SWEET WATER

THERE GROWS THE NEIGHBORHOOD

SWEET WATER FOUNDATION

There grows the neighborhood


SWEET WATER
FOUNDATION
There grows the neighborhood


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SWEET WATER
FOUNDATION
There grows the neighborhood


SWEET WATER
FOUNDATION
There glows the neighborhood


SWEET WATER
FOUNDATION
There grows the neighborhood

2151 Aerial View (Outdoor Property)

circa spring 2009

circa spring 2011

SWEET WATER FOUNDATION

501(c)(3) Non-profit

CONTACT US
web: sweetwaterfoundation.com
email: info@sweetwaterfoundation.com

TURNING WASTE INTO COMMUNITY RESOURCE

The Sweet Water Foundation engages with a host of educational institutions, community groups and affiliated organizations to develop academic and community programming based upon concepts of community and equity. This work has evolved as a direct response to fundamentally unsustainable models of food production and consumption. With a focus on the potential of urban agriculture as a vehicle for community development Sweet Water Foundation's programming is grounded upon the central theme of turning waste into community resource.

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There grows the neighborhood

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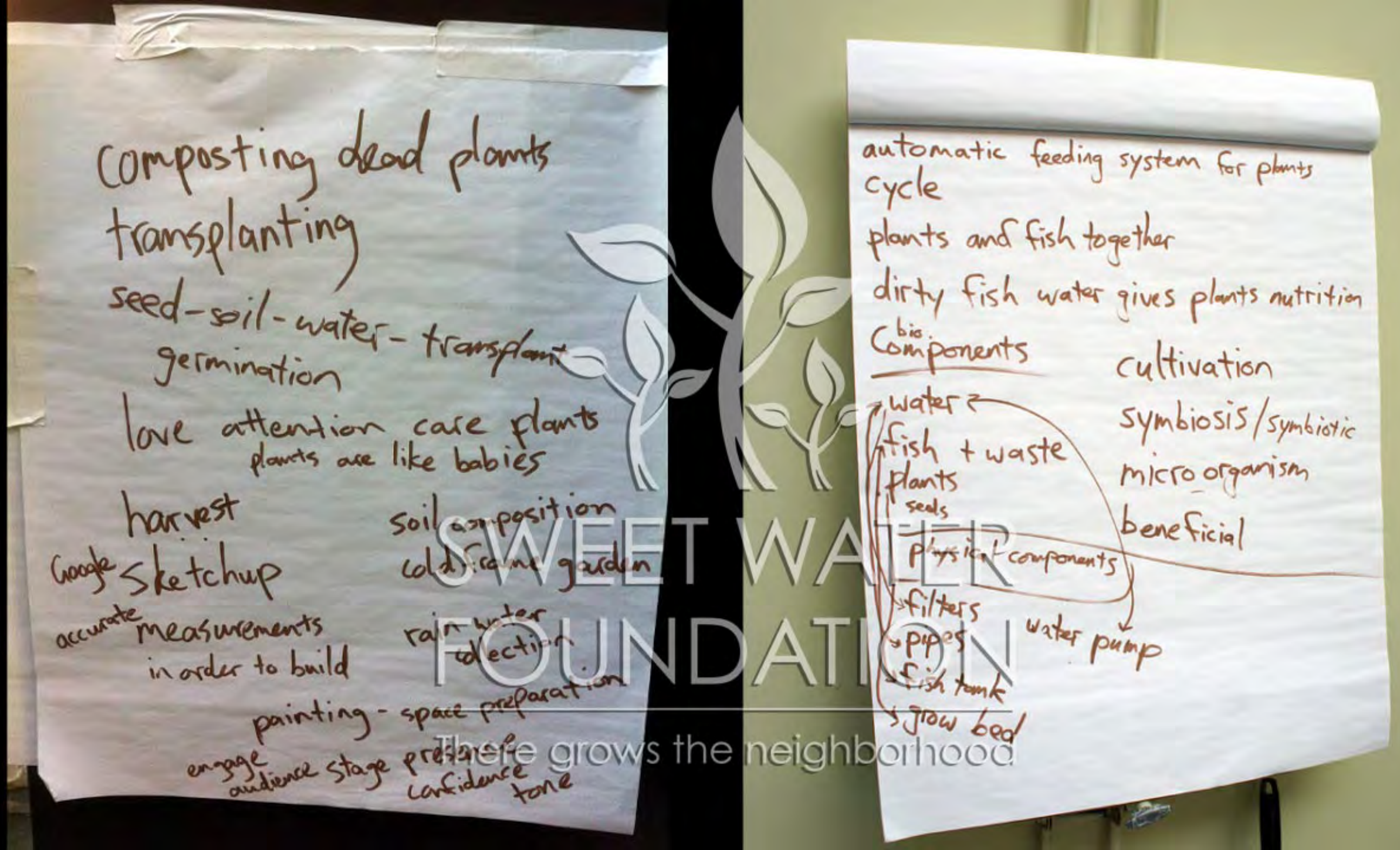
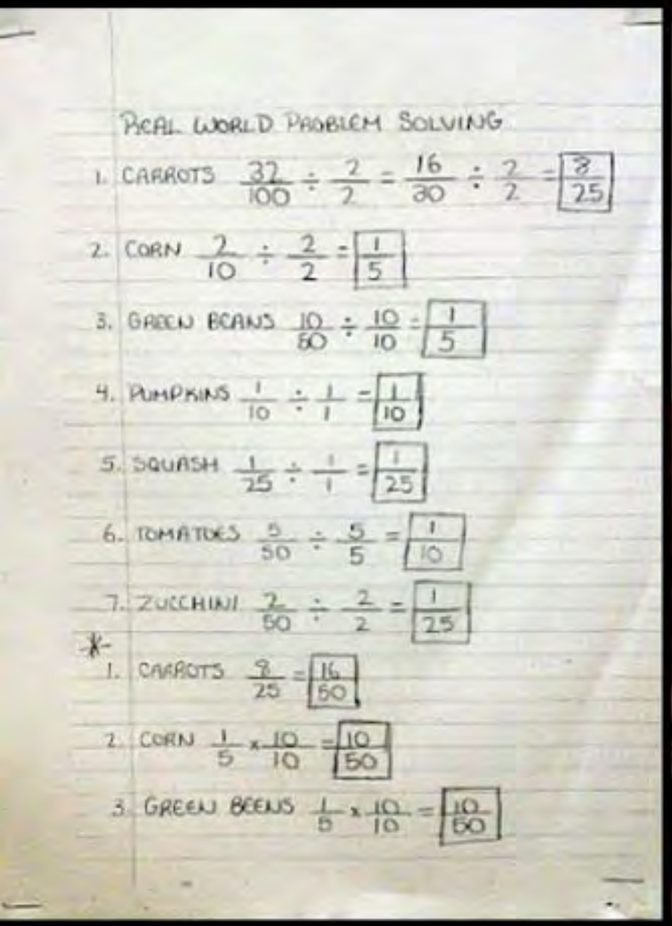
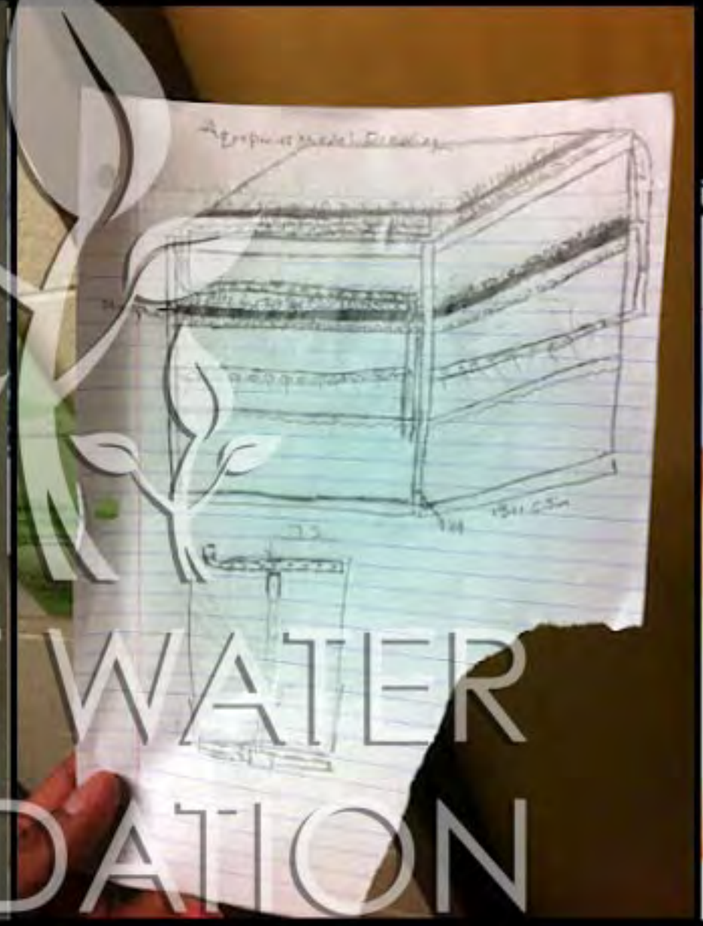


