

Harnessing the
Power of Organics for
Clean Water and Local Food

Rod Tyler

CEO

Filtrexx International, LLC

Our connection to nature...

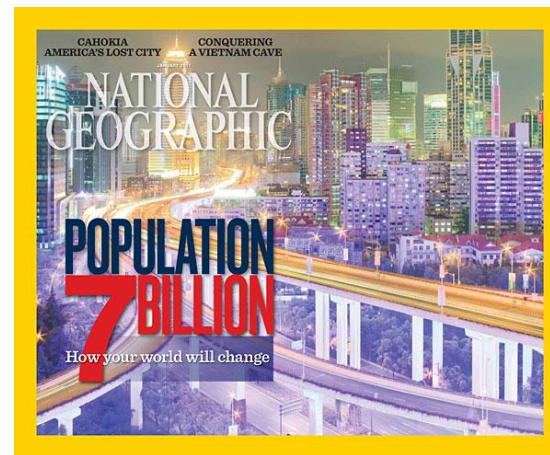
Our relationship to the land is ironic in this sense; we profit from plundering it but are depleted by its depletion, because renewal is not something we can bestow on our inanimate creations. The problems made by man can't be solved by man—but instead by harnessing the very nature we have displaced, in pursuit of our own progress. Filtrexx represents the elusive balm of a natural solution that also serves the needs of man to profit without foregoing natural resources required to serve those needs.



The Perfect Storm

Background/Context of Global Issues we face:

- 7 Billion people on earth
- 2/3 of our Nation's topsoil has eroded
- Food safety, security and nutritional value
- Locally produced food vs. food factories
- Clean, drinkable, swimmable, fishable waters
- Energy - Marcellus and Utica Shale drilling
- Man made vs. Natural



National Geographic,
January 2011



Context

This 'context' or background is what drives purchasing decisions for:

- Individuals
- Farmers
- Corporations
- Government
- Schools
- Nations

Consumer values are changing...

From:

Globally-available
Conventionally grown
Expansion
No compliance
Lowest cost of entry
Man-made

To:

Locally-grown
Certified organic
Sustainability
Low-impact Devp
Total cost of owning
Natural



Let Nature do it®

Because Nature can do what Man Cannot®

- **CAN** man do it?
 - Clean Water Act
 - For over 30 years, Man has been using “BMP’s” to stop sediment from reaching water.
 - Do we have clean water?
 - Clean Air Act
 - Do we have clean air?
 - Clean Soils Act???

Our Opportunity

- For MAN To do WHAT NATURE cannot....

• **THAT** would be impressive



What nature *cannot* do

- Convert waste into compost in 3 months
- Collect garbage and compost 70% of it
- Use compost to garden on a rooftop, pavement, gravel, or poor soil
- Provide a weed free medium (compost)
- Contain loose compost for stormwater or growing applications
 - Yet, ironic that compost comes from a natural process....



The ideal tool to teach sustainability

- A consumable yo-yo, hoola hoop, hush puppie, roller blade, velcro, cabbage patch kid, beanie babie, mood ring, pet rock, transformer, hot wheel, barbie, furbee, sustainably green recycled low environmental impact locally made product that anyone can use and is idiot proof.
- We need the sesame street for adults to learn how to farm, produce food and clean water.

