

This presentation premiered at WaterSmart Innovations

watersmartinnovations.com



WaterSmart Innovations

October 2009



Copyright © 2009 The TSR Group, Inc. All Rights Reserved. No part of this document may be reproduced or utilized in any form or by any electronic, mechanical or other means, now known or hereafter invented, without prior permission in writing from The TSR Group, Inc.



AGRIBURBIA™

Building the Infrastructure for the Next Generation of Farming...

Water Efficient and Sustainable
Landscape



Copyright © 2009 The TSR Group, Inc. All Rights Reserved. No part of this document may be reproduced or utilized in any form or by any electronic, mechanical or other means, now known or hereafter invented, without prior permission in writing from The TSR Group, Inc.



It is in the News Daily...



- ◇ Multiple Environmental and Cultural Issues
 - Carbon Footprint
 - Ethanol/Biofuels
 - Food Cost
 - Food Safety/Security
 - Social/Community
 - Global Warming
 - Water Availability
 - Water Quality
 - Sustainability
 - Economy

The Question Before Us...

How will we use this land on a square foot by square foot basis?



- ◇ We are entering the first period in history since the beginning of the industrial revolution that the land surface of the planet must provide all of the resources for basic human needs:
 - Food
 - Shelter
 - Transportation

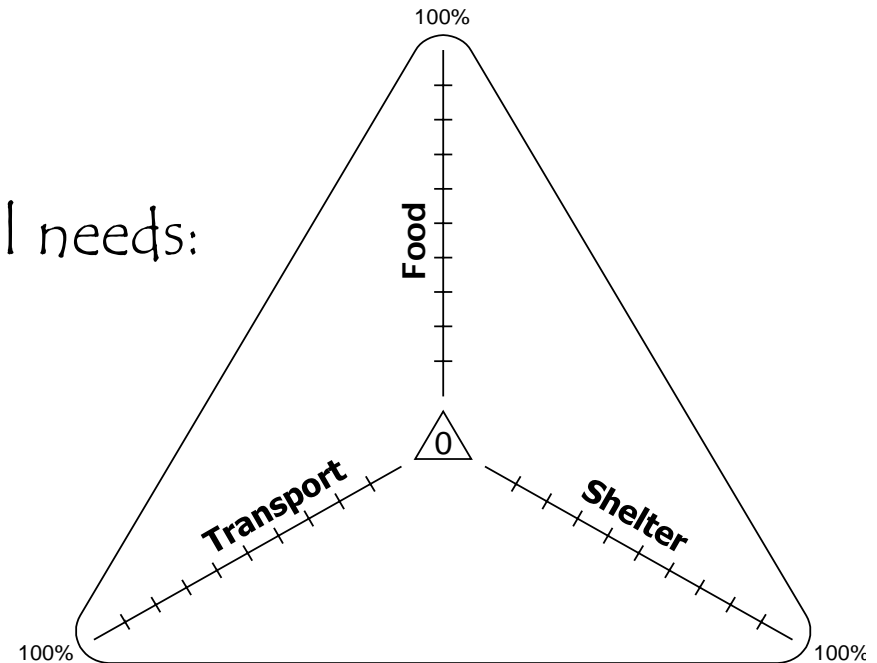
Landscape Geometrics...

◇ The Carbon Triangle™

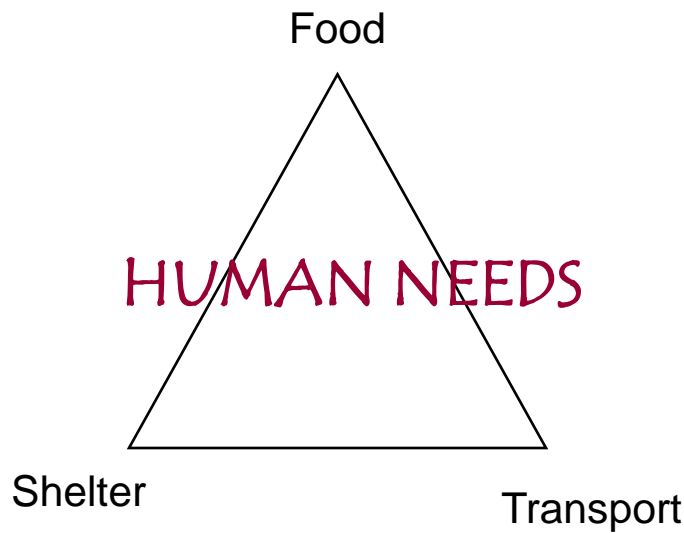
- Ternary Diagram
- Measures 3 variables

◇ Humans have three physical needs:

- Shelter
- Transportation
- Food



Agriburbia Concept



- ◇ **Agriburbia™** addresses all three components of basic human need.
- ◇ **Agriburbia™** combines the positive social, cultural, physical and financial characteristics from both urban and rural lifestyles to create an entirely new land use concept.
- ◇ **Agriburbia™** integrates food production as an integral element in the community design, social network, and financial viability of the neighborhood.
- ◇ **Agriburbia™** includes characteristics of New Urbanism, Historic Preservation, and other progressive, environmentally sustainable principles of real estate development.

