fund in which fees are charged for treatment plants that are then used for town personal for oversight of the individual plants rather than using local tax revenues.

EXCLUSIVE USE AREAS

Although all the units within Bellows Farm are served by a central sewer treatment plant and are part of a condominium, each dwelling unit is provided with an Exclusive Use Area (EUA). As defined in the Master Deed, a EUA has the same meaning as the word "lot." It is further defined as the exclusive right and easement for the use of so much of the condominium land being shown as a separate lot or parcel of land bearing the same number identical to the Unit. Each dwelling has the responsibility for the upkeep and maintenance of all entrances, patios, decks, walks, stairs, driveways, parking areas, lawns, plantings, shrubs, recreational facilities, conduits, ducts, pipes, wires, meter area and other installations and facilities of every kind being situated on the unit's lot including the roof. Mr. Peabody indi-



An example of an EUA including private recreational amenities and landscaping, being utilized by the condo owner in the same manner as a privately owned backyard.

cated that a major advantage of EUA's is that it eliminates liability for the condominium association of individual septic systems.

Mr. Peabody also stated that the incorporation of EUA's has been a helpful marketing tool. Marketing materials reference the EUA's as a means of enjoying the privacy of an individual lot with all of the benefits associated with community amenities.

DEVELOPMENT PROCESS

The development process for Bellows Farm consisted of two different developers. Keystone Associates, Inc., the original proponent, went bankrupt. Northwest Development purchased the property and submitted revised plans.

Approval Time Frame

- **May 1982:** Town Meeting approved rezoning of 237 acres as an R-4 District authorizing the Planning Board to hear an application for a Special Permit pursuant to "Planned Conservation Residential Community" bylaw.
- **July 1986:** Keystone Associates Inc. submitted Special Permit application and Definitive Subdivision Plan for the creation of Phase I and approval of a Master Plan for a 4 phase residential development.
- **December 1986:** Special Permit and Definitive Subdivision approval granted for Phase I consisting of 60 Town Houses with a maximum of 150 bedrooms and 177 Town Houses with a maximum of 354 bedrooms for the remaining Phases II, III, and IV.

- **May 1995:** Northwest Development submits revised Special permit application and Definitive Subdivision Plan for Phases II, III and IV.
- **May 1995:** Planning Board opens public hearings.
- **July 1995:** Planning Board closes public hearings.
- **August 1995:** Special Permit and Definitive Subdivision approval granted for revised Phase II, III and IV consisting of 117 single family units with a maximum of 351 bedrooms.
- **April 1997:** Northwest Development submits revised Special Permit application and Definitive Subdivision Plan for Phase IV.

- **July 1997:** Planning Board opens public hearing.
- **September 1997:** Planning Board closes public hearing.
- **October 1997:** Special permit and Definitive Subdivision approval granted for revised Phase IV consisting of a land swap of 24 acres between the Proponent and an adjacent property owner.

SPECIAL PERMIT

Although Northwest Development only gained approval for a revised Phase II,III and IV of Bellows Farm, Mr. Peabody did submit several general observations regarding the review and ap

SUBDIVISION AND BYLAW WAIVERS	
Requirement:	Waiver granted:
PHASE I: <ul style="list-style-type: none"> ■ Maximum 500' cul-de-sac ■ Two access points be provided for every 60 units ■ Standard paved width of 26' ■ Display all existing vegetation to be preserved and limits of disturbance. 	<ul style="list-style-type: none"> ■ 3,100' long Bellows Farm Road approved. ■ Allowed a single access at Davis Road, a temporary cul-de-sac. ■ Allowed 24' paved width ■ Waived due to large areas of undisturbed land (donation areas) and selective thinning would be determined in the field.
PHASE II, III AND IV (REVISED): <ul style="list-style-type: none"> ■ 5.3 cfs peak runoff in watershed area ■ sub-drains ■ Maximum 1,500' length for a single access street ■ Maximum of 40 units on a cul-de-sac 	<ul style="list-style-type: none"> ■ Waiver granted to increase peak runoff in watershed area to 7.1 cfs. ■ Waiver to allow for open drainage trenches and swales ■ Longer single access street approved by the PB in 1987 ■ Greater number of units approved by PB in 1987.



Common driveway approximately 12-14 feet in width serving 5 homes.

proval process. Mr. Peabody acknowledged the inherent concerns with the special permit requirement such as vague and cumbersome regulations, discretionary nature and the potential for a lengthy public hearing process. In addition he stated extractions, essentially impact fees, from the developer are common under the special permit process. Furthermore, as the regulations become increasingly more restrictive and many Boards lack the same level of sophistication, Mr. Peabody believes it is essential that the local boards have professional staff for technical advice. With that stated, Mr. Peabody emphasized the need for the developer and the local Boards to enter a give-and-take negotiation in good faith. Infrastructure savings resulted from the waivers granted to the PCRC Bylaw and the Subdivision Regulations as outlined above. Furthermore, as

clarified in the revised Phases II, II and IV approval, the common drives serving the housing clusters off Davis, Bellows Farm and Briar Roads were deemed to be accessory to the single family uses and therefore were exempt from the Subdivision Regulations. The ways serve as private common driveways serving limited number of homes.