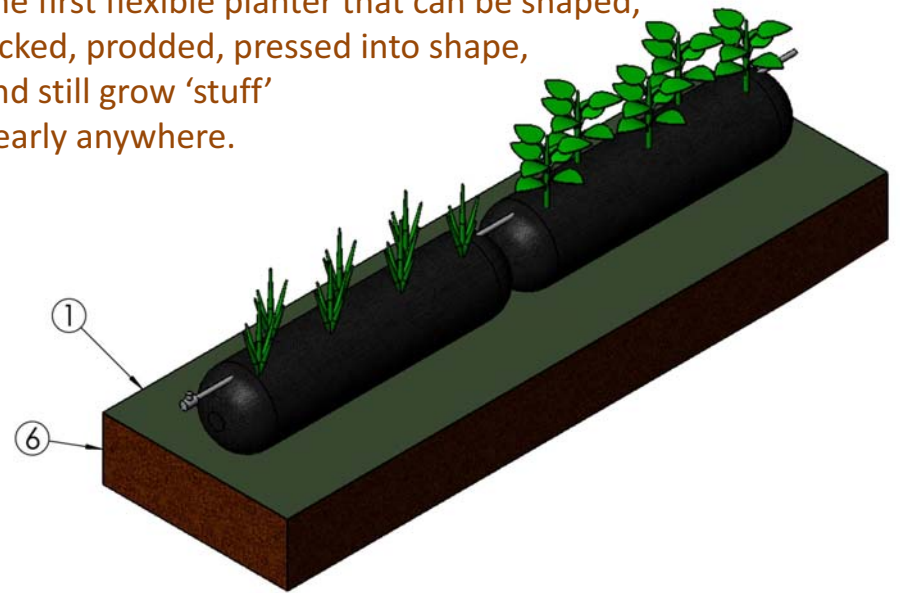


We need EASY

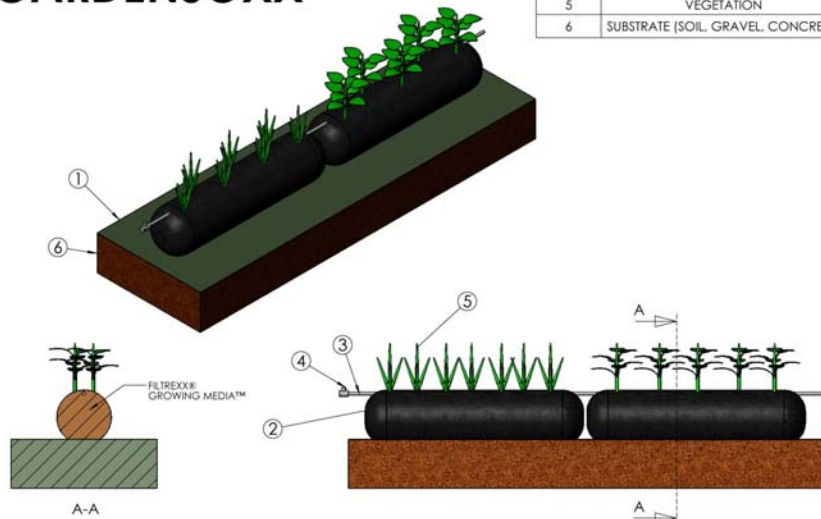


Introducing GardenSoxx®

The first flexible planter that can be shaped, kicked, prodded, pressed into shape, and still grow 'stuff' nearly anywhere.



FILTREXX® GARDENSOXX™



| ITEM NO. | DESCRIPTION | QTY. |
|----------|------------------------------------|------|
| 1 | WEED BARRIER | 1 |
| 2 | 2'-200" LONG SOXX | 2X3 |
| 3 | DRIP TAPE | 1 |
| 4 | IRRIGATION HEADER | 1 |
| 5 | VEGETATION | N/A |
| 6 | SUBSTRATE (SOIL, GRAVEL, CONCRETE) | N/A |

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ALL DIMENSIONS ARE IN INCHES
ANGULAR, REND 1/2"
TWO PLACE DECIMAL: 1/16"
THREE PLACE DECIMAL: 1/32"

DRAWN: ELP
CHECKED: ELP
DATE: 01/15/10

filtrerxx
GARDENSOXX™
10000110



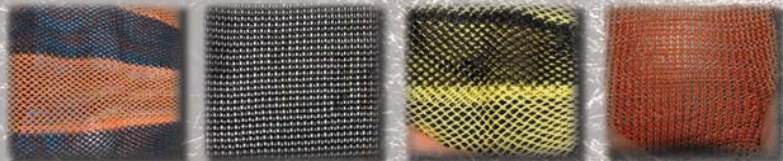
Anyone can
do it



1. SOXX™

THE MESH CONTAINMENT SYSTEM

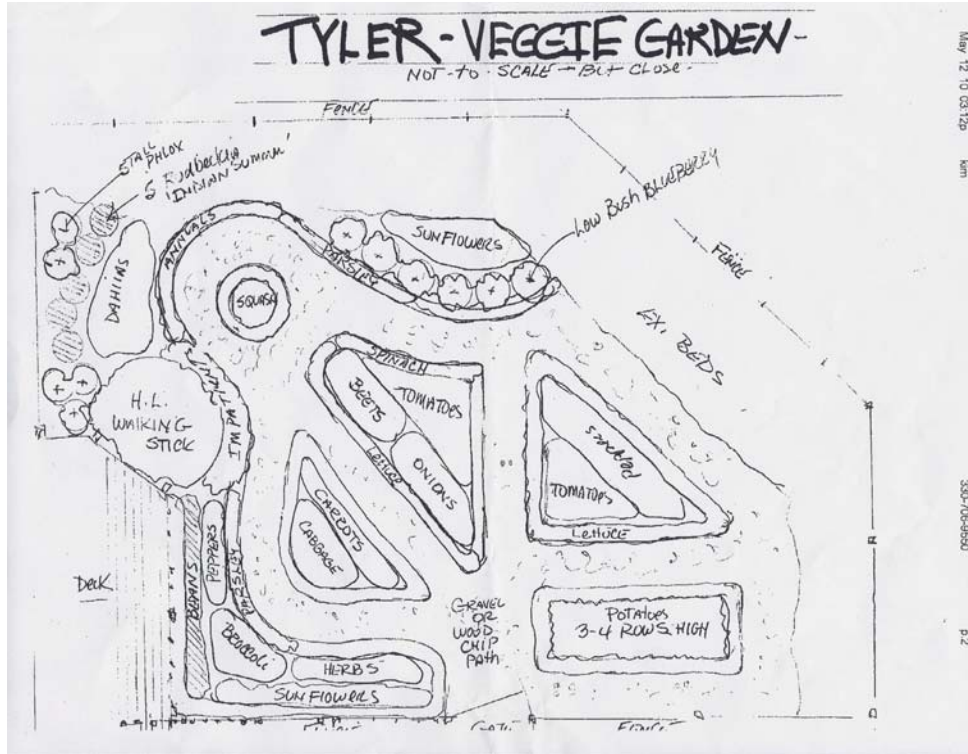
- Continuous Length
- Over 40 products/materials to choose from
- 8", 12", 18" and 24" diameters



