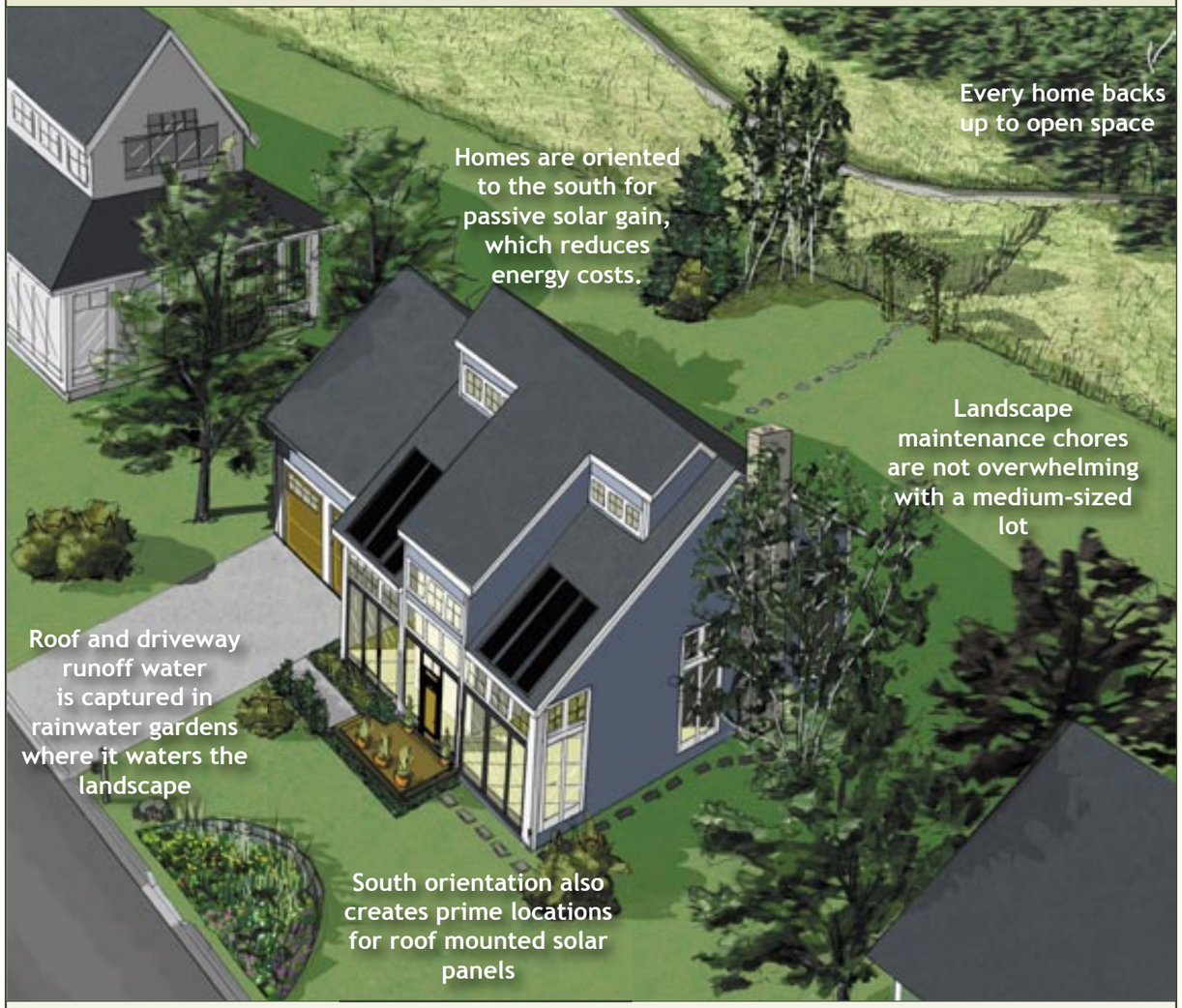
What makes for a great place to live?



With increasing energy costs, it is even more important to take advantage of free heating - the sun! This passive solar home works to store the heat of the sun collected during the day in the floor of the south facing rooms. At night, this stored energy radiates to heat the home (for free). In order to harvest this free energy, it is important to orient homes to the south and streets east-to-west in a new development.

You may have noticed that, as a result of climate change, our summer rains come less frequently but more intensely. Large amounts of rain come in short periods. Most of this rain runs away. But we need this water in our landscapes, so it is important to collect stormwater either in rainwater gardens (as shown here), or in large shallow basins that are typically dry (as shown on the previous page). Also, it is best to limit the amount of paving in our neighborhoods to reduce runoff. Building homes closer to the street limits the total amount of driveway in a neighborhood. Narrowing streets by limiting parking to just where it is needed also limits the amount of paving, saving future costs of plowing and repair.

