Federation of Canadian Municipalities' (FCM)

Centre for Sustainable Community Development

Doug Pollard

Manager , Sustainable Community Demonstration Category

Green Municipal Funds

Oct. 9, 2003

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Federation of Canadian Municipalities (FCM)

- National voice of municipal governments since 1901
- Dedicated to improving the quality of life in all communities by promoting strong, effective and accountable municipal governments
- Focus: federal advocacy on economic, environmental and social policies that affect municipal government
- Growing capacity to provide services to municipal governments

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FCM's Centre for Sustainable Community Development

OUR VISION:
Healthy and vibrant communities sustain local and global ecosystems.

OUR MISSION:
To demonstrate municipal leadership in sustainable community development by working with partners to implement holistic decision-making and planning processes and innovative projects.

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What is Sustainable Community Development?

Sustainable community development is a holistic process that builds social, economic and environmental capital to bring human settlement closer to living within the sustaining capacity of ecosystems locally and globally.

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What is Sustainable Community Development?

- Decision making processes. It's not an end state
- Building: social, economic and environmental capital
- Implies:
  - continuous improvement
  - integration
- Thinking long-term: acting as if we intended to stay
- A new value system built on accepting responsibility for personal, corporate and institutional lifecycle effects on social, economic and environmental capital.

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How to get there? Easy!
Work with nature not against it

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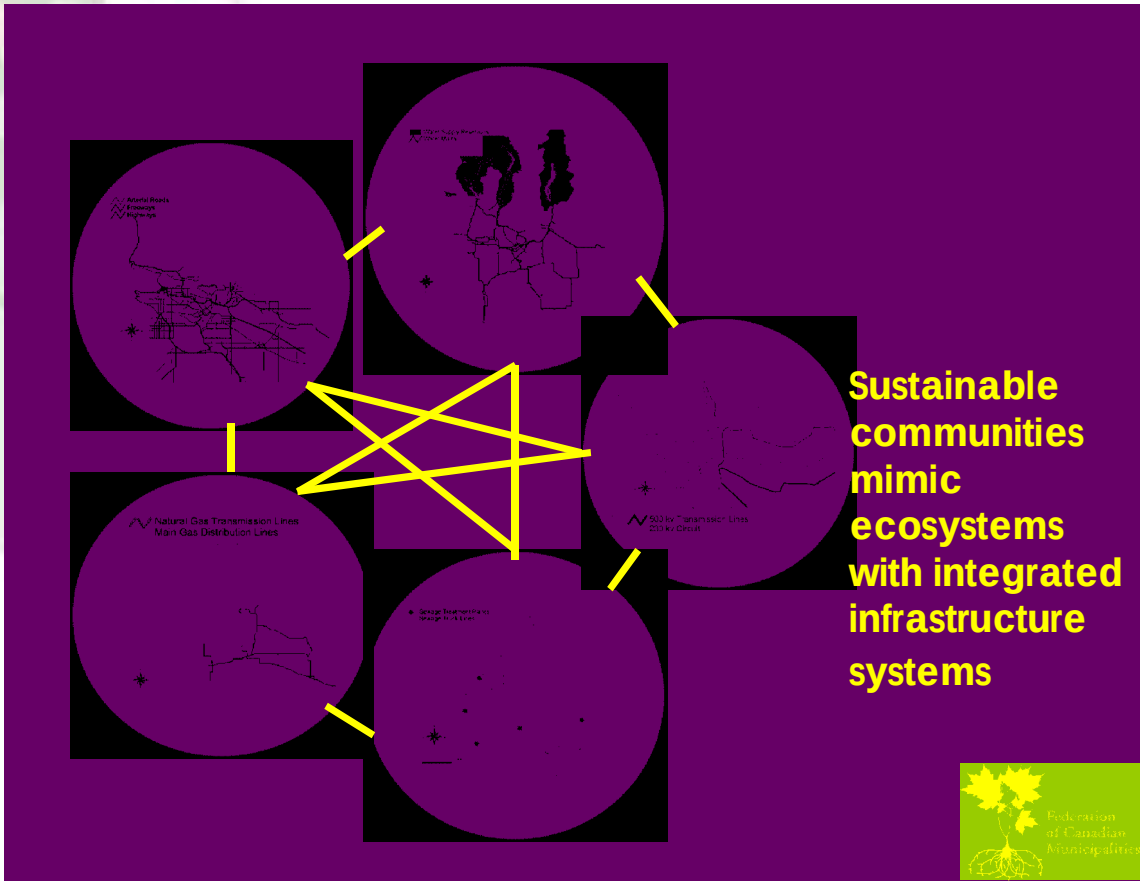
Holistic means integrated