LESSONS LEARNED

Based upon experience, Mr. Peabody stated that local regulations have become increasingly more restrictive and cumbersome and extractions or “impact fees” are fairly common practice within the special permit process. Mr. Peabody, however, is quick to point out that although these two factors are significant disincentives compared to the conventional by-right process, developers who have committed to building cluster type developments, whether for personal or business reasons, understand the innate pros and cons of the process.

Mr. Peabody believes that professional developers aware of the pros and cons, who choose voluntarily to enter the special permit process, expect to participate in good faith give-and-take negotiations. Finally, Mr. Peabody strongly believes that local Permit Granting Authorities that have professional staff, such as planners, signifi-

cantly improve the process and the quality of the final product.

This case study identified two unique elements that made Bellows Farm successful. The use of a common wastewater treatment plant can not only result in improved environmental protection, but it allows for increased design flexibility. As seen in this case study, there are certain legal issues that need to be addressed, but they are manageable. In addition, if the Department of Environmental Protection (DEP) oversees the monitoring of systems, it is seen as a means of reducing a local board’s staff time and costs associated with inspecting individual septic systems.

For extensive information on Title 5 (including on-site shared systems and alternatives to Title 5 systems that are approved for use in Massachusetts) please refer to the DEP’s web page at www.state.ma.us/dep/brp/wwm/t5pubs.htm, or contact:

Steven Corr, Environmental Engineer
Innovative Alternative Technologies Program
617.292.5920

This subdivision’s establishment of Exclusive Use Areas is an innovative and unique method for providing individual lots with all of the amenities typically associated with a condominium. The promotion of the EUAs in marketing materials for this subdivision was beneficial to the developer.

Canterbury Farms

Amherst, Massachusetts Cluster Subdivision

SUMMARY

This development achieved the following:

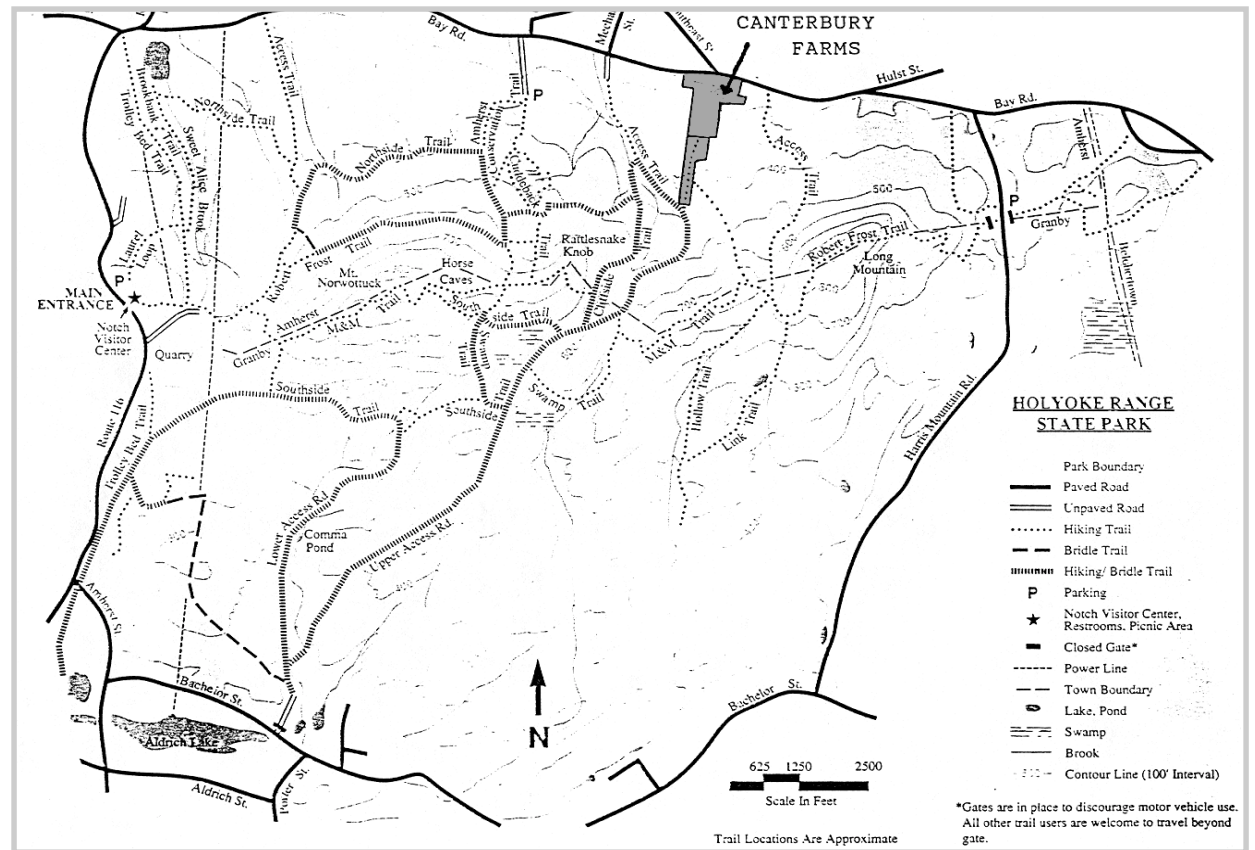
- preserved and restored an old farmhouse
- created affordable housing (4 single-family homes)
- provided a variety of house lots sized from approximately one-half to two acres
- minimized curb-cuts on a heavily traveled secondary road by utilizing common driveways
- maximized view-sheds from several parcels
- provided infiltrating catch basins to protect farmland at the bottom of the hill from unnecessary stormwater runoff
- enabled design creativity through reduced frontage and flag lots
- preserved contiguous open space and created trail connections from the subdivision to an existing network of trails

SUBDIVISION PROFILE

Developer: Ronald J. LaVerdiere, Amherst, Mass.