SWEET WATER FOUNDATION

There grows the neighborhood





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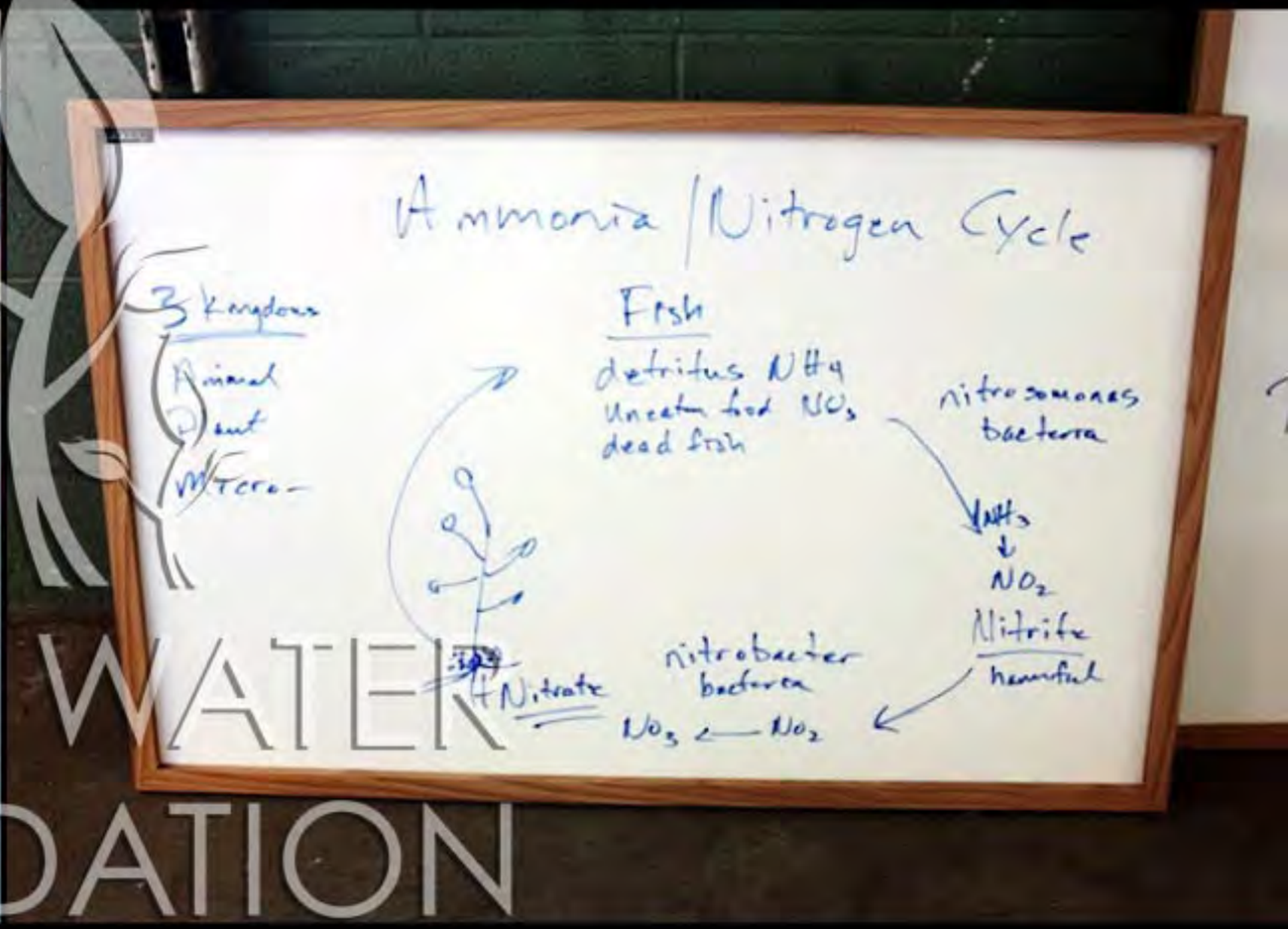

