

# Improving the Subdivision Review Process

by Randall Arendt

Ever wonder why the vast majority of subdivisions look so much alike, despite the fact that they are built in such varied landscapes (forest, meadow, field) and on different terrain (flat, rolling, steep)? The simple answer is that most of them are designed generically, in “cookie-cutter” style, with very little regard to the special natural or cultural features that give many properties their distinctive character.

In most municipalities, subdivision design regulations have never evolved beyond the basic stage where code requirements focus on a few mundane but important points: soil suitability, wetlands, floodplains, street paving, stormwater management; and on a few mundane but rather unimportant points: street frontage, lot-line setbacks, lot area.

The sad reality is that most localities do not require subdivisions to consist of anything more than house lots, streets, and drains. As a result, subdivisions are approved as long as plans show house lots with the minimum required size and frontage, and avoid areas that are inherently unfit for building, such as wetlands and floodplains. When community standards are set so very low, developers often respond with the least imaginative subdivision designs.

As I will argue shortly, it does not have to be this way. In fact, with only a

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modest amount of additional effort, even smaller communities can implement a much more effective subdivision review process – a process which will result in better designed and sited residential developments. But first, let me briefly identify four common flaws in the typical subdivision review process.

## FOUR COMMON FLAWS IN SUBDIVISION REVIEW

The first flaw is that most local ordinances fail to require that applicants submit detailed surveys or inventories of their site’s features, beyond those few features which would render property unbuildable (i.e., wetlands, floodplains, steep slopes). Similarly, most ordinances do not require maps depicting the subject parcel’s surrounding context.

Second, most municipalities do not require planning board members to walk the land. Yet a group site visit, which also invites abutters and others interested in the development, is essential to an

understanding of any property.

Third, many local subdivision regulations require highly detailed design drawings at the so-called *Preliminary Plan* stage. This means that developers may have spent tens of thousands of dollars in preparing their the very first submission. Understandably, developers are not inclined to discard such plans, even if better ways to design the development are pointed out to them by planning staff, planning board members, or others.<sup>1</sup>

Fourth, subdivision layouts are often prepared by people trained in recording site data and in street and drainage issues (surveyors and engineers), but who have little or no expertise in the field of landscape architecture or neighborhood design.

## DEVELOPING A BETTER SUBDIVISION REVIEW PROCESS

Three sequential steps can be taken that will dramatically improve the subdivision review process:

1. Require the applicant to prepare a *Context Map* of the immediate area and a detailed *Existing Resources and Site Analysis Map* of the property;
2. Conduct a site walk with the applicant, planning staff, planning board members, and abutters very early in the process; and
3. Require the applicant to submit an inexpensive conceptual *Sketch Plan* as the first layout document, before preparing detailed layout and design drawings.

These straightforward and fairly simple steps can yield major benefits by allowing all parties to understand what is important about the property, and to engage in a process that is collaborative and consensual, instead of adversarial and combative.<sup>2</sup>

### 1. Mapping the Property.

Good maps are essential tools in many aspects of planning, but perhaps



<sup>1</sup> One of the mysteries many planning commissioners encounter is the so-called “Preliminary Plan.” In many communities, commissioners are surprised to discover that the preliminary subdivision plan is actually closer to a final document in its level of detail, and the time and cost that the applicant has expended on preparing it. As I have noted, this makes applicants more resistant to changes suggested by commissioners or others. A much greater emphasis needs to be placed on the preparation of an existing resources/site analysis map, site walks, and sketch plans. These should be required by local ordinance before the preliminary plan submission.

nowhere more so than in the review of residential subdivisions.

*Context Map.* While many subdivision regulations do call for a location map, such maps must have the scope and content that will enable staff, planning board members, and others to acquaint themselves with the resources and development patterns near the development site. This kind of understanding is critical to planning for improved buffers and open space connections, and lessening developmental impacts in the neighborhood.

A good Context Map can be based on data from already published sources such as aerial photographs, USGS topo sheets, FEMA floodplain maps, tax maps, and U.S. Fish & Wildlife Service wetlands maps. This will also minimize the developer's cost in preparing such a map. The Context Map should then be reproduced by the applicant's engineer to the same scale (1 inch = 400 feet), showing reviewing officials the location of natural features and development patterns on properties within one-half mile of the development site.

*Existing Resources/Site Analysis ("ER/SA") Map.* Just as it is critical to see the broader context of a proposed subdivision, it is necessary to have a clear understanding of the characteristics of the site itself. Again, good maps – prepared at the outset of the process – are essential. What we term an Existing Resources/Site Analysis Map provides a greater amount of essential information than is typically required in most subdivision regulations, and should document the location of a large variety of site features. In my experience, the ER/SA map is the single most important document in the subdivision design process, as it provides the factual foundation upon which all design decisions are based.