Zoning: The Canterbury Farms cluster subdivision was developed on 26.1-acre parcel of which approximately 23 acres are located within the Aquifer Recharge Protection overly district and 3.1 acres are within the Watershed Protection

Total Parcel	Protected Open Space	Lots/Units allowed by Conventional Plan	Lots/Units allowed by Cluster Plan	Lots/Units built under Cluster Plan
26.1 acres	9.2 acres (35.2%)	prohibited	13 lots/19 units	15 lots (ranging from 1/2 to 2 acre lots; four affordable)



The developer promoted the Holyoke Range State Park connection in his marketing materials which included this trail map showing the subdivisions' connection and access to the Park.



Reducing frontage enables a design that otherwise may not be possible. Seen above is the parcel with the smallest frontage in Canterbury Farms— it is for the largest lot. This reduction enabled the developer to “fit” another lot without extending the road and subtracting from the open space.



Gravel driveways are characteristic of the surrounding rural area and did not detract from the aesthetics of the development or the affordable housing (single family affordable unit shown here).

overlay district. Because the parcel lies within these Resource Protection Overlay Districts conventional subdivision is prohibited by the Amherst Zoning Bylaw. Residential development of this parcel was only allowed as a cluster design.

Yield: Because it is an affordable cluster, density of the parcel can exceed the allowed density for a standard subdivision. Density was calculated by a formula taking the parcel area, subtracting 10% of that area, and dividing that number by the minimum lot area of the zoning district in which that parcel is located. The developer was granted 13 lots and 19 units. However, because he wanted to build single family affordable homes (as opposed to duplexes) the Town and developer came to agreement over what resulted in 15 lots.

Conservation tools: Open space is owned and managed by a Homeowners Association.

Incentives: Provision of affordable housing in order to affect the Town’s Rate of Development Bylaw—build units at a faster rate.

FINANCING & DEVELOPER PROFIT

Infrastructure savings for the developer resulted from the reduced road length and width (built at 24 feet), and the provision of a sidewalk only on one side of the road. Two common driveways were built. For two of the affordable units a common gravel driveway was used which helped enable the developer to increase the profitability of the affordable lots.

The developer benefited from the incorporation of affordable units into his plan because he was able to pre-sell the affordable units due to their high demand. These pre-sales leveraged help when the developer sought bank financing, a key at the time this subdivision was built. This is a good lesson for development in times of economic downturns however, in hot real estate markets presales are not necessary to get bank financing.

The decrease in lot sizes for the affordable homes decreased development costs and enabled the developer to turn a reasonable profit (therefore, not giving him a reason to abandon plans for affordable units).

Because the Town allowed a “pork chop” shaped lot, the developer was able to create a very large

lot on which he sited the second-most expensive home. The most expensive lot in Canterbury Farms was the one with the best view. Both lots whose rear lot lines abut the open space were the third and fourth most expensive homes. Had the developer not been allowed to build a pork chop shaped lot, he would have lost a significant amount of revenue and the subdivision may not have been profitable.

AFFORDABLE UNITS

In keeping with the surrounding rural neighborhood character, the developer wanted to provide single family affordable units as opposed to duplexes. Had this development been sited closer to downtown Amherst, multifamily units would have been in character.

The four single-family affordable units originally sold for \$98,000 to \$125,000. Affordable housing agreements were created to ensure that they remain “affordable” in perpetuity; they will re-sell for 19% less than their appraised market value. The advantages gained by the quick-selling affordable units made the project worth while for the developer. An increased number of units, in this case, would not have made for a more profitable subdivision.

Although the Amherst bylaw states that affordable units must be “geographically dispersed throughout the development” it was not practical to do so on this small, narrow parcel. The developer thought that the small acreage of the affordable lots and the size and character of the surrounding homes was such that to scatter them throughout this small development would not

have resulted in an appealing design. He did ensure that the affordable units built were of high quality, and that the materials used were such that they blended with the surrounding homes and did not scream “affordable.”