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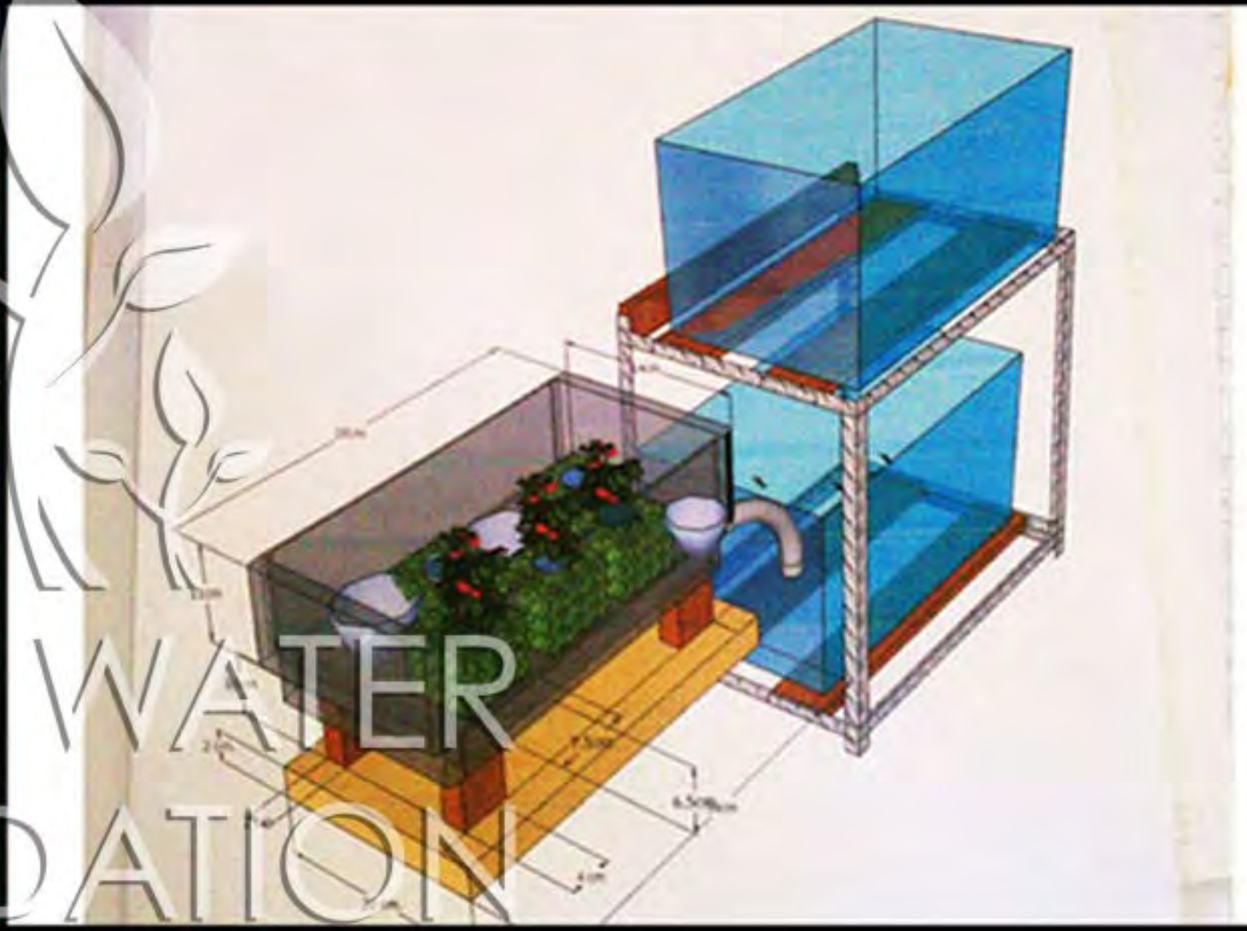