Today we have this...

The screenshot shows the USA Today website interface. The top navigation bar includes links for Home, News, Money, Sports, and Life. The article title is "Lawn and disorder: A 'natural' view of landscaping" by Craig Wilson, dated 04/11/2002. The article text discusses lawn maintenance statistics and introduces Warren Klink, a landscape architect who runs a "lawn reduction company." A photograph shows a well-maintained lawn in front of The Lane Public Library in Hamilton, Ohio. The caption notes that the library has a "non-lawn" look. The article continues with a quote from Klink about the industry's reliance on pesticides and a mention of Cincinnati suburbs.

USA TODAY

Home
News
Money
Sports
Life

Main Categories
[People](#)
[Books](#)
[Movies](#)
[Music](#)
[Television](#)
[Travel](#)
More Life
[City Guides](#)
[Columnists](#)
[Crosswords](#)
[Flight Tracker](#)
[Photo archive](#)
[Life index](#)
[Talk Today](#)

Tech
Weather

Search Go

Site Web

By LYCOS

ARCHIVES
SEARCH FOR
NEWSPAPER ARTICLES
[CLICK HERE](#)

NEW E-MAIL
**GET NEWS
IN YOUR INBOX**
[Click here to get the](#)

Life

• E-mail this story • Subscribe to the newspaper • Sign-up for e-mail news

04/11/2002 - Updated 10:39 PM ET

Lawn and disorder: A 'natural' view of landscaping

By Craig Wilson, USA TODAY


HAMILTON, Ohio — Americans mow 31 million acres of lawn every year. It takes 300 million gallons of gas and 1 billion hours to complete the chore. And for this privilege they will spend \$17.4 billion on everything from pesticides (70 million pounds) to lawn tractors.

Warren Klink thinks that's insanity. And with a drought looming for much of the country this summer, it's double insanity.

Klink is a landscape architect who runs a small firm here called Urban Thickets. He proudly proclaims it's a "lawn reduction company." A little quirky, a bit mischievous and highly likable, Klink is referred to fondly within the industry as "an onion among the orchids." He has been known to put up a stink.

He covers his mouth and laughs when he says something verging on the outrageous.

He points at huge expanses of lawn as he drives through the Cincinnati suburbs and shakes his head in sadness. "More culture to the extreme," he calls it.



The Lane Public Library in Hamilton, Ohio, sports a 'non-lawn' look.

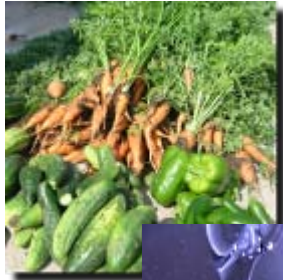
- ◇ 31 million acres of lawn annually require:
 - 300 million gallons of gas
 - 1 billion hours of labor
 - \$17 billion a year industry
 - 17.4 trillion water gallons (53.4 million ac ft)
- ◇ All of this lawn is prime farmland that is naturally fertile or amended and irrigated/irrigatable

A luxury we can no longer afford...