Sustainable communities mimic ecosystems with integrated infrastructure systems

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Use Green spaces to Integrate

- Green connectors instead of roads
- Green connectors facilitate surface stormwater movement = greater savings
- Green spaces treat water = greater savings
- Green spaces facilitate gentle intensification AND socialization AND recreation
- Intensification facilitates local energy production/sharing for further savings AND energy conservation

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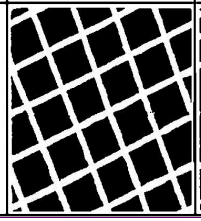
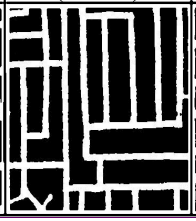
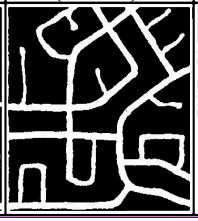
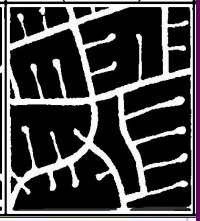
Green connectors instead of roads

less roads = less cost=more green

pattern efficiency can vary by12% +

within a neighbourhood

	Gridiron (c. 1900)	Fragmented Parallel (c. 1950)	Warped Parallel (c. 1960)	Loops and Lollipops (c. 1970)	Lollipops on a Stick (c. 1980)
Street Patterns					

	Square Grid. (Miletus, Houston, Portland etc.)	Oblong grid. (most cities with a grid)	Oblong grid 2 (some cities, or in certain areas)	Loops. (Subdivisions - 1950 to now)	Cul-de-sacs. (Radburn , 1932 to now)
Percent of area for streets	36.0%	35.0%	31.4%	27.4%	23.7%
Percent of buildable area	64%	65%	68.6%	72.6%	76.3%

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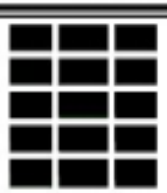
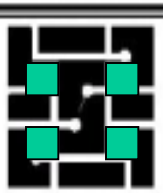
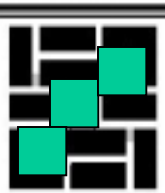
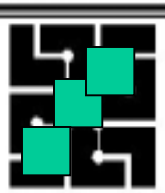
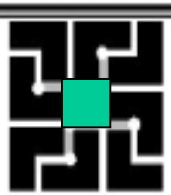
Develop hybrid options for more efficiency:

Locate “found” green spaces to suit

	 Square Grid. (Most cities)	 VFG A (4 loops,4 C-D-S)	 VFG- B (4 loops,2 C-D-S)	 FVG- C (8 C-D-S)	 VFG- D (8 C-D-S)
Percent of area for streets	**35.0%**	**27.4%**	**27.4%**	**23.7%**	**23.7%**
Percent of buildable area	**60%**	**63.6%**	**64.3%**	**68.0%**	**68.0%**
Percent of Open Space	Required **5%**	**9.0%**	**8.3%**	**8.3%**	**8.3%**
Total	**100%**	**100%**	**100%**	**100%**	**100%**