HOME VALUE AND APPRECIATION

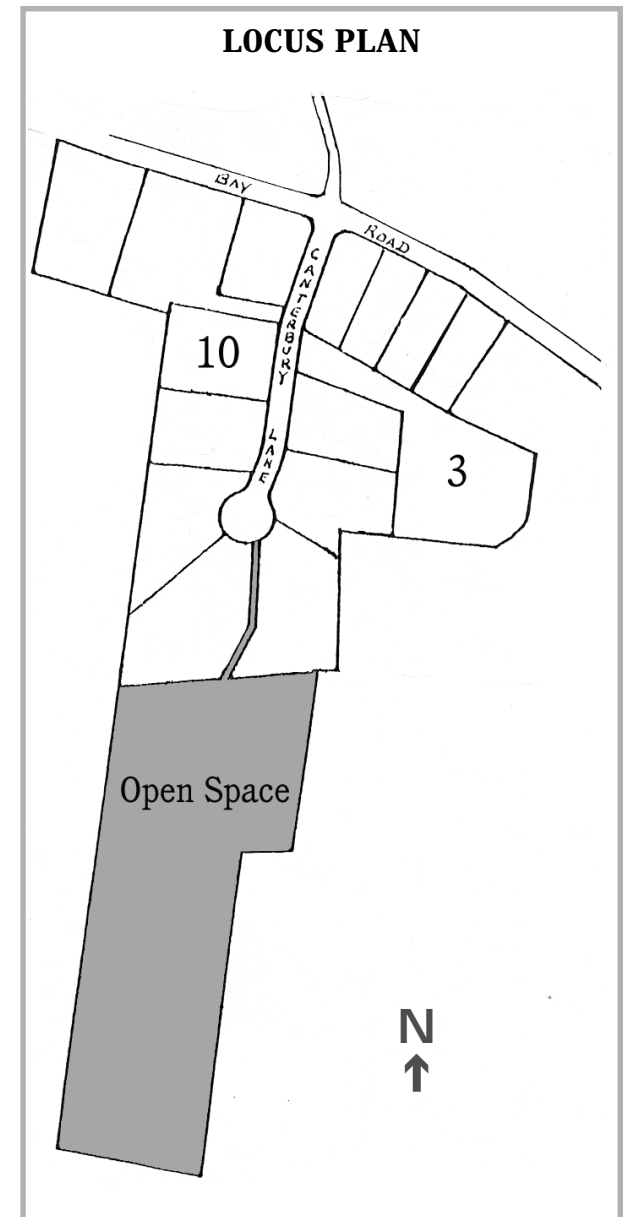
Today, all lots in Canterbury Farms have been sold. It is interesting to note the order in which they sold:

1. All four affordable lots sold first (selling prices ranged from \$98–125,000).
2. The old restored farmhouse sold second (\$165,000).
3. Moderate priced homes were the next to sell (ranging from \$195–230,000).
4. The most expensive lots and houses were sold last.

The most expensive home (at \$410,000) was not on a lot that abutted the open space, but rather it was the home with the best view—overlooking fields, farmland and mountains far to the north (Lot 10 on the plan to the right).

The largest lot (ironically with the smallest frontage) in the subdivision at 98,700 square feet originally sold for \$395,000 (land and house). Today, the developer believes that if the owners were to sell, it would easily resell for \$500,000 (Lot 3 on the plan to the right).

One of the two lots that abut the open space originally sold in 1996 for \$365,000. In 1999 that lot resold for \$449,900, yielding a rate of appreciation consistent with the market at that time.



This shows the lot lines of the 15 homes in Canterbury Farms and the undeveloped open space. The “pork chop” or “flag” lot 3 is easily recognized.

OPEN SPACE

The rear boundary of this long, narrow parcel lies adjacent to the 3000-acre Holyoke Range State Park. Therefore, the rear half of the parcel (farthest from the existing road) became the pre-



At the top of the cul de sac, between two lots, this access trail was created. It wanders through the open space and connects to the larger, abutting trail system of the Holyoke Range State Park.

served open space. This shortened the distance of the proposed road and maximized the contiguous open space that could abut the State Park.

After reviewing the preliminary cluster plan, Amherst asked the developer to negotiate with the Department of Environmental Management for the purpose of deeding the open space into their care to be added to the State Park. Ultimately however, the developer formed the Canterbury Farms Property Owners Trust (the Trust), a non-profit Massachusetts Trust organized for the purposes of conserving and maintaining open space in the subdivision (in effect, a Homeowner's Association). The land is currently not under a conservation restriction nor is it accessible to the public.

The developer marketed the Trust in the materials for Canterbury Farms, stressing each homeowner's stake in and ownership of the 9.2 acres of undeveloped land set aside as common open space and available for their use. Although he saw this as a positive for marketing purposes, he warns other developers that the creation of the Trust and the associated Covenants of the subdivision were extremely costly and time consuming.

DEVELOPMENT PROCESS

Approval Time Frame

- **June 1989:** The Planning Board approved the preliminary cluster subdivision plan for a 14-lot (16-unit) cluster subdivision.
- **November 1989:** Public Hearing for the Special Permit and Definitive Cluster Subdivision

Plan held; developer presented both 14 and 12-lot plan because the yield was still an outstanding issue. The Public Hearing was continued twice.