Retail Garden Drivers

- Time - 30 minute gardens
- No tools needed
- Weather independent
- No weeds
- Lower maintenance required
- LOCAL
- Reduced disease
- Handicapped and Elderly accessible
- ANYONE CAN DO IT











Ag Drivers

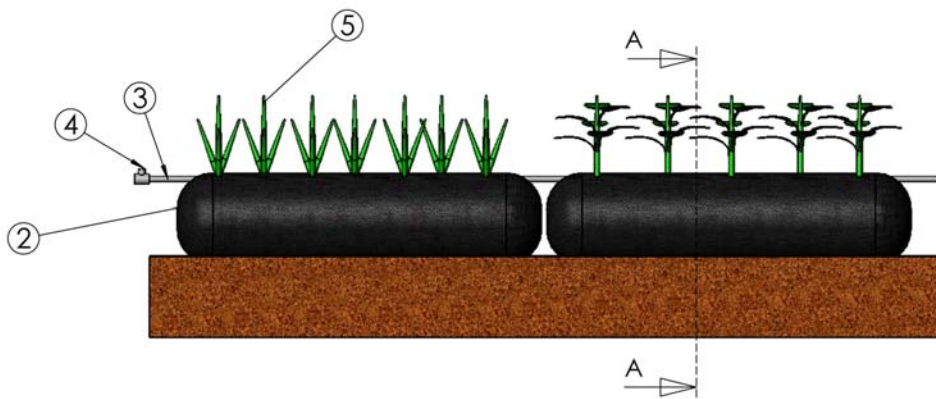
- Locally produced food aka, Whole Foods
- Food safety
- Organic
- Food Quality
- Nutritional value
- Less cost than hydroponic
- Weeds Diseases Pests/insects
- Declining soil quality
- ANYONE CAN DO IT



25 Varieties of Herbs



Segmented, portable, modular







**FOOD SAFETY, FOOD QUALITY,
NUTRITIONAL VALUE, LOCAL**

**Commercial Grower - 14 acres
250,000 linear feet - 1,675 pallets - 70 truckloads**



The ***Best Fruit*** = Flavor, size, color, health



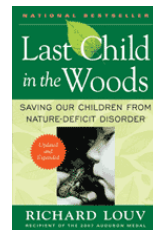
Source: Millner,
2009

School/Education drivers

- Curriculum – they have none
- Where food comes from
- Childhood obesity
- 'Have to teach it'
- Ties to natural play
- Limited budgets
- Allows more outside activities
- ANYONE CAN DO IT
- Loss of creativity in Children since 1990



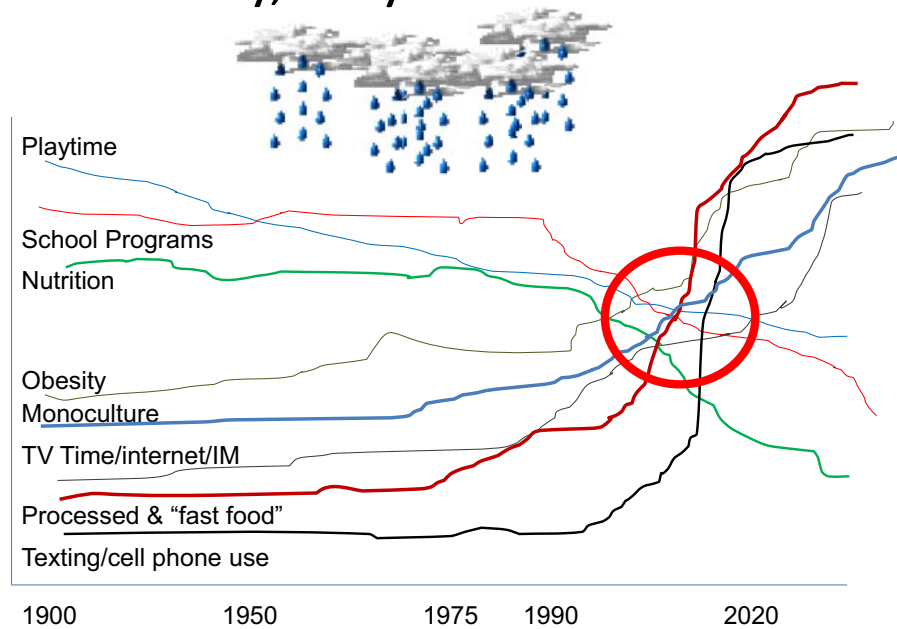
Learn more about reconnecting children and nature