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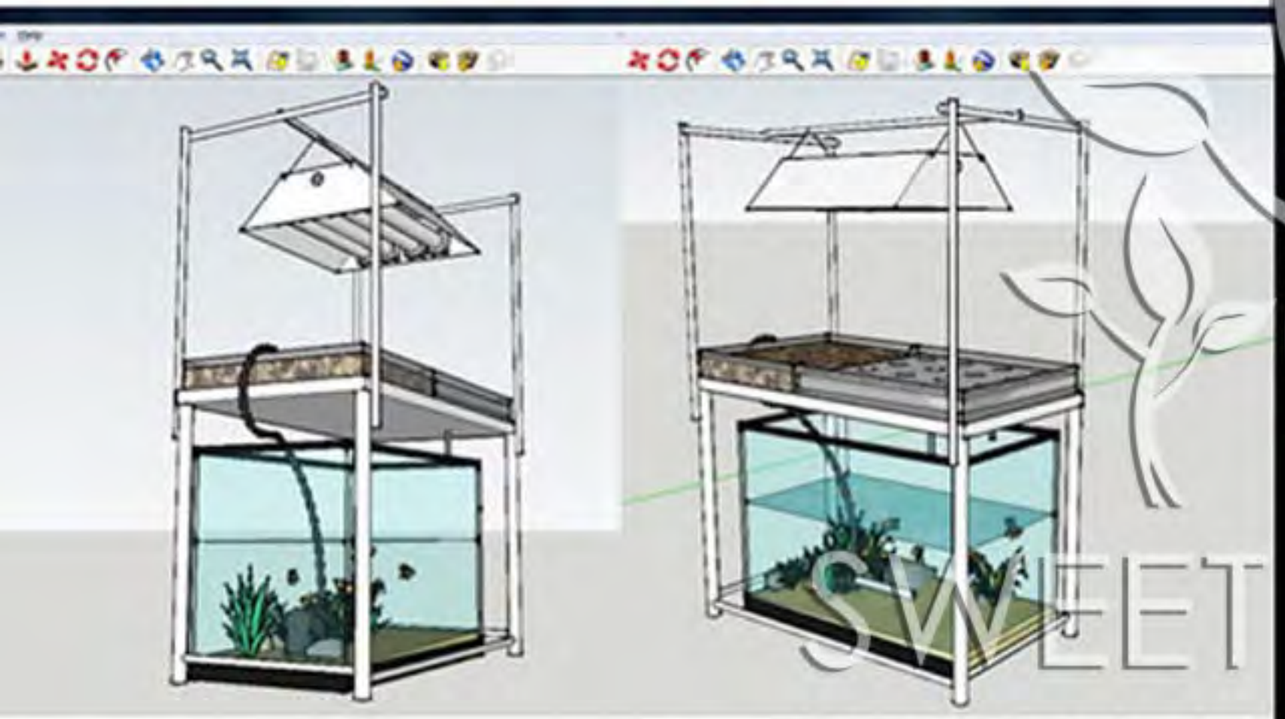
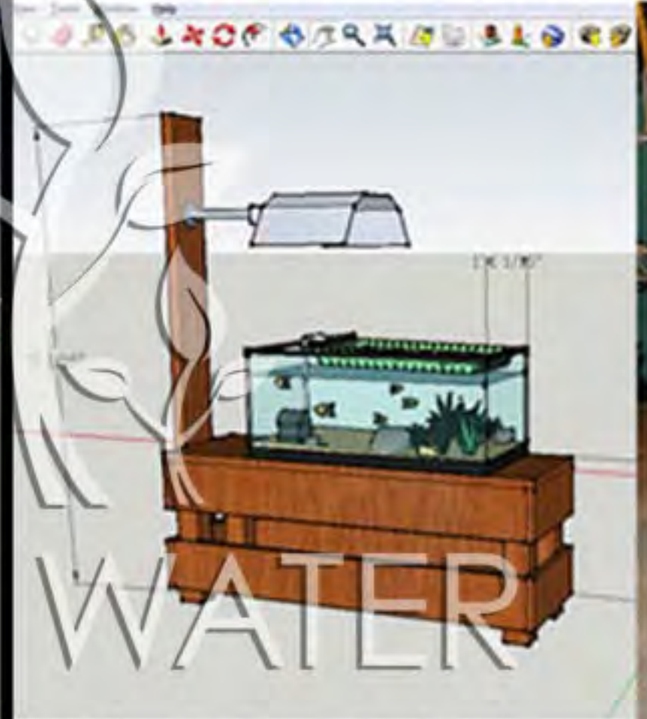
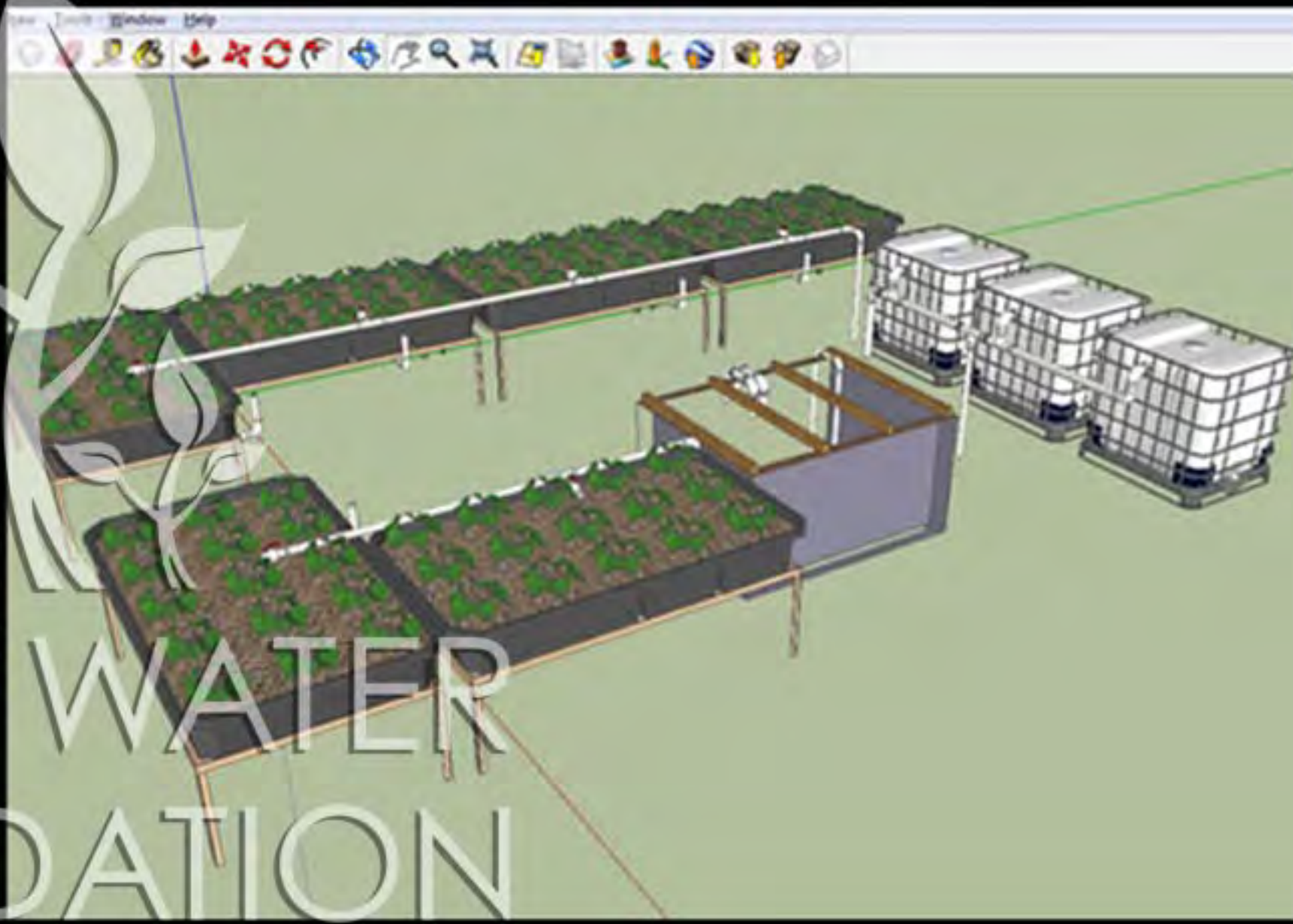