density is an independent variable

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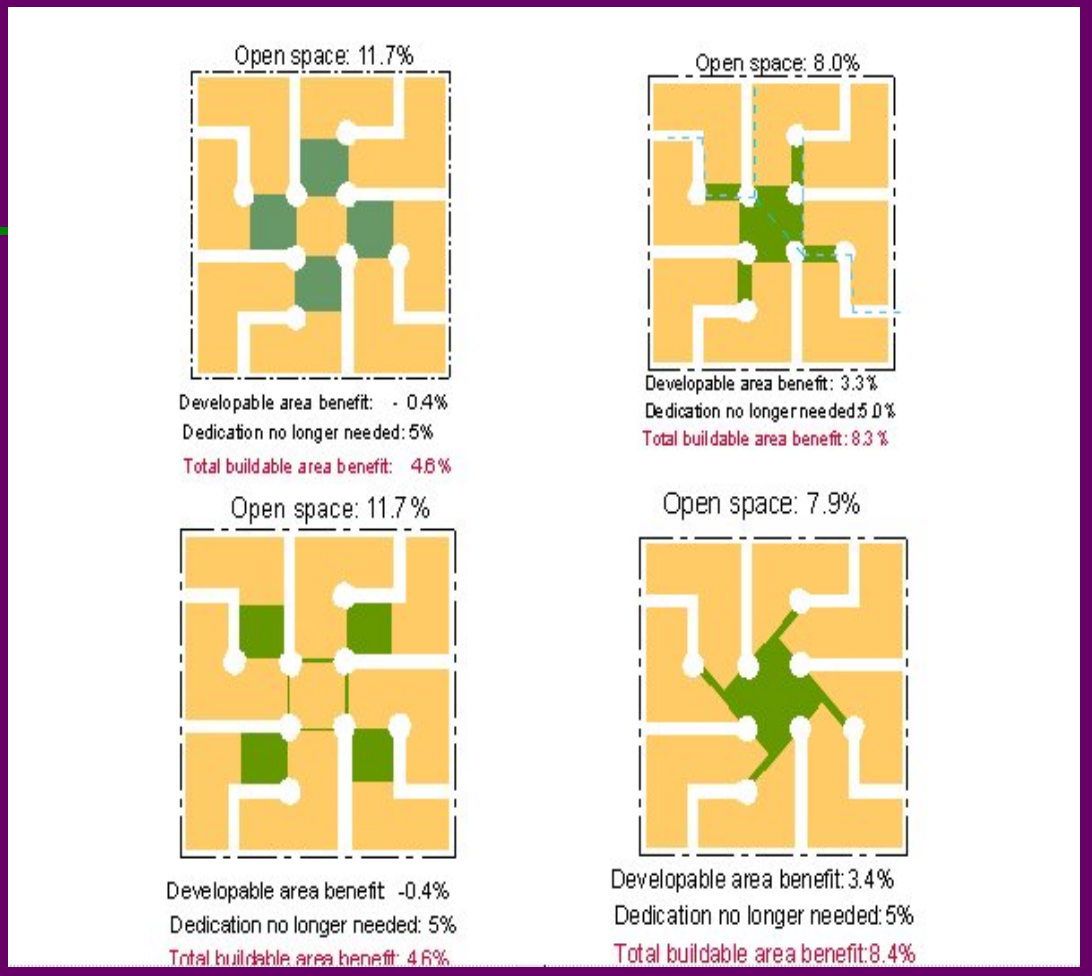
CMHC SCHL

Canada

Efficient options increase green space, cost less and look better….



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Green spaces as Physical Infrastructure

- Transportation: paths, bikeways,traffic calming
- Wastewater: Greywater, wetlands, living machines
- Stormwater: movement, storage, reuse
- Energy: cooling, protection
- Air quality: CO_2 absorption
- Ecosystem: habitat, biodiversity,movement corridors

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Green spaces as social infrastructure

- Socializing/crime reduction: structured and unstructured meeting places and walkways
- Health: playfields, cycling, jogging, boating, air quality
- Education: schoolyards, arboretums, gardens

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Integration saves many ways!

Saves money: Finance green spaces with the road, sewer, education, water , energy, police , health and recreation recreation budgets

Saves land: single spaces perform multiple functions, green spaces allow greater density

Saves energy: green spaces cool, protect

Saves life support system (ecosystem):

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Integration saves many ways!

Roadway and vegetated swale are integrated

Public gathering space is also temporary stormwater retention

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Green spaces treat greywater

CK Choi Bldg @UBC Recycled another bldg, preserved existing trees for cooling,aesthetics, habitat, public sidewalk/garden processes greywater

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Green spaces treat storm/waste water

Constructed/natural wetlands polish waste water

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Green Spaces treat blackwater

Living Machines treat blackwater with biology

Bear River Nova Scotia

Errington B.C.