The ER/SA Map tells reviewers what

2 Based on the work I have done at the Natural Lands Trust over the last decade in the Growing Greener program (supported by Pennsylvania's Dept. of Conservation & Natural Resources and Dept. of Commerce & Economic Development), the reforms which I recommend often begin with updating local subdivision regulations to include the above-mentioned items.

they need to know about the property in terms of its noteworthy natural and cultural features. Drawn to a scale of one inch equals 100 or 200 feet, it reflects an in-depth understanding of the site by mapping out a range of significant features, such as the location of noteworthy trees or tree groups, and unusual geological formations. In this way reviewers can, for example, identify those parts of woods that are most worthy of conservation and which should be "designed around."

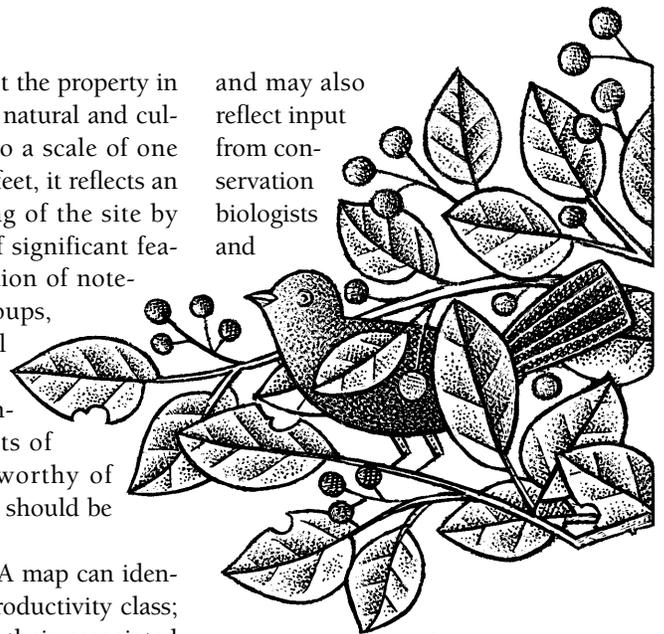
In addition, an ER/SA map can identify farmland soils by productivity class; locate vernal pools and their associated upland habitat areas (essential in the life-cycle of salamanders and other woodland amphibians); map out significant view corridors into the property from public roads or highways; and, in the absence of sewers, show soil suitability for septic sewage disposal.<sup>3</sup>

The use of GPS (Global Positioning Systems) technology has made the documentation of this type of information relatively easy and inexpensive. In fact, a growing number of communities already routinely require that plans, for example, show the location of every tree greater than a given diameter, and that these trees be identified by species on the drawing.<sup>4</sup> In this way, reviewers can identify those parts of woods that are more worthy of conservation and "designing around" (which trees to hug and which to let go). However, I would not require this information for trees growing in areas that would not be disturbed because of their location within proposed conservation areas.

An ER/SA Map is typically prepared by a landscape architect for the developer,

3 Septic systems need the deepest, best-drained soil that can be provided, and those areas must be "designed around" just as carefully — and from the very beginning — as any of the "Primary Conservation Areas," so they may be reserved for sewage treatment and effluent disposal and not be carelessly covered by foundations, driveways, or streets. To maximize the amount of open space, it is often best to locate septic drainfields (either shared or individual ones) off-lot, in easements under conservation meadows, neighborhood greens, and ballfields.

and may also reflect input from conservation biologists and



historic preservation specialists. Such information, provided early in the process, enables the site designer, the developer, and municipal officials to make better-informed decisions.<sup>5</sup>

If officials agree that these items are necessary and should be submitted at some point during the subdivision application process anyway, it doesn't increase the applicant's costs for them to be required up front where the important information they provide can be of the greatest use (helping to avoid wasting money on plans that do not take these features fully into account).

## 2. Site Walks.

Because it is impossible to completely understand a site only by examining a two-dimensional paper document inside a meeting room, it is essential that — with the ER/SA Map in hand — planning board members, conservation commission members, and staff walk the property with the applicant and any interested

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4 With respect to the diameter at which a tree becomes noteworthy, I recommend girths related to specific species, such as 4 inches for holly or flowering dogwood, 6 inches for a sassafras or water beech, 10 inches for a wild cherry, 14 inches for a red or white oak, 16 inches for a tulip poplar, 18 inches for a sycamore, etc.