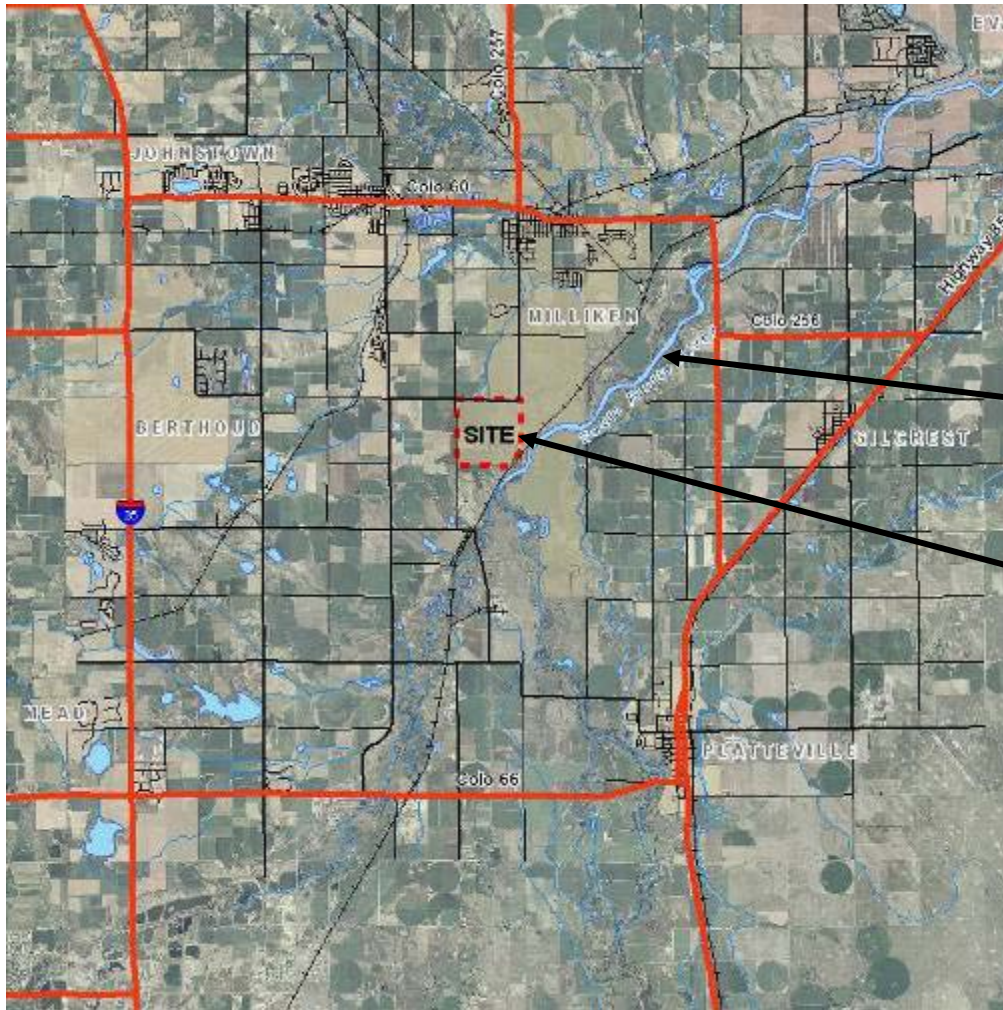
- ◇ In a traditional subdivision, only a small percentage of the actual land area is taken up with buildings and roads...the rest is left to public and private outdoor space. This "space amenity" consumes water, labor and land - without providing economic return or contributing to essential human needs.

Agriburbia Principles...



- ◇ No Net Loss of agricultural value or revenue ("Green Fields" development), or
- ◇ Production of a significant portion of dietary requirements (up to 50%) grown within or in the immediate surrounding area of the community
- ◇ Provide commercially viable opportunities for enhanced self-sufficiency and local market growing
- ◇ Integrate Sustainable Energy Practices including solar, wind, geothermal and others,
- ◇ Incorporate established financial mechanisms such as Metropolitan Districts and Community Associations, to build and manage both traditional infrastructure (streets, water, sewer) and agricultural infrastructure (irrigation, machinery).

Example Agriburbia Project...