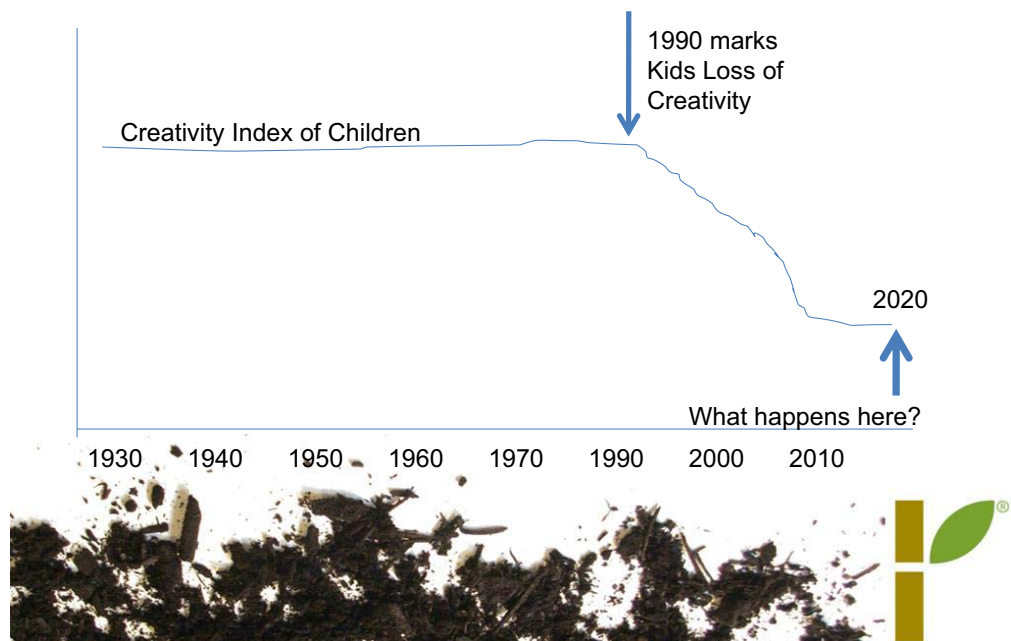
An Analysis of Trends Affecting Children and our Future Leadership



A very, very BAD Storm



Net Effect



What activities boost creativity?

- Time spent Outdoors
- Gardening
- Working with Nature
- Problem solving
- What schools have curricula for this?



What Do Youth Learn From Participation In Garden-Based Programs?

| Art | Health | Language Arts | Math | Music | Physical Ed. | Science | Social Studies |
|---|---|--|--|---|---|--|---|
| Drama or puppets Pen & Ink Rubbings Charcoal Artistic arrangements for gifts Illustrating expressive writing Vegetable printing Vegetable dyes Natural art drawings or collage Painting Sketching | Food security Feeding others Teaching the value of local food sources Nutrition education Making healthy choices about foods & diet Importance of exercise Breathing fresh air How to use tools safely | Written expression Nonfiction Fiction Expressive language (speech) Listening Reading Handwriting | Estimating & measuring Weight measurements Volume The Plot Time Plant growth Recording Logging Graphing Charting Geometry Area Scale drawing on graph paper Computation | Singing Drama Instrumental Music (Rhythms of Gardening) | Walking Lifting Carrying Digging Planting Raking Breathing fresh air Dexterity & balance | Science skills Observing Recording Measuring Concluding Comparing Testing Predicting Related activities Tools Seeds Soils Temperature Plant growth Sunlight Water usage | Discussing environmental issues Cultural exchange Developing a positive self-image through success experiences Support multiple intelligences teaching Learning about agricultural economy Developing insight into global conservation matters |

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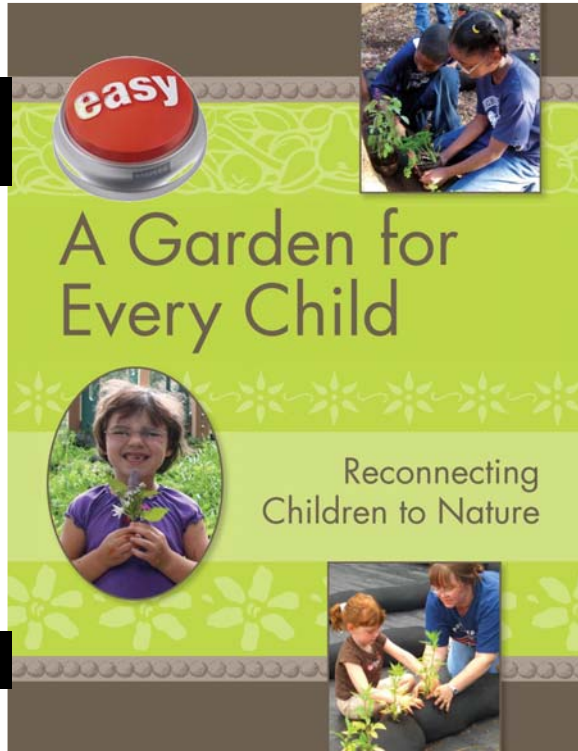
Announcing....



US Composting Council



filtrexx®
LAND IMPROVEMENT SYSTEMS



Filtrex® School Gardens



Filtrex GardenSoxx® - the easy way to garden

Children thrive in Nature...