- **January 1990:** Special Permit approved for 13-lot (15 unit) cluster subdivision

Special Permit

Although mandatory in the underlying zoning district, the development process is by Special Permit approval. The developer did not express problems or discontent with the process and found the Planning Board willing to negotiate so that community and developer needs were met. Ultimately, the Special Permit approval language indicated that Canterbury Farms was a favorable development meeting the requirements and intent of the cluster bylaw. Generally, Special Permit findings state:

- development achieves the positive features of a cluster subdivision including, maintaining community character, retaining a large amount of undeveloped open space, providing efficient road layout (750') and affordable housing, and providing a design that works with the topography of the site and will create the effect of homes terraced on a hillside
- lot sizes larger than the minimum required by the bylaw were accepted because this helped Canterbury Farms fit with the character of the surrounding neighborhoods and farmland
- development adequately addresses protection of the watershed and aquifer recharge through good stormwater management and a

SUBDIVISION AND BYLAW WAIVERS

Requirement:	Waiver granted:
Yield calculations granted 19 units on 13 lots. The Amherst cluster density bonus comes in the form of additional units, not lots.	Developer wanted to build 15 single-family units; received permission to divide two lots to create four single-family affordable lots, at three-eighths to one-half acre.
8% maximum slope grade	Slope of 10% on the internal road
Town water required for all lots	Three lots situated toward the rear of the property at the top of the hill are served by individual private wells. The remaining lots are all served by town water.
Town sewer for all lots	All lots served by private septic systems. No provisions were made for septic systems on the affordable lots; those home-owners bear the same responsibility for the maintenance and repair of their septic system. To extend sewer service to Canterbury Farms would have involved a one and one-half mile sewer line extension and new pumping station (approximate cost of \$800,000.00) and would open much farmland to growth pressure. Because the development area was within the Aquifer Recharge Protection District, septic systems were a good choice.
Stormwater management	Abutting property owners were particularly concerned with runoff and drainage. Preliminary cluster plan called for a detention basin at the bottom of the hill; rejected in favor of a design providing for on-site recharge of roof runoff through dry wells and road runoff through leaching catch-basins with oil and grit traps within the road right-of-way.
Sidewalks on both sides of a new road	Allow sidewalks on only one side

reduction of lots from the number originally proposed, therefore minimizing the impact on the aquifer and watershed

LESSONS LEARNED/ FURTHER CONSIDERATIONS

Because the designated open space is not currently under a Conservation Restriction its protection in perpetuity is not ensured. Amherst has expressed interest in transferring open space own-

ership from the Homeowners Association to the local Holyoke Land Trust. There are clear advantages—having the land protected by a group whose main purpose is conservation makes sense. No one can buy a house in Canterbury Farms unless they agree to and sign the Covenants. This may mean that a homeowner is not particularly interested in the protection of the land, but yet becomes the steward of that land simply by buying a home in that subdivision. There is concern by the Town that this is not necessarily the best scenario for long-term land protection.

Developer Ron LaVerdiere believes that improvements to the Amherst bylaw could be in the form of incentives for affordable clusters that would grant a density bonus as an increase in the number of lots rather than an increase in units. Another incentive Amherst could utilize would be to increase lots in exchange for open space (i.e., for every three acres left undeveloped, the developer could be allowed to create one additional lot). The town may argue that where cluster is mandatory incentives for its use need not be given. However, to achieve other community goals, such as affordable housing, such incentives may be valuable.

It is perceived that proximity to designated affordable units will lower the property value of adjacent homes. In this case, the developer believed that single-family affordable units would help to maintain the value of the more expensive homes in this subdivision because their market values, though affordable, are higher than affordable duplex units. In most subdivisions, there is disparity in home values and striking a reasonable, marketable, balance between these values is a challenge to developers. In Canterbury Farms that disparity ranged from values of \$90,000 to approximately \$400,000, a level of disparity that this developer believed was not too great to threaten the marketability of the subdivision.

While perhaps a landscape architect could have created an even better design that consumed less of the parcel within lot lines, Canterbury Farms is a very good example of many benefits of open space design.

Old North Mill

Hopkinton, Massachusetts

Open Space and Landscape Preservation Development

SUMMARY

This development achieved the following:

- lot prices were scaled according to proximity to the open space therefore creating a clear example of a cluster development that quantified the value of open space
- reduced density in an area of town that would have suffered negative effects had the originally approved 43-lot conventional subdivision been built
- nine approved lots were not built, rather 20.24 acres of additional land were donated to a local land trust; tax benefits of this creative alternative enabled the developer to build fewer lots and still earn a reasonable profit
- placement of all wetlands within the protected open space

- public access with a small parking area for the open space
- creative process and trust between the Town and the developer resulted in a better design and a subdivision with less impact and greater community benefits

SUBDIVISION PROFILE

Developer: Ronald Roux, Hallmark Properties, Inc., Hopkinton, Massachusetts

Landscape Architect: John Copley and Associates, Inc.

Zoning: The parcel lies within the agricultural zoning district, where both conventional and open space and landscape preservation developments (OSLPD) are allowed. Old North Mill was developed as an OSLPD.

Yield: The bylaw requires density calculations by three methods that are then used as a guide for the Planning Board. The density calculation formula in the bylaw permitted 59 lots. The submitted Concept Plan contained 43 lots. The submitted sketch of a Conventional Plan contained 43 lots. The Board granted a maximum of 43 building lots.

Conservation tools: Open space is owned and managed by the Hopkinton Area Land Trust.



Frontage property that would have become a road to serve nine lots; instead this quiet road will retain its rural character.

Total Parcel	Lots/Units allowed by Conventional Plan	Lots/Units allowed by Cluster Plan	Lots/Units built under Cluster Plan	Protected Open Space
100.11 acres	59 lots (per density formula) 43 lots (per conventional plan)	43 lots	34 lots	<i>Permitted:</i> 31.75 acres (31.72%) <i>As built:</i> 51.99 acres (51.93%)

Incentives: use of dead end streets; reduction in roadway right-of-way and pavement width; reduction in intensity regulations; waiver of the perimeter buffer requirement.