Milliken, CO
Preliminary Plat
Approved

South Platte

Development Site

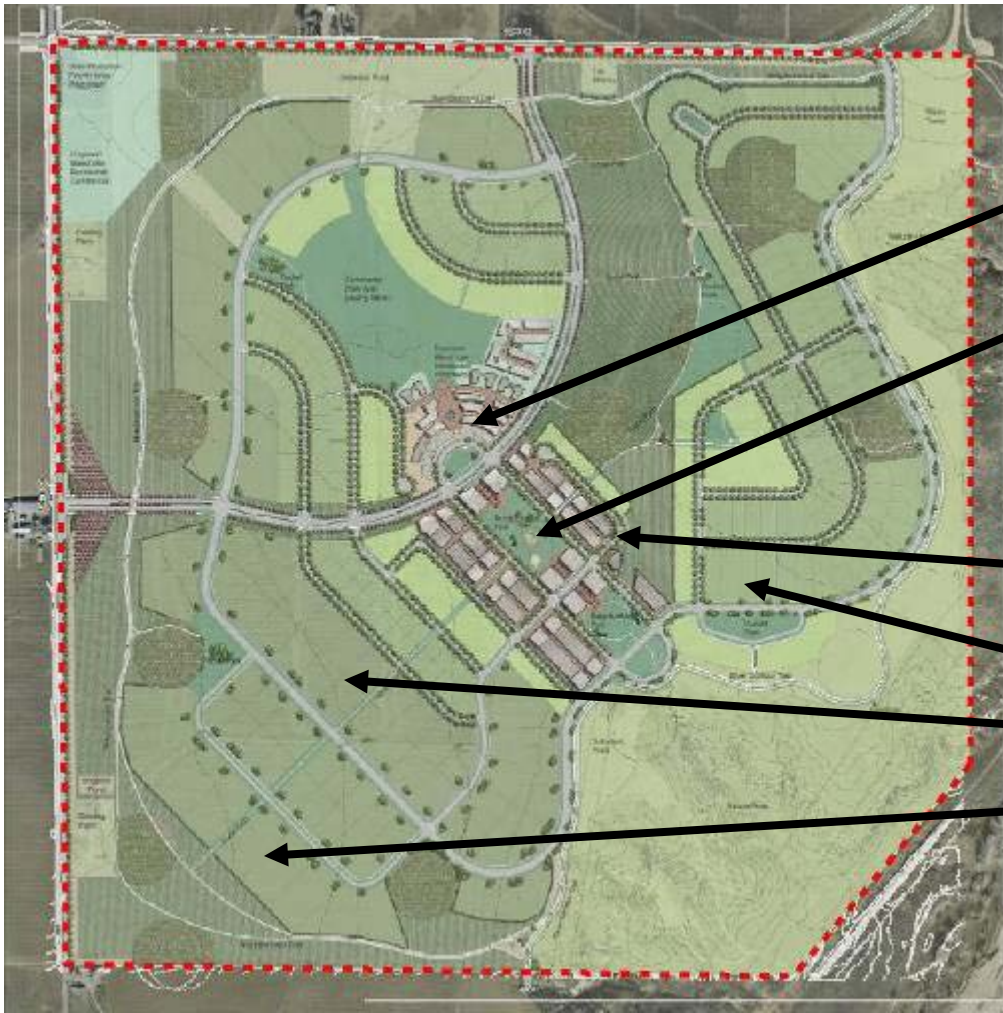
Example Agriburbia Project...



Project Total Area 618
Acres

Previous or Currently
Tilled Land 522.6
Acres flood-irrigated
commodities
Approx. \$350,000
annual revenue

Example Agriburbia Project...