EZ filler™ – use GardenSoxx® with your own locally made compost



Serve Lorain County a Garden - May 21st, 2011

- 750, 16 sq.ft Gardens – 12,000 sq.ft total
- 21 Vegetables & Herbs, Watering Can, “How To’s”, and Recipe Book
- To Low Income Families/Seniors
- Managed through Church Donations, Volunteers, and Sponsors

- WWW.DONATEAGARDEN.COM







Urban/Municipal Drivers

- Contaminated soils
- Expensive remediation
- Liability
- Vacant Lots
- Food deserts
- No soil - Pavement
- Heat islands
- ANYONE CAN DO IT



HEALTH

URBAN GARDENERS COPE WITH CONTAMINATION



Contamination Concerns:

Lead
Arsenic
Molybdenum
Cadmium
Zinc
Etc, etc.

Filtrex provides an
easy fix



Building cleared for community garden



If it does not work, it is 'too much work'

Flexibility is important

- Lot sold?
- Move garden?
- Temporary or permanent?
- Closure plan?
- Ease of use?
- Convenience
- Water?





Somali Bantu
Community Gardens
in Syracuse, NY

Traditional 'rows'



Before



January 2011



Local Food - The Triple Play

- Locally produced food
 - Cleveland lot initiatives
- Safer food
 - You know where it comes from
 - Organic
- More nutritious food
 - USDA showed food grown in Filtrexx system had up to 40-50% more food value

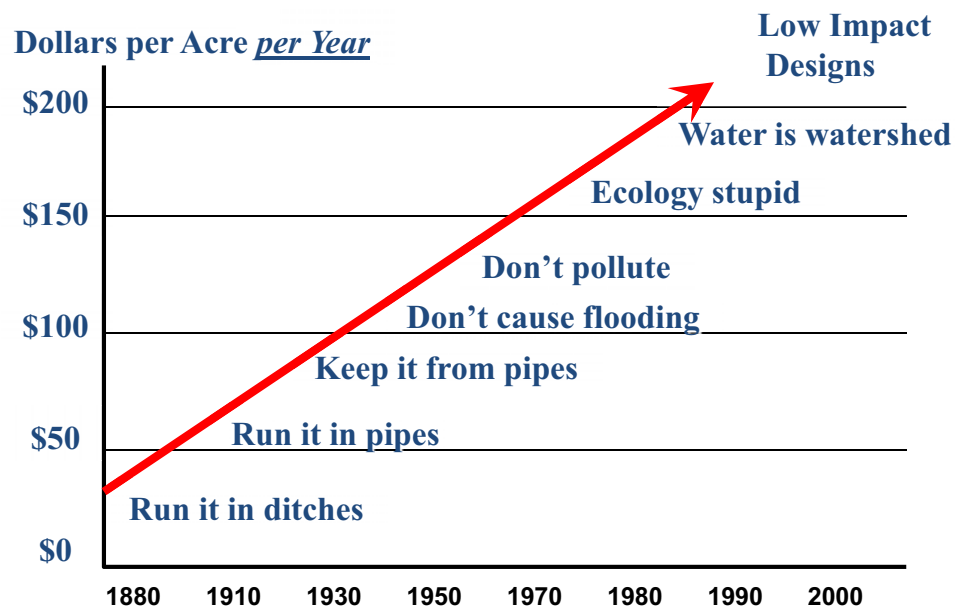


History of Storm Water

- 1936 - First recorded fires on the Cuyahoga
- 1969 - Outbreak of fires on Cuyahoga River
- 1970 - US forms The EPA
- 1972 - EPA passes Water Pollution Control Act
- 1977 - Officially called Clean Water Act
- 1990 - EPA starts NPDES Phase I
- 1999 - EPA creates NPDES Phase II
- 2003 - Enforcement starts for Phase II NPDES
- 2005 - TMDL starts