FINANCING

Flexibility by the town enabled good design principles and therefore infrastructure savings. For

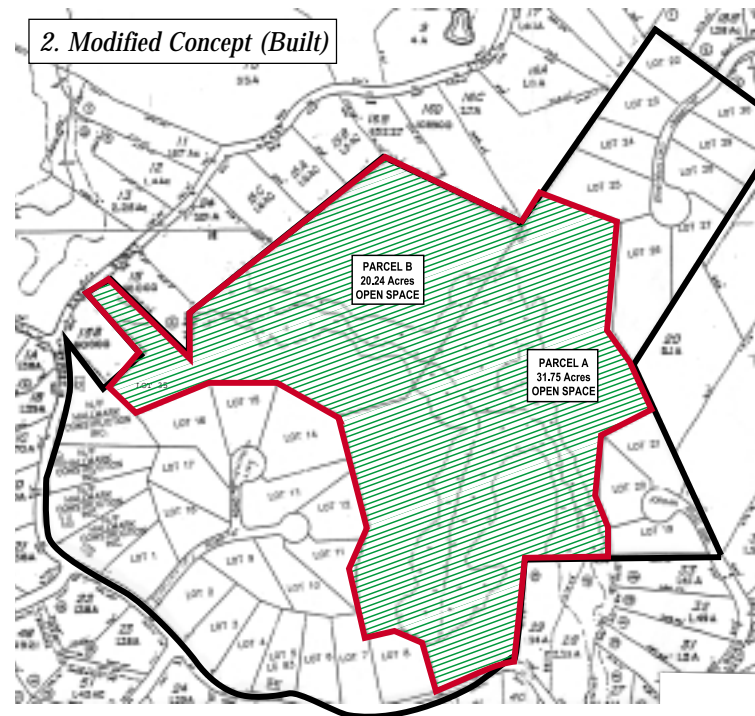
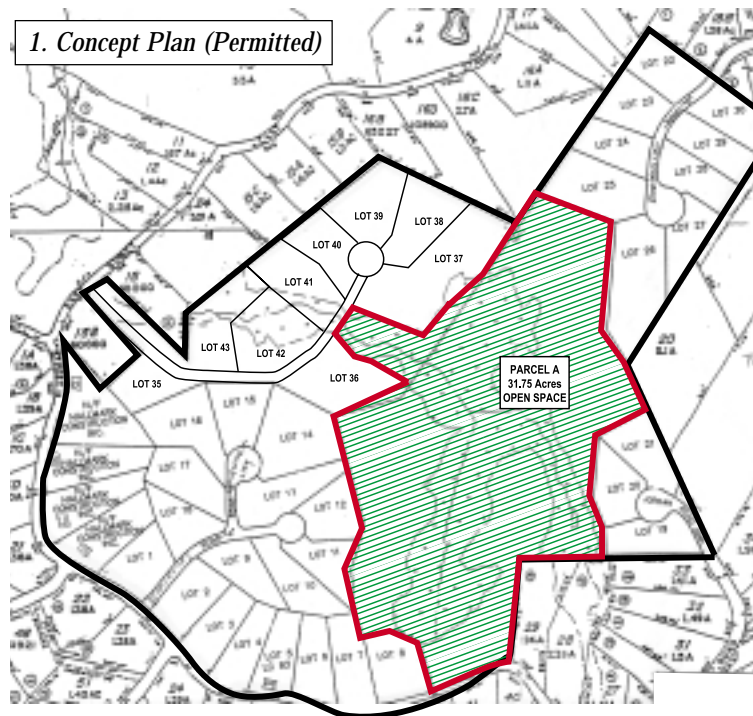
example, the Town allowed road width decreases (from 26 to 20 feet) and didn't require drainage structures on all roads. Rather, the roads were designed so the road shoulders could absorb the sheet flow. The design also enabled minimal grading, cutting, and filling by adapting the location and placement of structures and ways to the existing topography.

As seen in the plans below, the Concept Plan

shows nine lots (numbers 35–43) that do not appear on the Modified Concept Plan, where these same lots have now been designated as Parcel B. What happened to those nine lots is an interesting story.

The developer determined that the greatest value of Parcel B lie in it remaining as open space. In this subdivision maximizing profit did not mean building the maximum number of lots permitted. Contributing factors included:

- parcel B contained wetlands, therefore, Conservation Commission filings would entail significant time and money;
- avoiding cost of building infrastructure for the nine lots;



- avoiding the carrying costs extended over the time it would take to permit and complete the building; and,
- because Old North Mill was marketed (and priced) as an open space subdivision, the value of three other homes (lots 14–16) rose significantly because they would now back onto open space rather than onto other house lots. (See pricing structure used and the added price of a home abutting the open space.)

The developer could realize greater financial benefits for only through a more creative approach—donating Parcel B to the local land trust and taking the tax credit. The value of the tax credit was determined by appraising the land or determining the expected value after the infrastructure (roads, sewers, public utilities) construction. The cost of the houses that could be built on the lots is not included. In this case, the tax credit could be spread over five years and such amount could not exceed 30% of the developers taxable income in any given year. (This credit was possible according to the tax laws at the time of this deal. Any developer wishing to explore a similar option needs to check the existing tax code.) Such a donation of land was clearly in the best financial interest of the developer at the time of this project.