Agriburbia Design

Commercial Areas

Town Center, Community
Gathering Place,
Transportation Hub

Live/Work Condos

1/4 Acre Lots

1 Acre Lots

2 Acres Lots

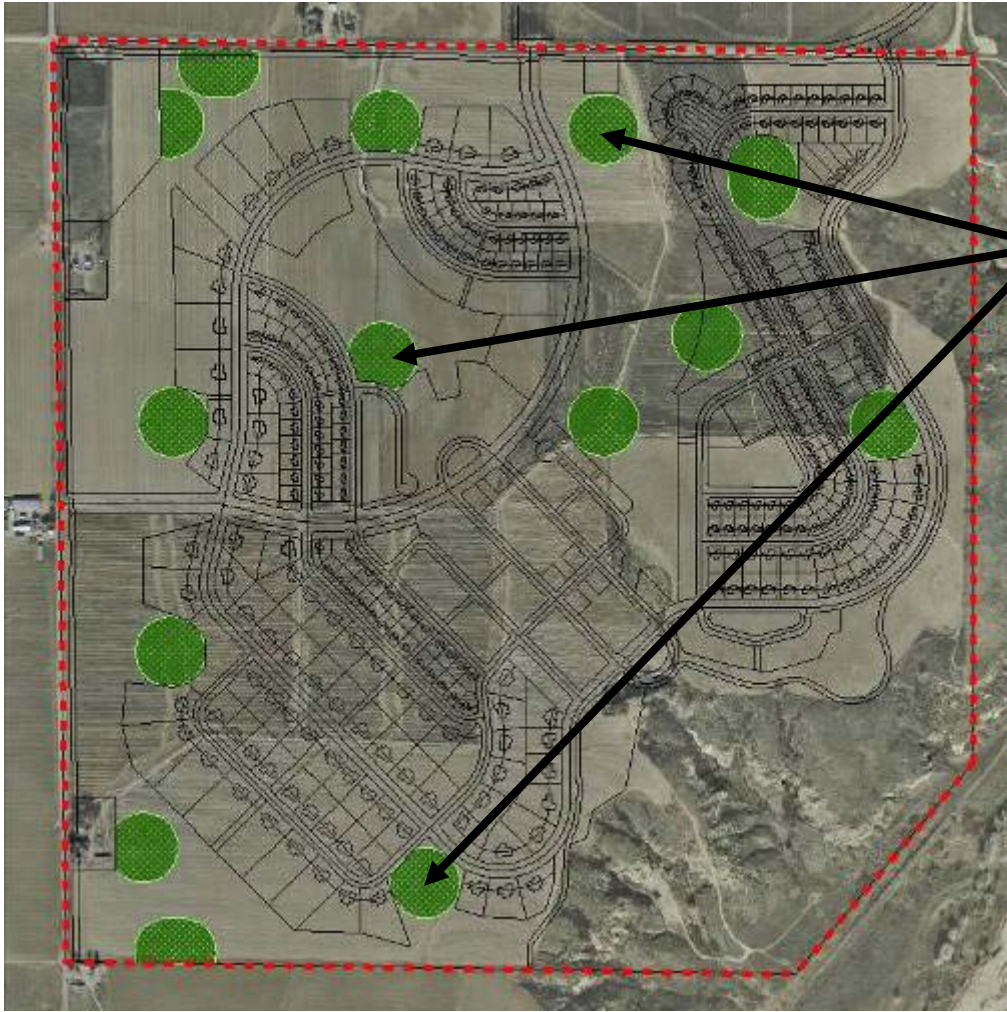
Total 994 Dwelling units

Example Agriburbia Project...



113.3 Acres of Civic Farms
- Publicly owned
- Cash crop

Example Agriburbia Project...



38.4 more Acres of
Civic Farms
(oil/gas well heads)
-commonly owned
-CSA crops

Example Agriburbia Project...