5 For more details about the ER/SA map, as well as model ordinance language related to such a map, see Randall Arendt, *Growing Greener, Putting Conservation into Local Plans and Ordinances* (Island Press, 1999).



## Sketch Plan Preparation

I recommend that local regulations require Sketch Plans be prepared by a landscape architect or physical planner working with a civil engineer. Under this approach, surveyors and engineers would continue to perform all of the usual surveying and engineering. However, the conceptual design and layout is best handled by a landscape architect or physical planner. Some municipalities further enhance this process by increasing the applicant's fee to hire the physical planner or landscape architect to walk the site, conduct the site analysis, and produce a Sketch Plan, thereby launching the developer in the right direction. Developers with whom I have worked are often skeptical of the value of this approach until they try it once.

## Mapping Potential Conservation Lands

A community-wide map of potential conservation areas is a quite useful tool that planning departments should consider preparing. It identifies those parts of undeveloped properties where the municipality has preliminarily determined the importance of designing new development around certain land and water features in such a way that an interconnected network of conservation land can be protected. Such areas may include lands along stream valleys, blocks of mature woodland, as well as prime farming soil, and historic or cultural features important to the community.

Besides informing local officials of the nature and extent of particular kinds of resources on any property proposed for subdivision development, the map also supplies the contextual view so that all parties will be able to see and appreciate how designing around certain features can preserve an interconnected network of open space running across numerous parcels.

For more details on conservation mapping, see Randall Arendt, *Growing Greener: Putting Conservation into Local Plans and Ordinances* (Island Press, 1999).



Early site walks are of critical importance and should be done with the Existing Resources/Site Assessment map in hand.

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neighbors. This will allow everyone to take the full measure of the proposed development site, and help determine which site features are most worthy of "designing around." We have found that nearby property owners greatly appreciate being included, and are much less inclined to fight a process which has involved them from the outset.

Without the benefit of experiencing the property in a three-dimensional manner at a very early stage in the process, it is extremely difficult for staff and officials to offer informed suggestions as to the preferred locations of conservation areas and development areas, and to evaluate proposed layouts. Site walks should be "standard operating procedure," and part of the job description for all planning board members (except those with physical disabilities). Local officials who take their first site walk with a detailed site analysis map in hand, meeting the applicant, the applicant's site designer, and abutters in a casual and informal way, tell me they wouldn't think of missing this critical part of the process ever again.

Regarding timing, I suggest conducting the site walk even before the applicant prepares a *Sketch Plan* (discussed

shortly). I also usually end the site walk with an informal design session, where the significant natural and cultural features (from the *ER/SA Map*) are identified, and possible ways of designing around them discussed.

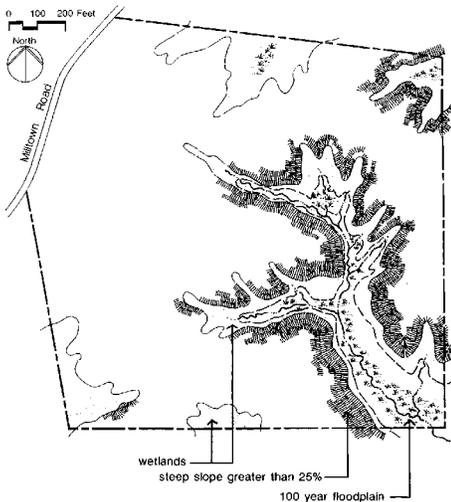
Of course, site walks must be advertised as public meetings, although they are essentially informal meetings during which no decisions will be reached. *Editor's Note: For more on the conduct of site visits, see Greg Dale's "Site Visits: Necessary But Tricky," in PCJ #39 (Summer 2000).*

### 3. The Sketch Plan.

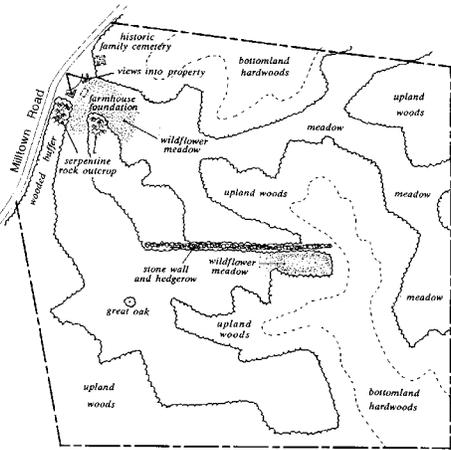
The Sketch Plan is the next key document in the subdivision process, and second in importance only to the Existing Resources/Site Analysis Map. The Sketch Plan sets out the overall concept for the subdivision, showing areas of proposed development and areas of proposed conservation.