Consider using the Conservation Design process of neighborhood creation in your community.

Written and produced by Barr Engineering Co. for the Minnesota Pollution Control Agency *www.barr.com*

Having It All

A conservation design development prototype in Hanover, Minnesota

What is Conservation Design?*

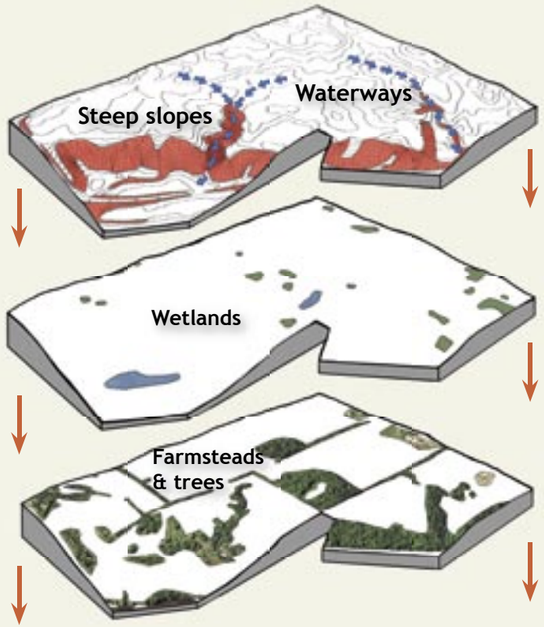
Conservation design is a process of cluster-type development that enables land to be developed while simultaneously reducing environmental impacts, capturing stormwater runoff, and creating great neighborhoods in which to live. These goals are accomplished through a creative design process that identifies conservation areas of sensitive landscapes like forests and steep slopes, and places homes to maximize views and connection to designed open space. A key goal is to preserve predevelopment stormwater flow patterns and to detain and infiltrate stormwater on site.

This prototypic design for a property in Hanover, Minnesota, used the conservation design process for neighborhood layout. The plan features 50 percent open space with green space adjacent to every back yard, a trail system, habitat creation, distinct neighborhoods, and a natural stormwater management system.

* *Source: Randall G. Arendt, 1996, Conservation Design for Subdivisions.*

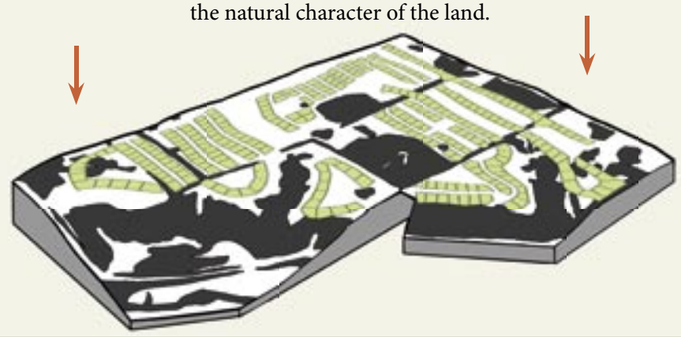
Process

First, the natural features of the land are evaluated and mapped.



Then, the separate maps are brought together in a composite map that identifies all of the natural and historical features of the land that should be preserved.

The land outside of the identified natural areas is considered developable. Of this, half is set aside for recreational open space, stormwater management, and wildlife habitat. Together with the preserved natural areas, this open space serves to retain the natural character of the land.



Advantages & Disadvantages of Conservation Design

Advantages

- Reduces urban sprawl by 60 percent compared to typical 2.5-acre lots.
- Creates distinct neighborhoods that promote a sense of community while preserving privacy.
- Features an interconnected system of parks and trails so that children can safely access friends in adjoining neighborhoods.
- Preserves the natural function of the land by protecting natural waterways, woodlands, and wetlands, and restoring former fields to prairie.
- Reduces water usage by creating smaller lots that require less irrigation.
- Reduces the amount of pavement constructed for streets and driveways, thus reducing construction and maintenance costs, and reducing stormwater runoff.
- Uses stormwater as a resource to water vegetation instead of wasting it by piping it away.
- Conserves energy by establishing windbreaks and orienting homes to the south for solar gain, requiring less energy for heating and cooling.
- Preserves the rural feel of the land by creating prairie and forested views.

Disadvantages

- Green space requires maintenance of the plant communities. Green space maintenance can either be funded through a homeowners association or designated as city park.
- Conservation design takes more thought and planning. Therefore, design and engineering costs are higher than a traditional curb and gutter layout. These costs are typically recouped by reductions in the amount of infrastructure.

ACTION

Conservation developments result from flexible local ordinances.

1. Assess your local ordinance: www.cwp.org/COW_worksheet.htm
2. Rework your local ordinances: www.cwp.org/22_principles.htm