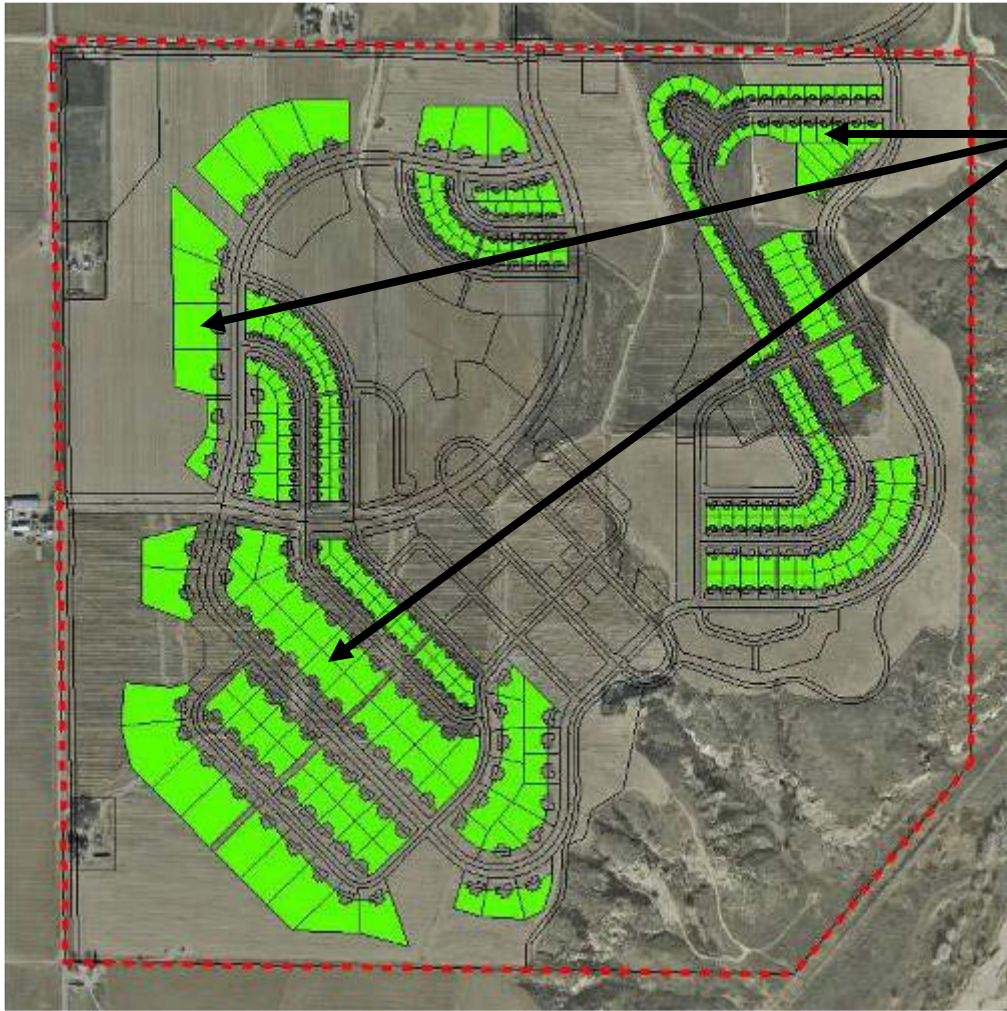


151.7 Total Acres of
Civic Farmland

Farm Contract/Lease
managed by Metro
District or Community
Association (\$50k,
New House, Share
Net)

\$1.5 million for drip
irrigation funding in
Metro District

Example Agriburbia Project...



108 Acres of
Steward Farms
-privately owned
-CSA crops

Also included in Farm
Contract

Dual water system potable
and non-potable water
stub-outs to each lot

Example Agriburbia Project...Summary



259.7 Acres total Civic and Steward Farm Lands

49.7% of previously tilled land can still be in production with high yielding intensive vegetable and perennial crops and export crops

Net agricultural value:

-Civic Farm \$1,330,000

-Steward Farm \$2,350,000

(36 x current net)