The Sketch Plan is most useful when drawn to scale on white tracing paper as an "overlay sheet" to be lain on top of the ER/SA Map so that everyone can clearly see how well – or how poorly – the proposed layout avoids areas of the site prioritized for conservation. Ideally the proposed development "footprint" on the Sketch Plan should dovetail with the protection of resources documented on the ER/SA Map.

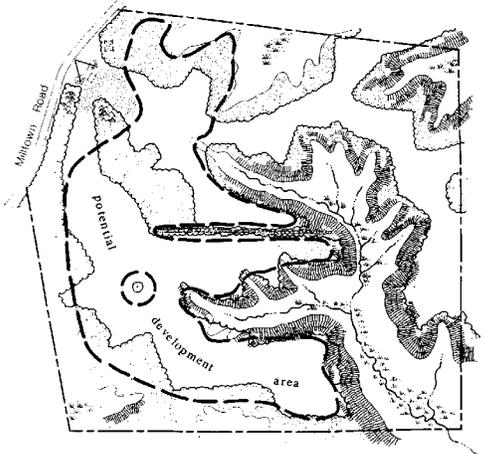
### Primary conservation areas



### Secondary conservation areas



### Potential development areas



Planning for subdivisions should start by identifying primary conservation areas (such as wetlands, steep slopes, and floodplains) and secondary conservation areas (including woodlands, meadows, and significant cultural features within the site). Once conservation areas are identified, the core areas for potential development can more easily be mapped out.

Sketch Plan review is an essential step, and should occur before the applicant spends the large sums typically required for the more detailed and engineer-prepared “Preliminary Plan” drawings. Only after agreement is reached at the Sketch Plan stage should the applicant move on to prepare the Preliminary Plan. This will give the applicant the full benefit of the site analysis, site visit, and sketch plan review – and a greater assurance of ultimate approval – before spending money on preparing the Preliminary Plan.

### Four-Steps to Better Subdivision Design

The most effective method for producing subdivision layouts that are responsive to their site, and which preserve value-adding features, is to first focus on areas of the site to be conserved, not on areas to be developed. If this is done (and if local regulations also require that a significant proportion of subdivisions be designated as open space), it is nearly impossible to produce an environmentally unsound subdivision. This is particularly the case if that open space to be conserved is closely related to a “Community-Wide Map of Potential Conservation Lands” set out in the local Comprehensive Plan.  *Mapping Potential Conservation Lands.*

After the open space areas to be preserved are located, the next step is to

select house locations, with homes positioned to take maximum advantage of that protected land in neighborhood squares, commons, greens, playing fields, greenways, farmland, or forest preserves. The third step involves “connecting the dots,” that is, aligning the streets and trails to serve the new homes. The fourth and final step, drawing in the lot lines, is actually the least significant part of the process.

One of the greatest weaknesses in the subdivision process in many communities is that open space conservation areas are identified last, not first. As a result, the open space is often a collection of whatever bits of land that have proven difficult to develop. The other common failing is the inclusion of deep perimeter buffers around proposed developments, as if they were gravel pits, junkyards, or leper colonies! This practice inadvertently leads to very poor layouts in which a substantial percentage of the total open space is consumed by this excessive separation.

### SUMMING UP:

The combined influence of the expanded Context Map, the Existing Resources/Site Analysis Map, the Site Walk, the Sketch Plan overlay sheet, and the four-step design approach described

above can make a significant difference in the way developers, planning boards, and abutters approach a site’s development. The end result is not only better subdivisions, but projects developed in a more cooperative, less contentious, atmosphere. ♦

Randall Arendt is a conservation planner, site designer, author, and lecturer. He is one of the foremost proponents of compact development patterns as a tool for protecting natural and cultural landscapes. His practice, Greener Prospects, is located in Narragansett Pier, Rhode Island. Arendt has written two other articles for the Planning Commissioners Journal: “Growing Greener: Conservation Subdivision Design,” in PCJ #33 (Winter 1999), and “Open Space Zoning: What It Is & Why It Works,” in PCJ #5 (July/August 1992). He may be contacted via his website: < [www.greenerprospects.com](http://www.greenerprospects.com) >.



Readers interested in learning more about Arendt’s approach are referred to his books *Conservation Design for Subdivisions: A Practical Guide to Creating Open Space Networks* (Island Press, 1996) and its sequel *Growing Greener: Putting Conservation into Local Plans and Ordinances* (Island Press, 1999). They may also download an 18-page booklet describing this process, at: < [www.natlands.org](http://www.natlands.org) > (click on “Planning” and then on “Growing Greener”).