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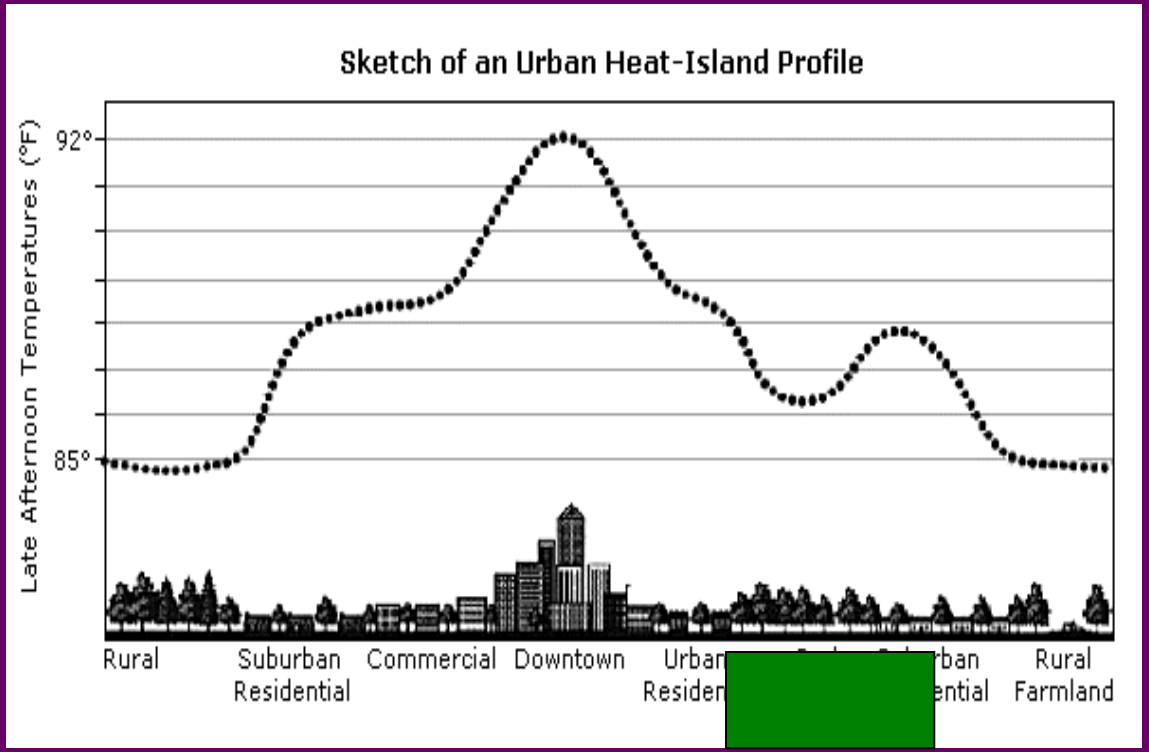
Green spaces save energy



Parks are cool !!

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Green roofs save energy, improve air quality, absorb stormwater

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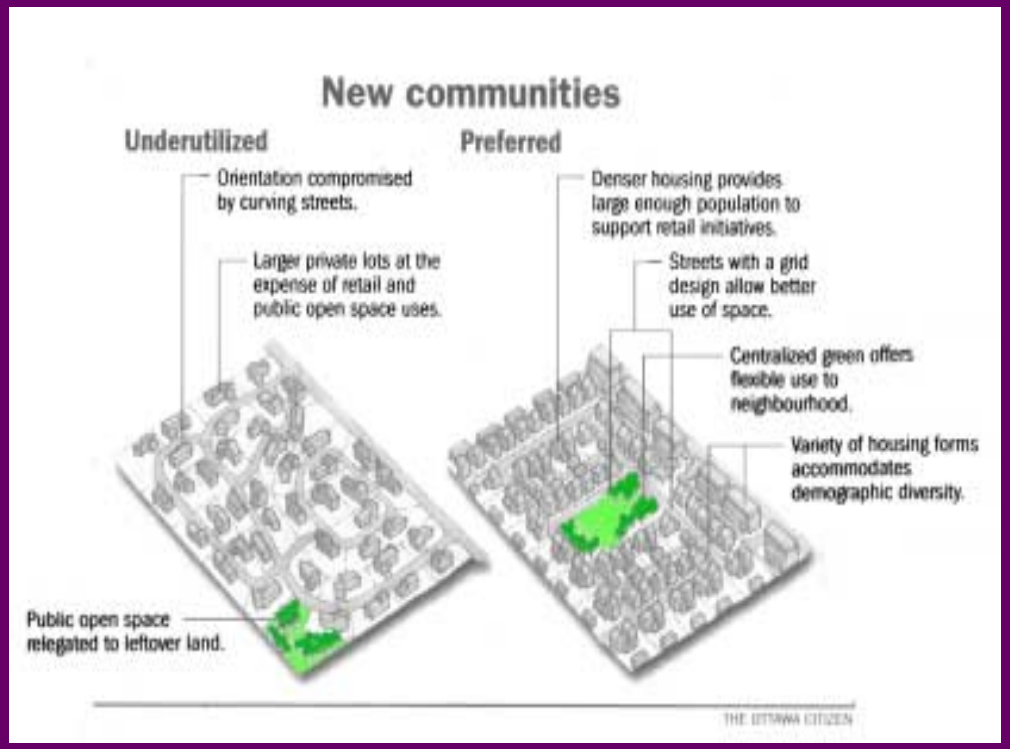
Sustainable communities are more compact and denser