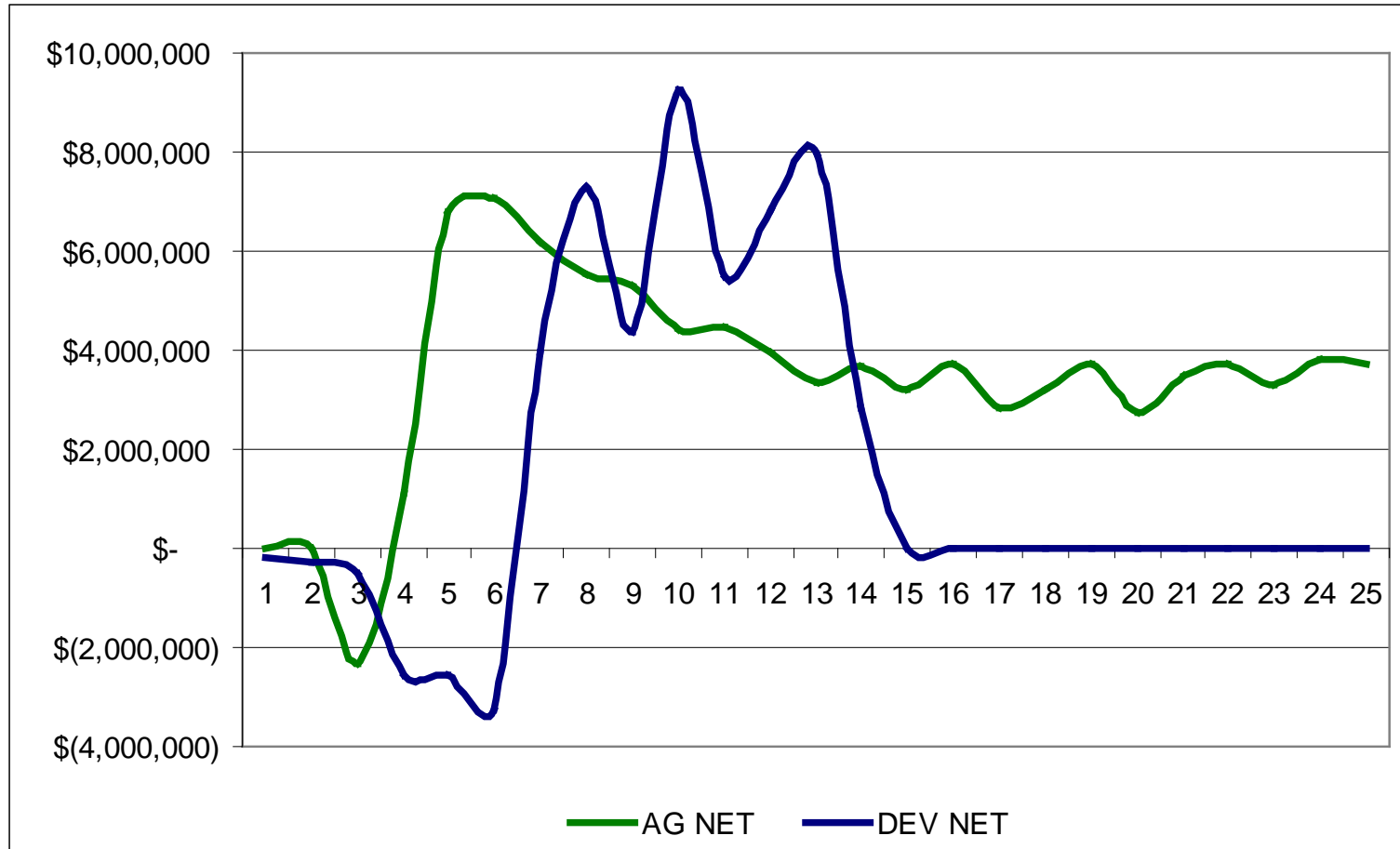
1/3 of typical agricultural water usage

High Quality Professional Careers...



- ◇ This project creates between 3 to 7 professional farm management jobs...
- ◇ 150 dedicated skilled labor opportunities...
- ◇ Numerous value add opportunities, food prep, canning, storage etc...

Proforma: Net Agriculture + Development



Traditional/Non-Productive



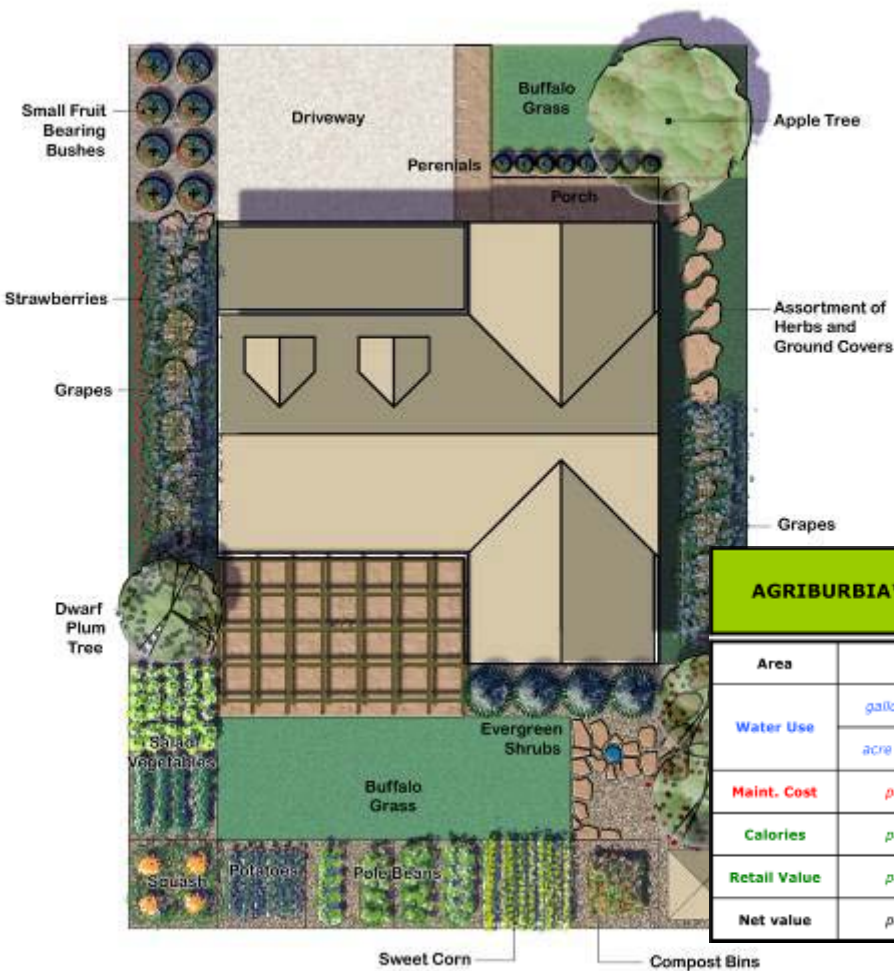
TRADITIONAL		Turf I Kentucky Blue	Turf II	Shrub Beds Moderate Water	Agri I	Agri II	Patio & Hardscape Area	House / Porch / Driveway	TOTALS
Area	sq ft	2458	0	1565	0	0	193	2784	7000
Water Use	gallon/sq ft	20	0	10	0	0			
	acre ft/area	0.1509	0.0000	0.0480	0.0000	0.0000			0.20
Maint. Cost	per area	\$ 491.60	\$ -	\$ 313.00	\$ -	\$ -			\$ 804.60
Calories	per area	0	0	0	-	-			-
Retail Value	per area	\$ -	\$ -	\$ -	\$ -	\$ -			\$ -
Net value	per area	\$ (491.60)	\$ -	\$ (313.00)	\$ -	\$ -			\$ (804.60)