SWEET WATER FOUNDATION

There grows the neighborhood



SWEET WATER FOUNDATION

There grows the neighborhood

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There grows the neighborhood

SWEET WATER FOUNDATION

There grows the neighborhood

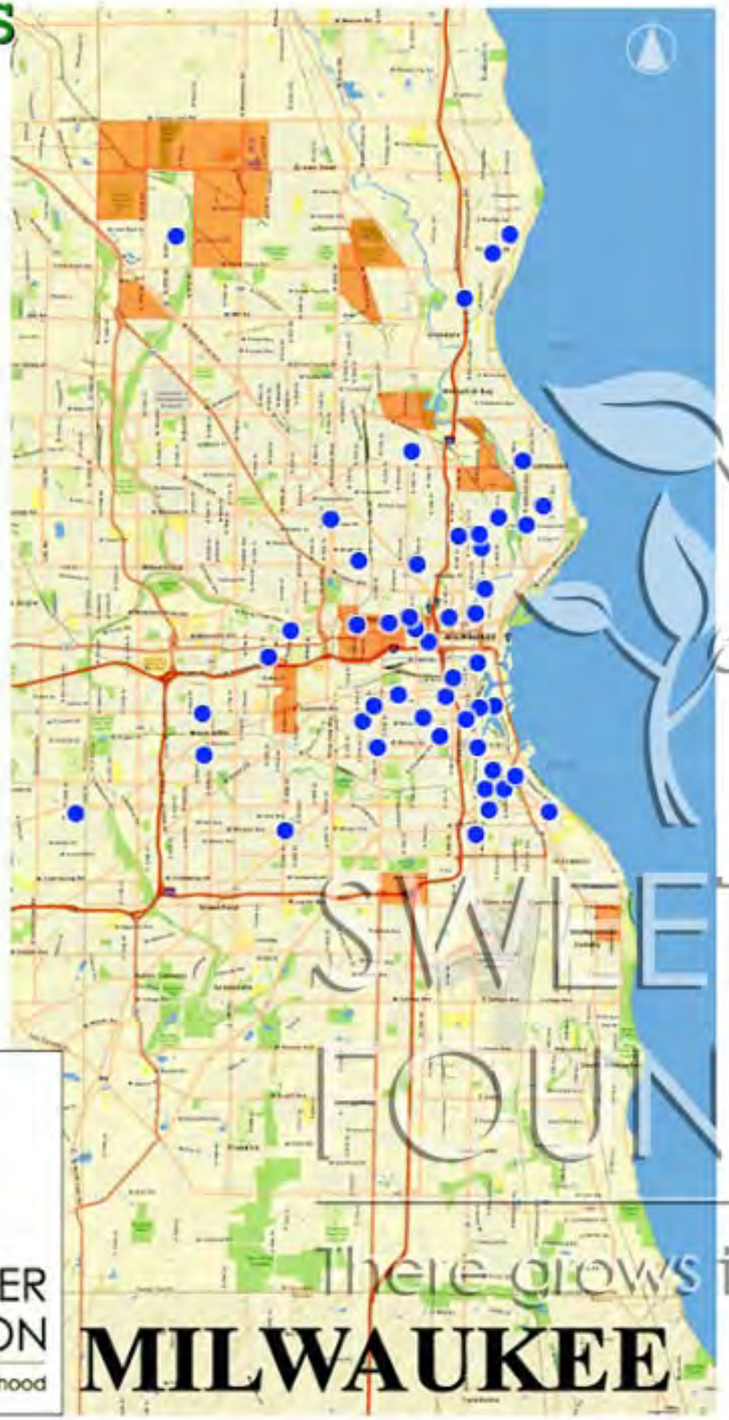
2010-2012

PARTNERS

Major Partners:
1. Sherwood New Horizons Charter School
2. La Causa Charter School
3. Centro Hispano High School
4. Fernwood Montessori School
5. Texas Bufkin Christian Academy
6. MTEC