HOME VALUE AND APPRECIATION

Hallmark Properties, Inc. is a design builder so all home prices vary. However, the prices of the lots themselves (for land and infrastructure but no house) are of the greatest importance for this case study. The developer sold and priced the lots on a scale that reflected the proximity of the lot to the open space.

There were three categories of lots available in Old North Mill: 1) those with frontage on the existing town road; 2) those fronting the internal subdivision road, abutting other house lots, and; 3) those fronting the internal subdivision road, abutting the open space. The developer placed a \$25,000 differential between each category. In



Homes with frontage on the existing town road. The developer saved as many trees as possible and did not disturb existing stone walls and outcroppings whenever practical.

other words, a house lot adjacent to the open space commanded an up front payment of \$50,000 more than other lots in the same development.

Because of this differential, as a design builder it was profitable for Hallmark Properties, Inc. to require a more expensive home on those lots that commanded the higher open space prices. In other words, the most expensive homes in the

subdivision about the open space. Economically, it would not have been wise for the developer to build less expensive homes on the most expensive lots.

After completing the design and permitting of Old North Mill, Hallmark Properties, Inc. sold 12 of the 43 lots immediately after laying the required utilities. Homes on these 12 lots will be built by different developers and prices are unknown.

SUBDIVISION AND BYLAW WAIVERS

Requirement:	Waiver granted:
Road right of way – 50 feet	40 feet allowed
Road width – 26 feet	20 feet allowed
Dead end streets prohibited	allowed four dead end street because an OSLDP
Percolation testing	two percolation and deep hole tests on each lot is not required at the time of definitive plan submission
Perimeter buffer requirement – 100 feet	0 feet allowed

OPEN SPACE

While the main impetus for not building the nine lots on Parcel B may have been developer economics, the benefits to the community were also great. The amount of open space conserved in this subdivision increased from 31.75 acres to 51.99 acres, or from 31.72% to 51.93% of the total parcel. The entire open space parcel will be owned by the Hopkinton Area Land Trust, a public non-profit organization formed for the purposes of preserving, protecting, and managing land in Hopkinton.



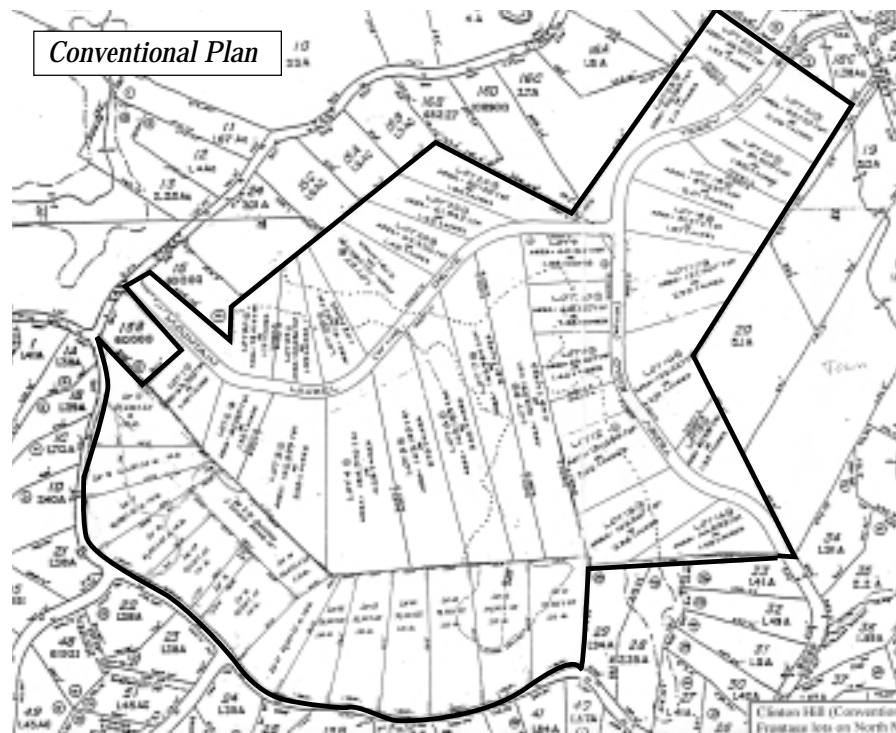
View from the side yard of a home abutting the open space. This homeowner paid an additional \$50,000 up front simply to have the open space as their backyard.

There were 16.15 acres of wetland on the property, all were included in the delineated open space. The developer believes that because the wetlands deserve the most protection, including them in the open space area will ensure they have the needed protection. If wetlands are included within the lot lines, a homeowner will, in effect, own the wetland. It is therefore subject to

abuse, neglect, and destruction by actions, intentional or not, of the homeowner. Keeping them within the protected open space best ensures their long term protection.

This open space is not connected to any other open space. But for a small parcel of Town owned land, Old North Mill is entirely surrounded by residential development. Instead, this project did the best it could to create some open space where none existed before. The 52-acre parcel will have a publicly accessible trail system and a small parking area will be provided.