Density is far more acceptable to all when immediately connected to green spaces

Green spaces facilitate gentle intensification, socialization, recreation



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Bain Co-op T.O. 1914

55 units per acre

260 units in 25 bldgs

courtyard plan

parking at perimeter and on street

affordable

jobs on site

community composting, gardens, activities

rainwater reuse

5 minutes to stores and transit

1 minute to park

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Bain Co-op

Ecological Protection

Density and Urban Design

Urban Infill

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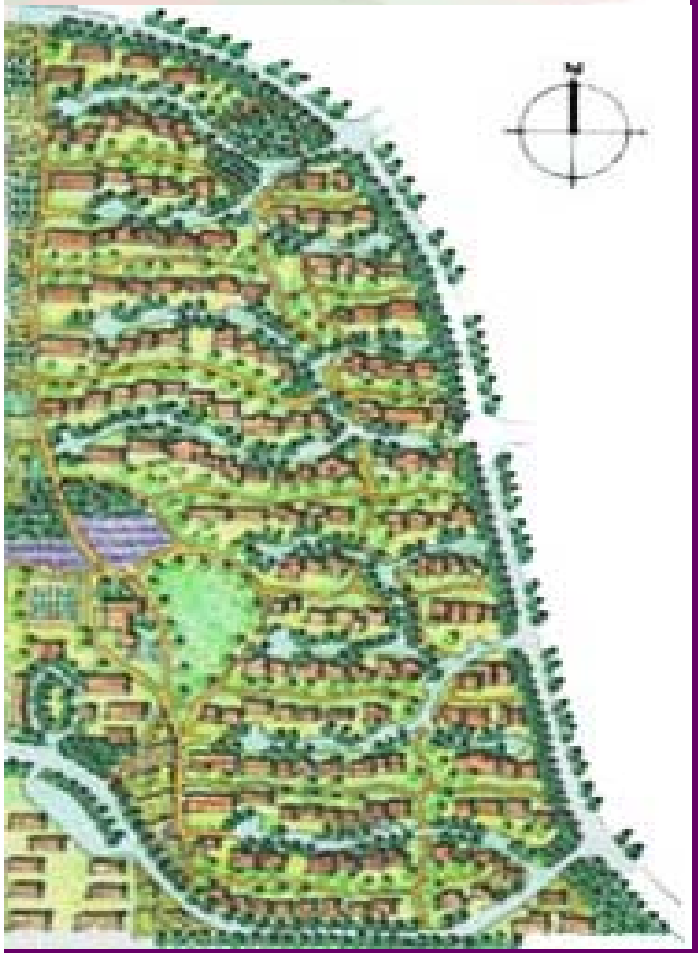
Village Homes Davis CA 1974



242 units on 60 acres (650 people)

17 acres of community gardens
(food bills 33% lower)

crime 10% of Davis average

utility costs 50% -70% of neighbours

landscaping uses 66% water for Davis average

car ownership lower

house values $10-$15 per sq.ft over neighbors (and sell quicker)

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Village Homes Davis CA (74)

Surface stormwater management, circulation, agriculture, passive heating and cooling between homes