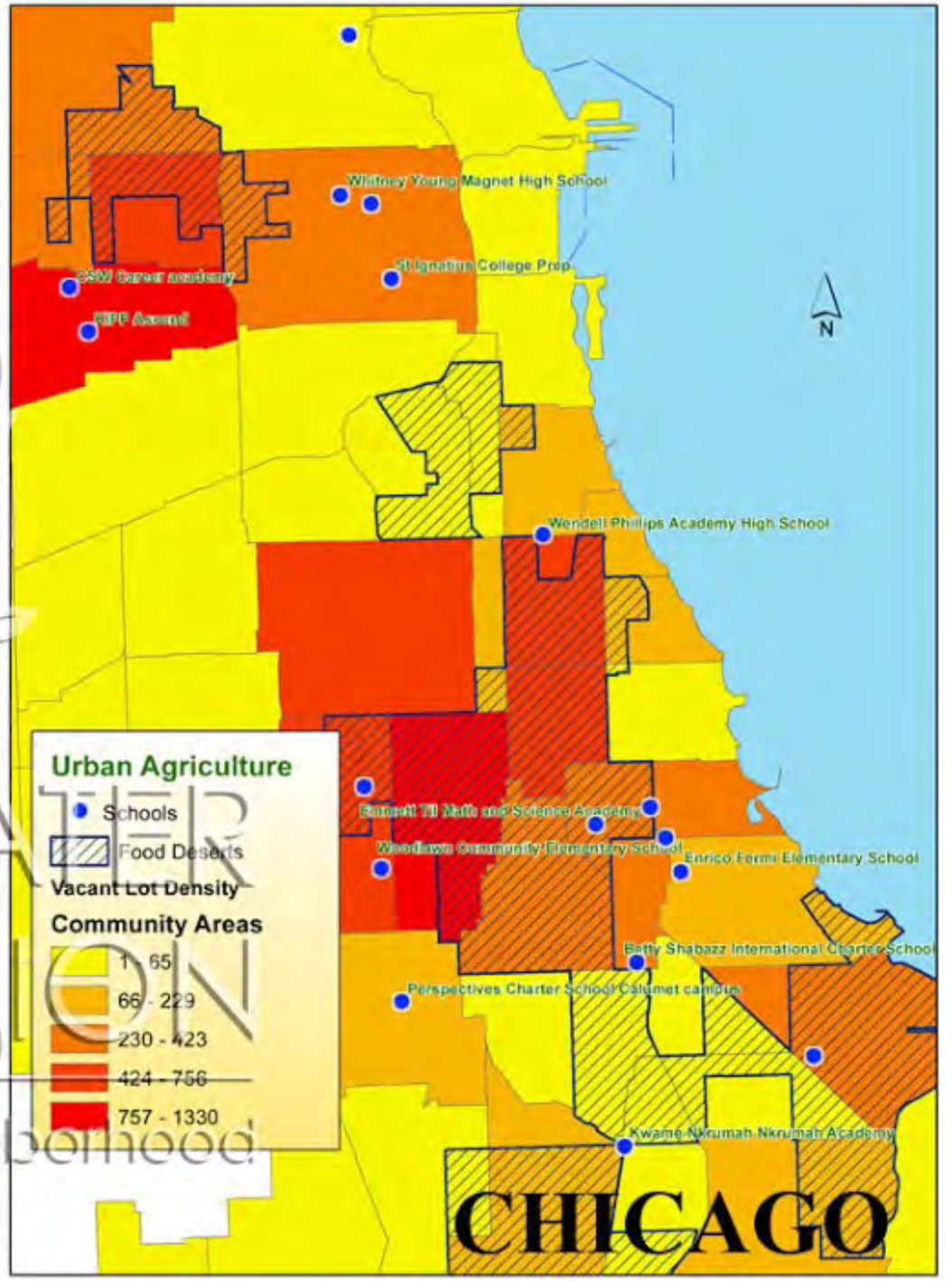
USDA FOOD DESERT

SWEET WATER FOUNDATION
There grows the neighborhood



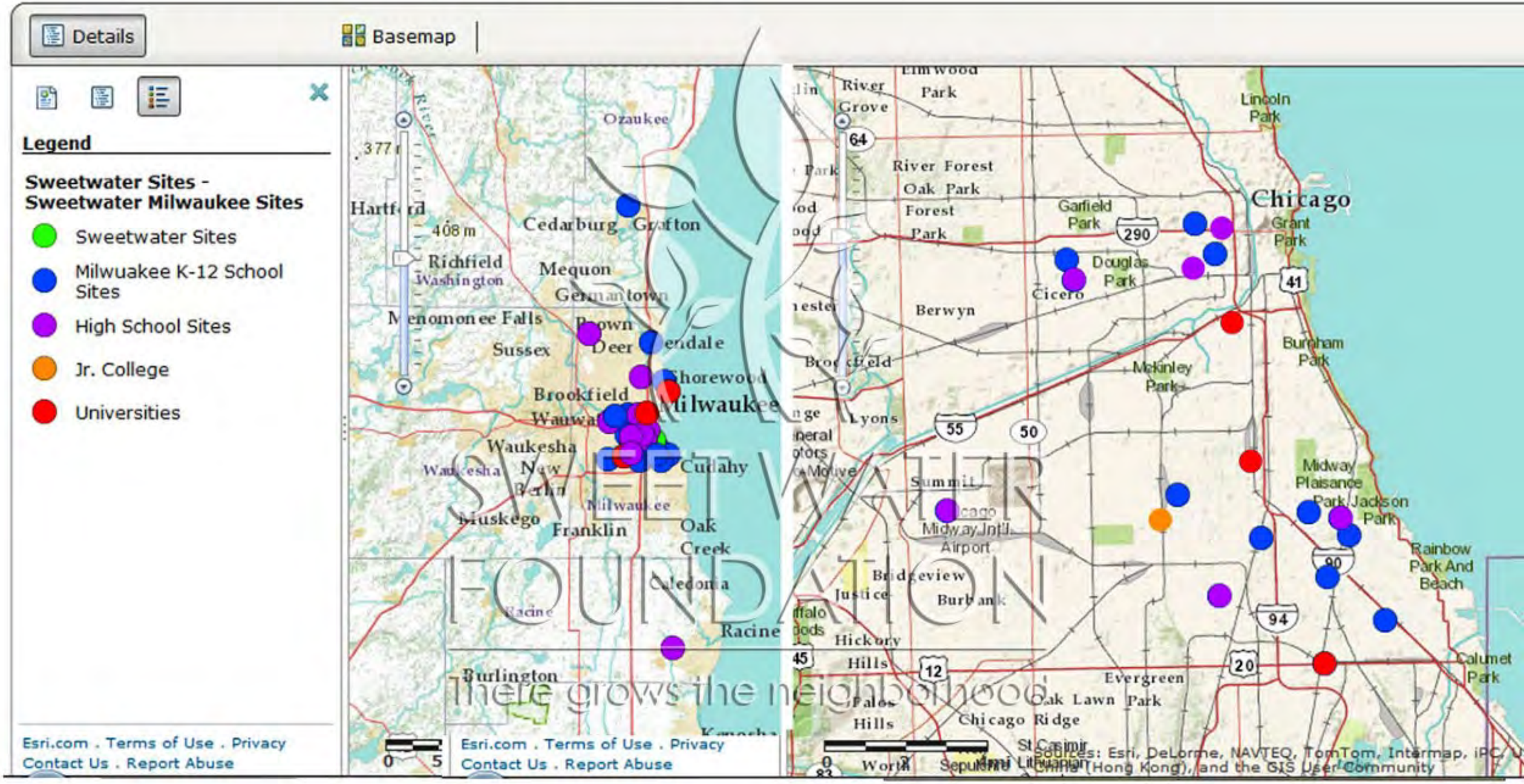
MILWAUKEE

2010-2012



CHICAGO

ArcGIS | **Sweet Water Foundation** Partner Sites



IBM's Smarter Cities Challenge

Milwaukee

Report

5. Conclusion

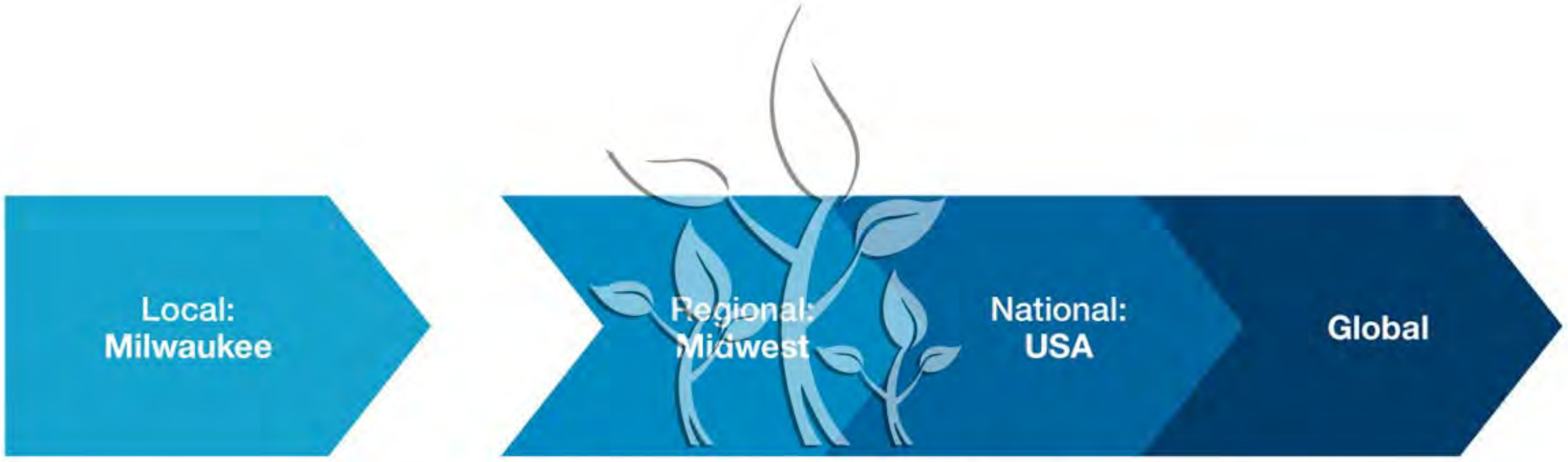
The IBM team would like to extend its thanks and appreciation to the City of Milwaukee, Mayor Tom Barrett, Department of City Development Commissioner Rocky Marcoux, Senior Economic Development Specialist for the Redevelopment Authority Dan Casanova, the Milwaukee Water Council, Sweet Water Organics, Sweet Water Foundation, Growing Power, Walnut Way, the University of Wisconsin Milwaukee, the Water Institute, Natural Green Farms and everyone with whom we have had the pleasure of collaborating and interacting during the course of this study.

The question of how a smarter city feeds itself can be examined from several points of view. The first looks at providing convenient access to healthy food. Aquaponics as an extension of urban agriculture holds great promise as a sustainable solution, using less land than traditional agricultural methods. It also carries no significant fresh water requirements beyond initial start up. Local, urban production means that food travels fewer miles to go from "farm to fork", saving transportation costs and having a positive impact on carbon footprint and the environment.

Feeding a city is more than just about food, however. It is also about feeding people metaphorically through job creation, neighborhood revitalization and public safety, providing outreach to the community, providing education on healthy eating, eliminating stretches of urban food deserts, giving vocational training to youth, stimulating innovation and technology, and supporting higher education and research. Aquaponics as an implementation of urban agriculture has the potential to address all of these social components.

However, more needs to be learned from aquaponics to make it work in a community. This study makes recommendations to evaluate the viability of aquaponics in Milwaukee. It also makes near-term recommendations to stimulate City and community involvement and to make formal those relationships that have to this point been informal. It recommends the initial formation of a specific governance structure, starting with the formation of the Urban Agriculture and Aquaponics Council, and the start up of an Aquaponics Innovation Center in the planned Century City development.