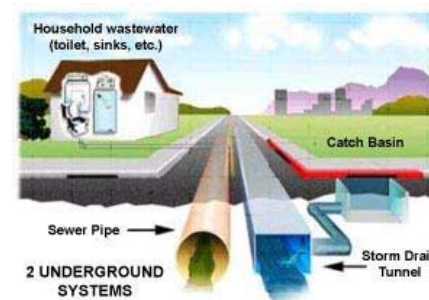


Stormwater Program Costs



Source: Andrew Reese

Old School Stormwater Management is..\$\$\$\$\$



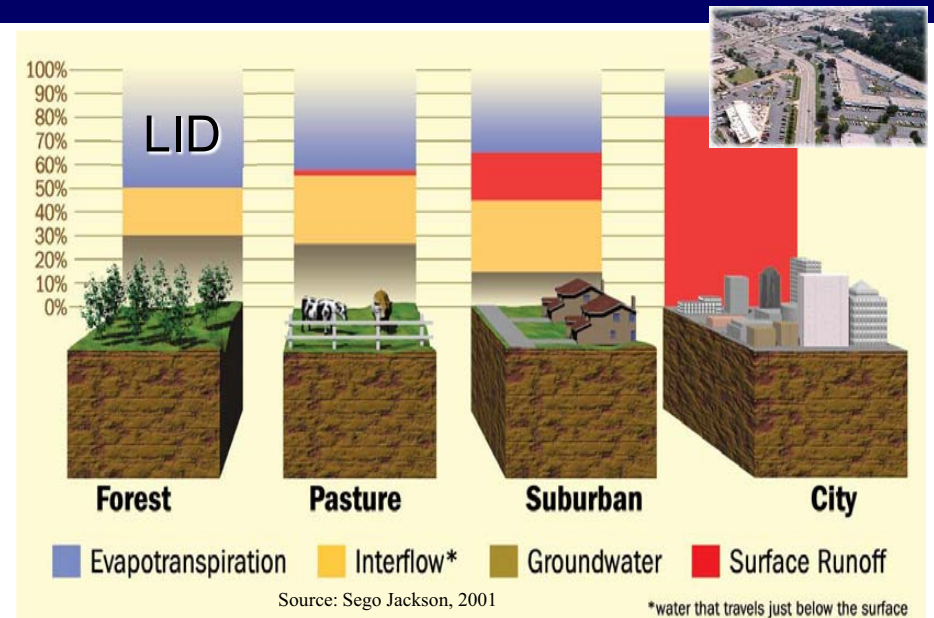
- Centralize Collection, Conveyance, & Treatment
- ✓Land Intensive,
- ✓Infrastructure Intensive,
- ✓Pollution Intensive,
- ✓Energy Intensive.



What's wrong with this site?



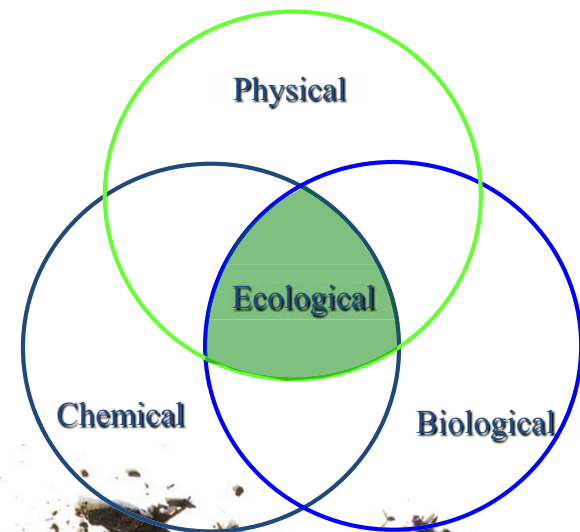
Land Use - Water Cycle



ribbit.....ribbit.....idiot

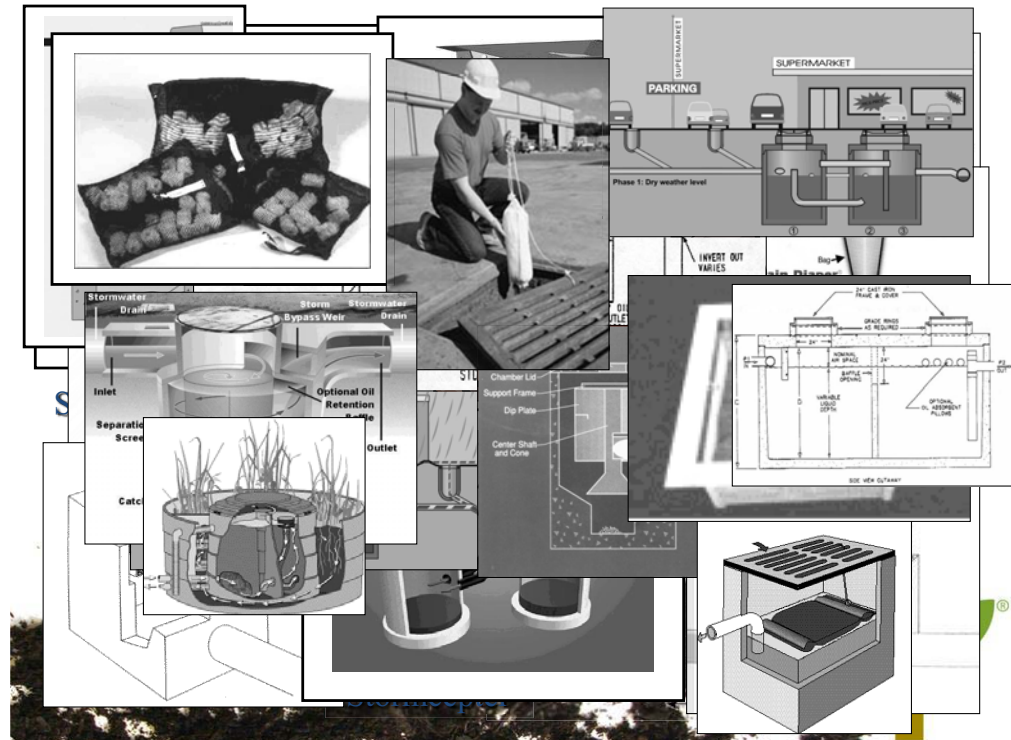


It's the Ecology Stupid



Pop Quiz – live examples

- Fram oil Filters
 - Know what it is?
 - Know what it does?
 - How long does it last?
- Pool Filter
- Brita Water Filter
- Silt Fence – what does this stuff do????
 - Would you trust silt fence to do ANY of the above apps – why would you expect it to?