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Oslo Norway

Add solar heated apartments to courtyard, use court to purify water. grow food

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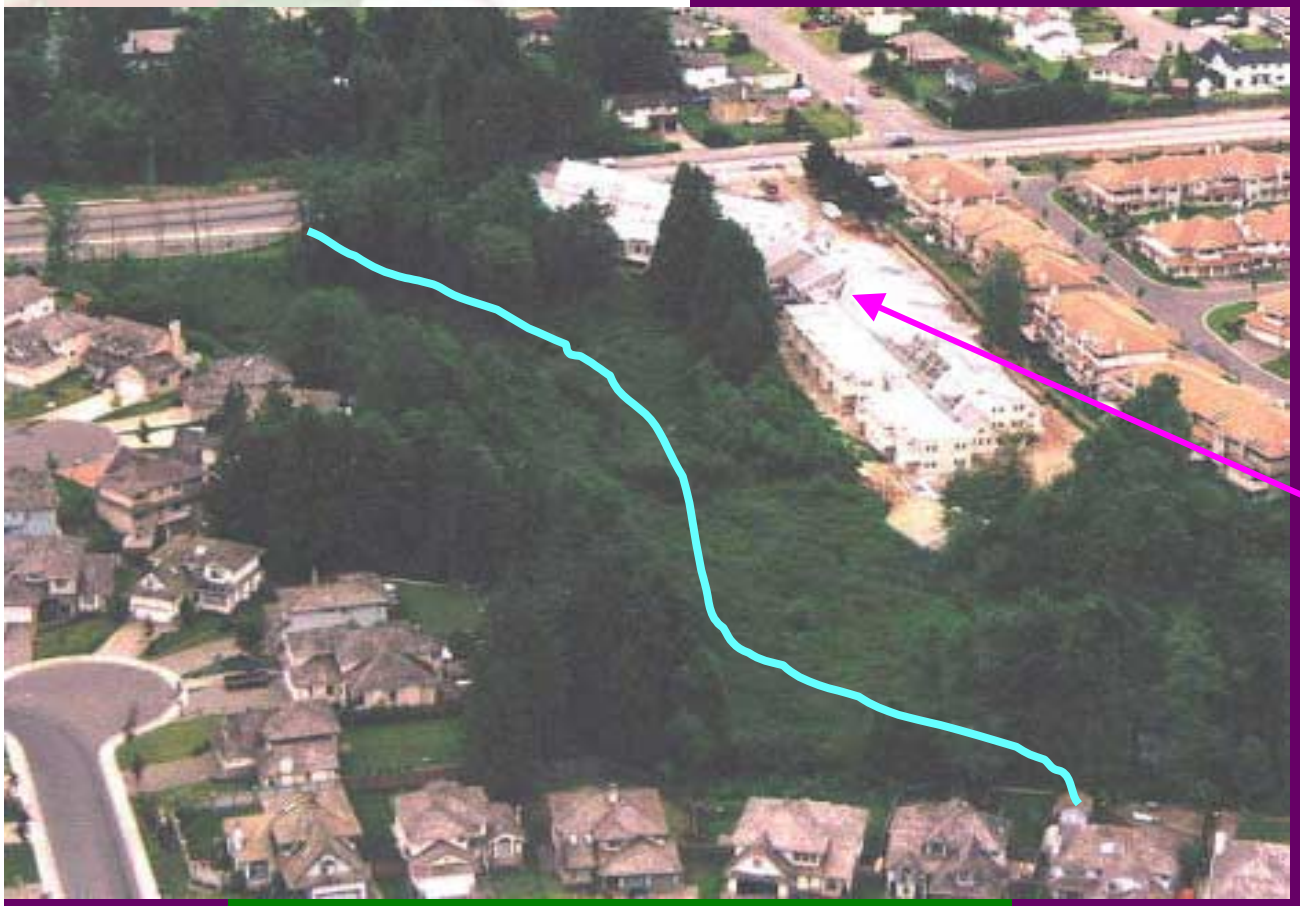
Windsong, Langley B.C.



Maintains density and green spaces both

AND

Adds social amenities as well

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Ithaca, New York

187 acre site originally planned as a conventional suburb, with 10% used as communal space. Instead, predicated on principles of co-housing to produce clustered development with 85% of site as communal open space, protected area and organic farm.

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Conservation Co-Op

A Built Community in Ottawa

84 unit, 4 story infill community constructed in Ottawa in 1995.

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