These recommendations are the starting points for Milwaukee to become a smarter city that feeds itself. By establishing local success and executing a roadmap plan that extends beyond the City to the rest of the world, Milwaukee has the potential to be in position to redefine itself both as a leader in water and in local food production.



Milwaukee as an
Industry **Proof Point**

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Milwaukee as an
Industry **Leader**

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UWM Freshwater

THE UNIVERSITY of WISCONSIN MADISON

Berkeley University of California

UWM UNIVERSITY of WISCONSIN MILWAUKEE

THE UNIVERSITY OF TEXAS AT AUSTIN

COLUMBIA UNIVERSITY

CHICAGO STATE UNIVERSITY

Massachusetts Institute of Technology

CITY COLLEGES of CHICAGO
Education that Works

Cornell University

ILLINOIS

GREAT LAKES WATER INSTITUTE

THE UNIVERSITY OF CHICAGO

FIU FLORIDA INTERNATIONAL UNIVERSITY
Miami's public research university

DEPAUL UNIVERSITY

HARVARD UNIVERSITY

ILLINOIS INSTITUTE OF TECHNOLOGY

Kellogg School of Management

IBM Smarter Cities Challenge

KENTUCKY STATE UNIVERSITY

MSOE

MORE HOUSE COLLEGE

MARQUETTE UNIVERSITY

MATC

UNIVERSITY OF NOTRE DAME

TEMPLE UNIVERSITY

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CHALLENGES IN VERTICAL FARMING

JENNIFER NELKIN, GOTHAM GREENS

Jennifer Nelkin is Partner and Director of Greenhouse Operations, a New York City based company dedicated to growing the highest quality leafy greens and herbs for the NYC reta market. She is responsible for greenhouse design, product development, climate and crop management, crop scheduling, pest management, food safety and staff training. Previously has managed greenhouses in Antarctica and worked at the greenhouse at the Cuisinart Re and Spa in Anguilla. Nelkin's goals in the workshop will be to emphasize the future growth rooftop controlled environment agriculture and urban farming, advantages and opportunitie they present, and challenges and design of greenhouses.