DEVELOPMENT PROCESS



In 1988 a conventional subdivision plan was approved for property. Unhappy with this design and the change to flood plain levels, the town took the developer to court but lost their law suit. Luckily, no conventional development was ever built by the previous owner and eventually the parcel was purchased by Hallmark Properties, Inc. While they could have gone ahead and built according to the approved conventional plan, Hallmark decided to build an open space development according to the Open Space and Landscape Preservation bylaw of Hopkinton.

Approval Time Frame

- 1988: Conventional Subdivision Plan approved for previous owner
 - May 1997: Concept Plan submitted to Town by Hallmark Properties, Inc.
 - June 1997: Special Permit granted
 - November 1997: Definitive Plan approved
- Special Permit**
- If you go to the Town Hall today and look at the approved Concept Plan, the nine lots of Parcel B would appear as though they are going to be built. In fact, they could be built. However, based only on a good faith agreement

between the developer and the Town, it was determined that they would never be built. In order for the developer to apply for a tax credit those lots needed to appear as approved. Therefore, the Town approved the lots with the developers' promise that they would not be built.

Additionally, the developer was granted a reduction in the percentage of open space to permit 45,000 square foot minimum lots—again with the understanding that nine lots were not to be built, the percentage of open space would actually be greater than what was shown on the approved plans. This highlights the working rela-

tionship between the parties that was necessary to make this a successful subdivision—one that was profitable for the developers and met the town's goals.

LESSONS LEARNED/ FURTHER CONSIDERATIONS

All of Hopkinton's OSPLD's to date have been built with large homes on smaller lots. Some readers may consider this to be a shortfall of this particular case study. It is essential to note that this is not a failure of the Hopkinton bylaw itself,

or of OSPLD principles, since it is not written to encourage variety in the housing stock or the creation of affordable (or even non-luxury) housing. In May of 1998 the Planning Board did attempt to pass a bylaw intended to address "alternative housing" however it was adamantly rejected by the majority at Town Meeting.

The cost of land in Hopkinton is extremely high and the market is currently extremely "hot." Because the bylaw does not allow any density bonus and is not mandatory, the question one may ask is why then would a developer chose to undertake the Special Permit process rather than simply building a conventional subdivision. Reduced cost of infrastructure is often a good answer, but in hot markets in desirable communities the developer can often pass those costs along to the homebuyer.

The answer in Hopkinton is simple—the Planning Board and town planner, other local boards and local officials, and a majority of town residents strongly support and advocate for the use of open space development. Conventional development is frowned upon and fought against in Hopkinton. Residents and local officials have chosen a higher standard for their community and work hard to achieve it - this includes working cooperatively with the development community through the Special Permit process to achieve a win-win development.



A perfectly functional 20 foot wide, single-sided sidewalk, dead end road in Old North Mill.

APPENDIX A: SUBDIVISION INFORMATION FORM

General Information

- Name and location of subdivision
- Name of designer, developer, landscape architect
- Has anyone involved built other clusters?

Subdivision Statistics

- development timeline
- total number of acres
- number of acres permanently protected
- how was the yield plan determined?
- number of homes:
 1. allowed under conventional _____
 2. allowed under the cluster plan _____
 3. allowed vs. built in the cluster _____
(in Hopkinton the developer decided a few allowed parcels to the town—was financially better to get the tax break rather than building the homes. Has anyone else experienced something similar?)
- number of affordable units
- Size of lots:
 1. allowed for conventional _____
 2. allowed for cluster plan _____
- Street dimensions
 1. Money saved by not building the full length of roads proposed under conventional design?
 2. How much land area was saved from becoming impervious due to shorter roads?

Home Values and Appreciation

- Original selling price of homes
- Would the original selling price have been different if these homes were built in a conventional subdivision?
(Note: If they are more expensive, than that is a big plus for cluster. If they sold for the same and the number built was the same, then the developer made more money by building a cluster—this will hold true if they saved money on infrastructure costs due to reduced requirements under the cluster bylaw.)
- Any resale values? Are there trends available yet that could show overall appreciation of the development?

Open Space

- Who manages the open space? land trust / homeowners association / city or town
- Is it under a conservation restriction (CR)?
- What was the basis for the decision to preserve the area that was preserved (i.e., was it because it was meadow, forest, view-shed, wildlife habitat, wetland, farmland, scenic, land that could not be developed anyway, land that would not perk if septic was required, created connections to other preserved areas)?
- What was the process that determined which part would be set aside as the open space (i.e., is there a design review by multiple parties, drafted by a landscape architect, soil tests to determine most valuable agricultural soils, connections to other open areas, communities of wildlife living there, or other)?
- Uses of protected open space (i.e., active,

passive, impervious uses, trails)

Development Process

1. Explain the real and perceived obstacles posed by Special Permit requirement
2. Flexibility, benefits, and advantages to the builder and to the community of this alternative to conventional subdivision design
3. Did the developer take advantage of incentives in the bylaw (i.e., such as density bonuses for including affordable housing)?
4. Methods of wastewater treatment (any DEP-approved alternative systems to Title V or shared systems)
5. Process the developer and Planning Board went through—highlight keys to their success
6. Did you get a different result than you would have without using the cluster regulation?

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