We have all seen this...



Using silt fence is just a hassle...

Excavator Quote – “I am sick of the amount of care and feeding that stuff takes – it wastes my time, and time is money.”

More and more customers are asking for a better product, where they can “**set it and forget it**”the answer:

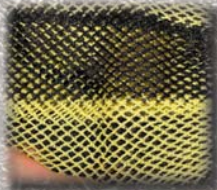
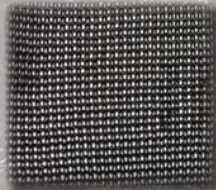
Available two ways:



1. SOXX™

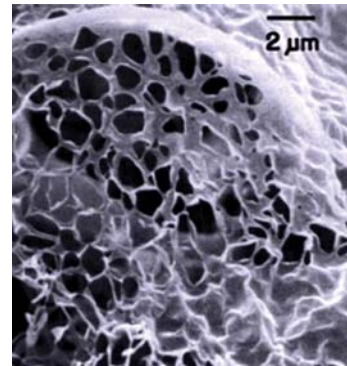
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- Continuous Length
- Over 40 products/materials to choose from
- 8", 12", 18" and 24" diameters



Filtrex® FilterMedia™

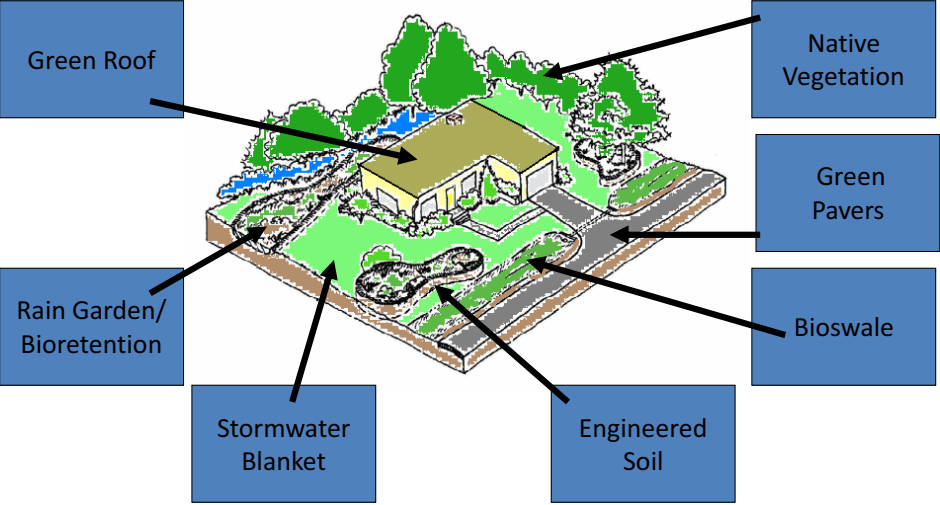
Physical, Chemical, Biological

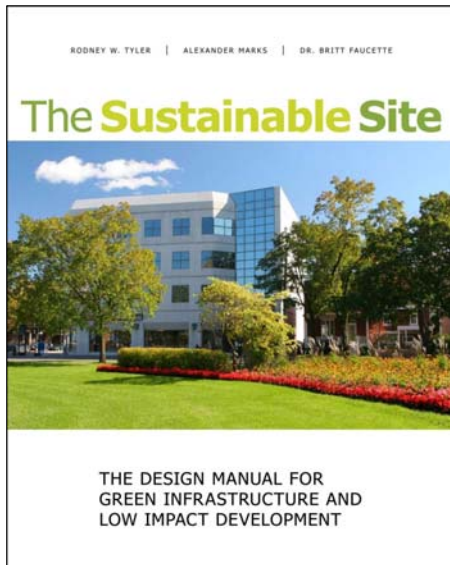




25 Low Impact designs using compost – Costs less, works better!!

Sustainable LID Site





“....an essential tool for engineers, designers, architects, regulators, planners, managers, contractors, consultants, policymakers, builders, and water resource managers.”
– Forester Press

Low Impact Development (LID) = hydrology mimics natural site, distributed, decentralized

- Runoff Volume ↓
- Runoff Rate ↓
- Pollutant Loading ↓
- Flooding ↓
- ✓Water Quality ↑
- ✓Wildlife Habitat/Biodiversity ↑
- ✓Aesthetics/Land Value ↑



Green Infrastructure = green stormwater management; site preservation/restoration; integrated design & practices; reuse



Southface

Responsible Solutions for Environmental Living

Eco Office
Grand Opening
August 18, 2009



- ✓ 100% rain/stormwater capture
- ✓ Zero discharge
- ✓ 84% Water Savings
- ✓ 130,000 gal/yr