Low Water/Non-Productive



LOW WATER		Turf I	Turf II	Shrub Beds	Agri I	Agri II	Patio & Hardscape Area	House / Porch / Driveway	TOTALS
		Tall Fescue		Low Water					
Area	sq ft	1257	0	2766	0	0	193	2784	7000
Water Use	gallon/sq ft	10	0	3	0	0			
	acre ft/area	0.0386	0.0000	0.0255	0.0000	0.0000			0.06
Maint. Cost	per area	\$ 251.40	\$ -	\$ 553.20	\$ -	\$ -			\$ 804.60
Calories	per area	0	0	0	-	-			-
Retail Value	per area	\$ -	\$ -	\$ -	\$ -	\$ -			\$ -
Net value	per area	\$ (251.40)	\$ -	\$ (553.20)	\$ -	\$ -			\$ (804.60)

Low Water/Productive



AGRIBURBIA™		Turf I	Turf II	Shrub Beds Low Water	Agri I	Agri II	Patio & Hardscape Area	House / Porch / Driveway	TOTALS
		Tall Fescue	Buffalo		Low Water	Moderate Water			
Area	sq ft	560	378	329	950	1000	710	3073	7000
Water Use	gallon/sq ft	10	3	3	3	10			
	acre ft/area	0.0172	0.0035	0.0030	0.0087	0.0307			0.06
Maint. Cost	per area	\$ 112.00	\$ 75.60	\$ 65.80	\$ 475.00	\$ 500.00			\$ 1,228.40
Calories	per area	0	0	0	250,800	264,000			514,800
Retail Value	per area	\$ -	\$ -	\$ -	\$ 950.00	\$ 1,000.00			\$ 1,950.00
Net value	per area	\$ (112.00)	\$ (75.60)	\$ (65.80)	\$ 475.00	\$ 500.00			\$ 721.60

Water Efficient *and* Sustainable

SUMMARY		TRADITIONAL	XERIC	AGRIBURBIA™
Area	sq ft	7000	7000	7000
Water Use	acre ft/area	0.20	0.06	0.06
Maint. Cost	per area	\$ 804.60	\$ 804.60	\$ 1,228.40
Calories	per area	-	-	514,800
Retail Value	per area	\$ -	\$ -	\$ 1,950.00
Net value	per area	\$ (804.60)	\$ (804.60)	\$ 721.60

← - WATER

← + CALORIES

← +BOTTOM LINE

Agriburbia Land Use Types Summary:

- ◇ Civic Farming
 - Commonly owned parcels
 - Managed by District or Community Association
 - Professionally Operated (Farm Contract)
 - Export and/or CSA crops

- ◇ Steward Farming
 - Privately Owned
 - Managed by District or Community Association
 - Professionally Operated (Farm Contract)
 - Part of CSA

- ◇ Private Farming
 - Privately Owned
 - Personal owner/operator
 - Not part of CSA

Benefits of Agriburbia...

- ◇ **Agriburbia** provides an opportunity for farmland owners to participate in a development
- ◇ **Provides** excellent opportunities for high quality professional agricultural farm jobs and contracts with less financial risk
- ◇ **Smooths** Revenue Curves and helps absorption
- ◇ **Brings** better infrastructure and services, such as medical and educational support to rural areas
- ◇ **Sustainable**, best practices available for energy, water and land use
- ◇ **Self-sufficient communities**, strengthens access to basic human needs (food, shelter, transportation)

Summary

- ◇ We need to address all three human need components with every decision.
- ◇ We must measure our habitation and integration with the planet using much finer units (Square feet vs. Acres)
- ◇ We need to be comprehensive about this measurement.
- ◇ In the future there will be Three different Agricultures...
 - Industrialized Commodities & Fuels
 - Local and Regional Food (CSA or other)
 - Individual Urban Agriculture

The future...



- ◇ We need to connect more of the population to the land and to the source of their food. It will provide greater mutual respect for all concerned.
- ◇ Localize the economy, community and food system.
- ◇ It is not necessarily the size of the farm, it is quality of the products and margins on the revenue for the amount of effort and inputs that makes a difference.
- ◇ If we're going to grow our own food we need water--- infrastructure and well applied water is one sustainable answer

WaterSmart Innovations

October 2009



Copyright © 2009 The TSR Group, Inc. All Rights Reserved. No part of this document may be reproduced or utilized in any form or by any electronic, mechanical or other means, now known or hereafter invented, without prior permission in writing from The TSR Group, Inc.

