

Conservation by Design

By making straightforward changes to municipal land-use ordinances, Conservation by Design helps communities protect open space and natural resources at essentially no cost and without reducing the rights of landowners and developers to develop their land.



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Everyone Wins

By making several small but significant changes to three municipal documents—the comprehensive plan, zoning ordinance, and subdivision and land development ordinance (SALDO)—Conservation by Design ensures that conservation becomes institutionalized in the development process. Conservation by Design rearranges the development on each parcel as it is being planned so that half or more of the buildable land is set aside as open space. Without controversial down-zoning, the same number of homes can be built in a less land-consumptive manner, allowing the balance of the property to be permanently protected and added to an interconnected network of community green spaces. This density-neutral approach provides fair and equitable treatment to landowners and developers. Conservation by Design can apply to a range of residential development options, from single-family homes to mixed-use communities.

Conservation by Design differs from traditional cluster developments in that it establishes higher standards for both the quantity and quality of open space. It does so through open space requirements in zoning for useable land (as well as undevelopable, constrained land), and through a SALDO that places conservation planning at the beginning of the development process rather than at the end.

The Conservation by Design subdivision (Fig. 2) contains the same number of homes as the typical subdivision (Fig. 1), while preserving far more green space, which provides tremendous benefits to residents of the subdivision and the broader public.



Fig. 1



Fig. 2

Record of Success

Conservation by Design works within the parameters of existing state law—the [Pennsylvania Municipalities Planning Code](#)—to provide for growth while protecting natural and cultural resources at little or no cost to the public. Other than purchasing land or easements, no conservation method has been more effective at permanently protecting open space in Pennsylvania.

As of 2018, 48 Pennsylvania municipalities in 14 counties have adopted rigorous versions of the Conservation by Design model ordinances developed by [Natural Lands](#) (and over a third of municipalities in the 14 fastest-growing counties have adopted some aspects of the models). Municipalities that have adopted rigorous versions of the ordinances are preserving an average of 62% of the land each time a residential property is developed. In many of the resulting conservation subdivisions, the developers have donated land to the municipality at no public cost, greatly increasing local capacity to provide greenways and parks to residents.

Planning

Bringing Conservation by Design to a municipality typically involves four major planning steps:

- Community assessment
- Conservation planning
- Changes to the SALDO
- Changes to the zoning ordinance

Community Assessment

A community assessment helps municipal leaders clearly see the long-term effects of continuing with their land-use ordinances as currently written; in most cases, the ordinance provisions will over time lead to far more land being developed for commercial and residential uses than most people ever contemplated. This step examines the adequacy of current plans, zoning and ordinances to shape future growth in a way that fosters healthy and safe communities, higher quality of life, open space protection, scenic view protection, and other goals of the municipality's comprehensive plan.

Conservation Planning

Identifying potential conservation lands and developing a map that shows these lands—as well as lands that are already protected or developed, and lands that are unprotected and likely to be developed—ensures that a community has a good understanding of its natural and cultural resources. Under Conservation by Design, such mapping is incorporated into the municipal comprehensive plan. Municipalities can engage the public in determining which portions of

undeveloped land could be added to an interconnected open space network, thereby guiding the location of open space in new subdivisions.

Changes to the SALDO

Under Conservation by Design, the usual sequence of steps in the subdivision process is reversed: the SALDO requires boundaries of protected open space to be defined first, prior to road, house, and lot-line layouts. The greenlining process identifies conservation areas for protection, including both unprotected features and those protected by current regulation (such as floodplains, wetlands, or steep slopes). By defining the conservation areas first, this process virtually guarantees superior land-use outcomes as compared to conventional practices. Other critical components of the SALDO include a site visit, context map, greenway design standards, and site-analysis plan.

Changes to the Zoning Ordinance

Conservation by Design creates a menu of development options that support the conservation and development goals of a municipality's comprehensive plan. Under Conservation by Design, the zoning ordinance provides for maximum density only when open space has been protected, and includes disincentives (in the form of density penalties) to discourage conventional land-consumptive development patterns. This helps communities build a network of protected lands comprised of natural, cultural, and scenic areas that residents most want preserved.

Implementation

Adoption

A municipality can access the [Conservation by Design model land-use regulations](#) at no cost. As with any amendment to local land-use regulations, an experienced land-use planner can help a municipality adapt the model regulations into local codes, as well as assist with public education and input.

Conservation organizations and local [environmental advisory council](#) members can be excellent partners in identifying land worth protecting.

Administration

A municipality can maximize the benefits of Conservation by Design by retaining the services of a landscape architect or physical-site planner to help review subdivision applications; such reviews supplement the municipal engineer's expertise in designing sewage, stormwater, and road systems. The [Pennsylvania Municipalities Planning Code](#) allows these review costs to be passed along to the applicant, a practice often followed for engineering reviews.

Impact

Once a municipality has enacted the Conservation by Design land-use regulations, open space can be added to a network of conserved lands each time development occurs.

The model zoning ordinances provide a range of options for the protected open space. In many instances the open space is owned and managed by a homeowner association for use by residents of the development; these subdivisions sometimes include public trail access. Alternatively, the land may be owned by a local government or land trust and managed as public park or preserve. The land can also be used as a farm or other working landscape.

Resources

Technical Assistance

[Natural Lands](#) developed and administered the original statewide Growing Greener: Conservation by Design program. Though the program no longer exists, Natural Lands staff is available to answer questions and provide a list of private-sector planners who have taken a course in Conservation by Design ordinances. Contact [Ann Hutchinson](#) at (610) 353-5640 x230 or ahutchinson@natlands.org for more information.

[Randall Arendt](#) has written extensively on conservation design and developed the Growing Greener program during his tenure as vice president at Natural Lands. His book [Growing Greener: Putting Conservation into Local Plans and Ordinances](#) (available

for sale in paperback or e-book form) remains an essential resource for both practitioners and laypeople.

Financial Assistance

Conservation SALDOs and zoning ordinances are prevalent throughout Pennsylvania, and are most relevant in growing municipalities where single-family development occurs. In some landscapes within the Delaware River watershed, grant money is available to offset the costs of ordinance updates. Contact [Ann Hutchinson](#) for details.

Municipalities have also funded updates with grants from the Pennsylvania Department of Community and Economic Development [Municipal Assistance Program](#).

The most recent version of this guide and related resources can be found online at <https://conservationtools.org/guides/9>

[Ann Hutchinson](#) wrote the first edition of the guide (2010). [Nate Lotze](#) updated and edited the second edition (2019) with significant contributions from Hutchinson. The illustrations were provided by Natural Lands.

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