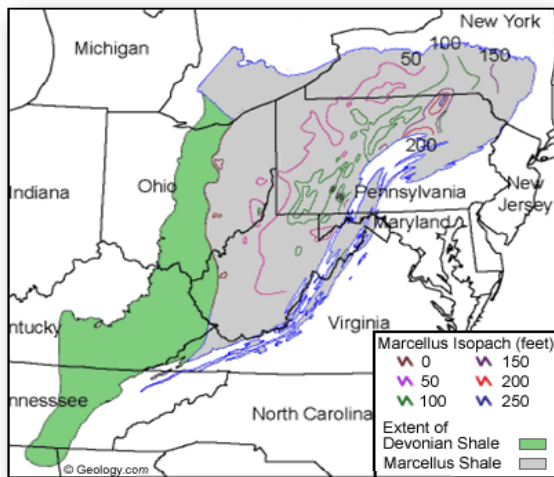
Real Value of LID

- National average real estate values down 25% from 2007 (-\$82,000)
- Low Impact Development Sites:
 - ✓ \$3000 - \$5000 more/lot
 - ✓ \$4000 less cost/lot
 - ✓ 15% - water quality
 - ✓ 6% - green infrastructure
 - ✓ 5% - reduce flooding in flood plain
 - ✓ 33-50% energy savings

(Source: NCSU)



Marcellus Shale Basin Utica Shale



The short and sweet....



SiltSoxx is a mesh tube filled with Filter Media made from compostable feedstocks. It's all natural, really good at filtering polluted water, and won't fall down...



And now you can keep your clients compliant...



The Road to Clean Water...

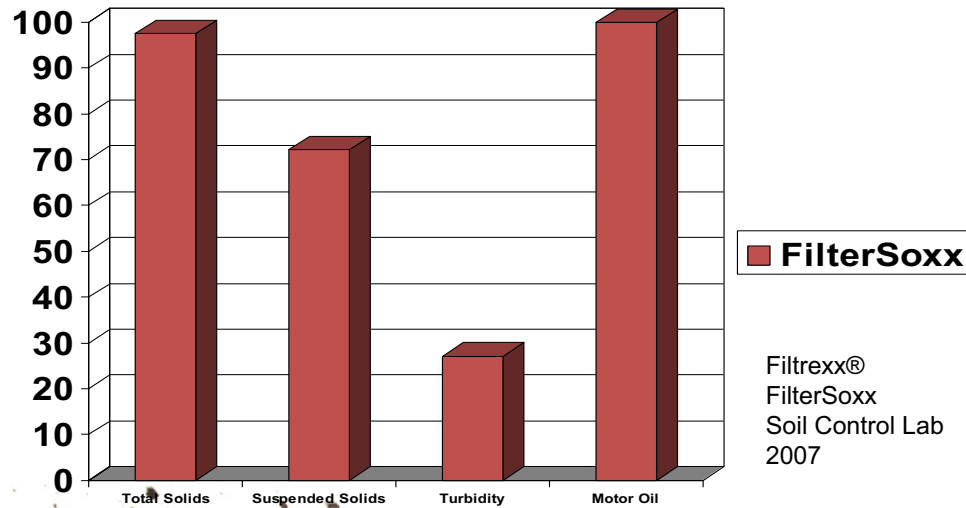
- Get Rid of Man made pollutants
 - Sediment – the Nation's #1 pollutant
 - Hydrocarbons –oil, diesel, gasoline
 - Nutrients – fertilizers, animal manures, dogs
 - Bacteria – sewage treatment plants, septic, etc
 - Metals – zinc from brake dust, lead from paint
- Damage from erosion and sediment costs the US \$400 Billion dollars per year!

Soxx + Filler = System

- Additives used for targeted pollutants:
 - Phosphorous
 - Nitrogen
 - Bacteria
 - Heavy Metals
 - Pesticides
 - TSS
- Research is showing we can remove up to 95% of each of these with proper additives



Sediment Removal - FilterSoxx



Storm Water Pollutant Removal

| | TSS | Turbidity | Total N | NH4 -N | NO3 -N | Total P | Sol. P | Total coli. | E. coli. | Metals | Oil | Diesel |
|-------------|------|-----------|---------|--------|--------|---------|--------|-------------|----------|---------|------|--------|
| Filter Sock | 80 % | 63 % | 35 % | 35 % | 25 % | 60 % | 92 % | 98 % | 98 % | 37-78 % | 99 % | 99 % |







A photograph of a grassy hillside. The grass is green and appears to be growing in rows or patches, suggesting a recent installation or seeding. In the background, there are trees and a clear blue sky.

6 weeks after install

Natures' Velcro!!!

A photograph of a grassy hillside, similar to the one in the first image, but taken 18 months later. The vegetation is much denser and more varied, with many yellow flowers visible. The hillside is adjacent to a sandy beach and the ocean.

18 Months later

Clean Water, Clean Soils, Healthy Food, and Happy People



Filtrexx helps nature do what man cannot in hundreds of environmental applications across a broad client base, using annually renewable, locally recycled organic materials in a patented system based on sound, scientific research.

QUESTIONS?