DEVON PATTERSON, Solomon Cordwell Buenz

Devon Patterson is an Architectural Design Principal and Leader in Solomon Cordwell Bue sustainable design practice. His expertise is in the design and implementation of sustaina projects. Patterson leads integrated design teams that bring high performance solutions a energy conservation. Currently he leads the programming, design and construction of a ne $60 million mixed use University Living Learning building. The centerpiece of this integrate facility is a greenhouse dedicated to educating people about the benefits of integrating urb agriculture into dense urban mixed use buildings. Patterson's goals in the workshop are centered around his vision for sustainable urban living that involves linking education and agriculture.

EMMANUEL PRATT, SWEETWATER FOUNDATION

Emmanuel Pratt is the Director of the Aquaponics Center at Chicago State University & teac at the Geography Department at Chicago State University where his work concentrates on community development through intersections of food security and sustainable design innovation. He is a co-founder and director the non-profit Sweet Water Foundation (SWF) th helps develop verticalized and sustainable system of aquaponics to grow fish and produce local restaurants and grocery stores. Emmanuel's goals in the workshop are to highlight th challenges, obstacles, and opportunities in utilizing urban agriculture and aquaponics as k tools for bolstering local economies through the increase of local food production while enhancing the critical connections needed to advance 21st century global cities.

DANIEL SCHUBERT, GERMAN AEROSPACE CENTER

Daniel Schubert has a background in industrial and aerospace engineering with an empha on bio-regenerative life support systems. He is currently the project leader of the EDEN research initiative at the German Aerospace Center. EDEN (Evolution & Design of Environmentally-closed Nutrition Sources) investigates controlled environmental agricultur technologies for the transformation into space proven hardware concepts for habitats on M and Mars. Daniel is part of a project on Combined Regenerative Organic-food Production, where he is responsible for the higher plant cultivation systems and the organization of se

DIGITAL MEDIA + LEARNING competition 4

BADGES FOR LIFELONG LEARNING

HASTAC MacArthur Foundation mozilla BILL & MELINDA GATES foundation

This project was submitted by an applicant to the Digital Media and Learning Competition.

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SWEET WATER AQUAPONS (AQUAPONS)

SWEET WATER FOUNDATION

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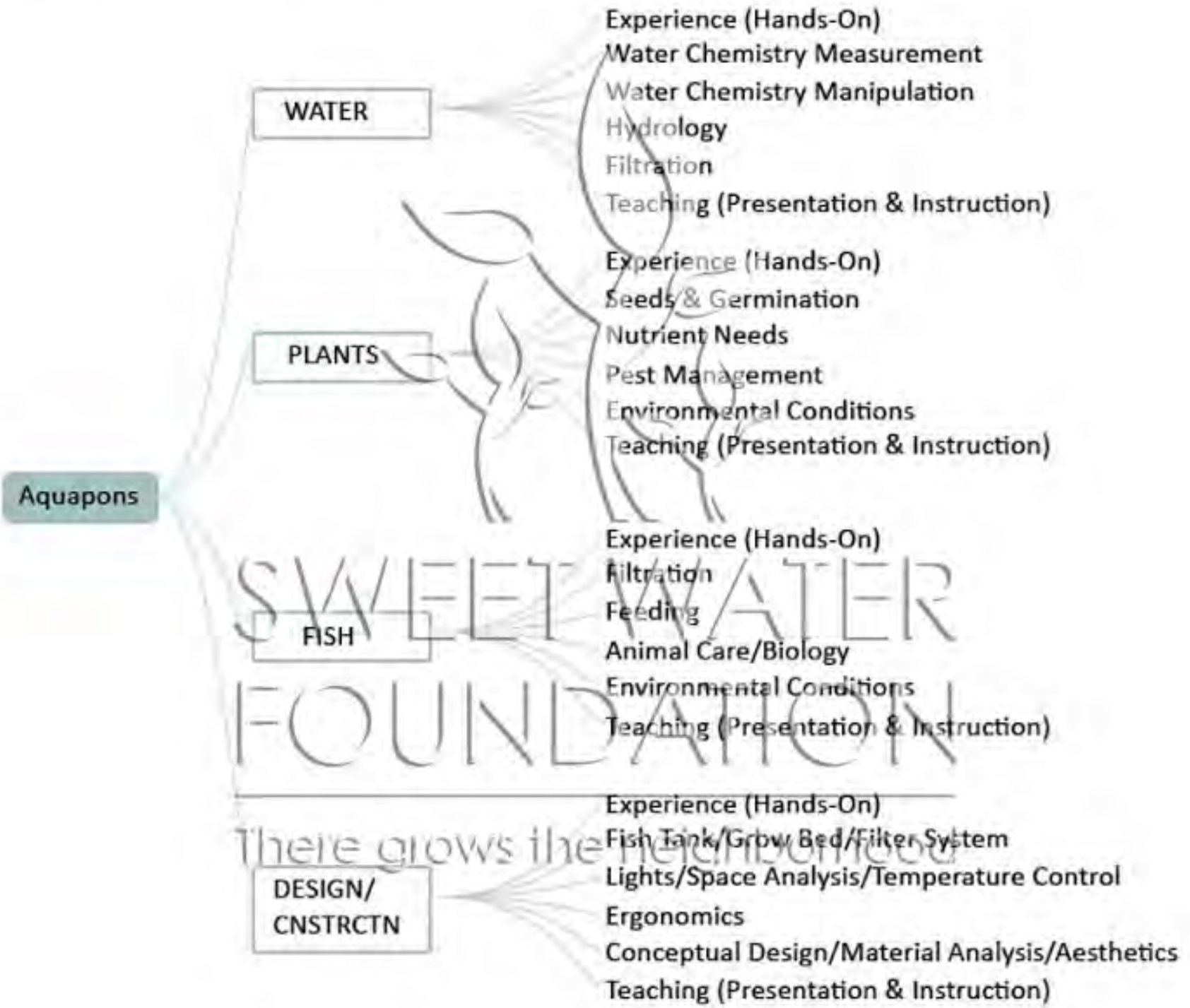
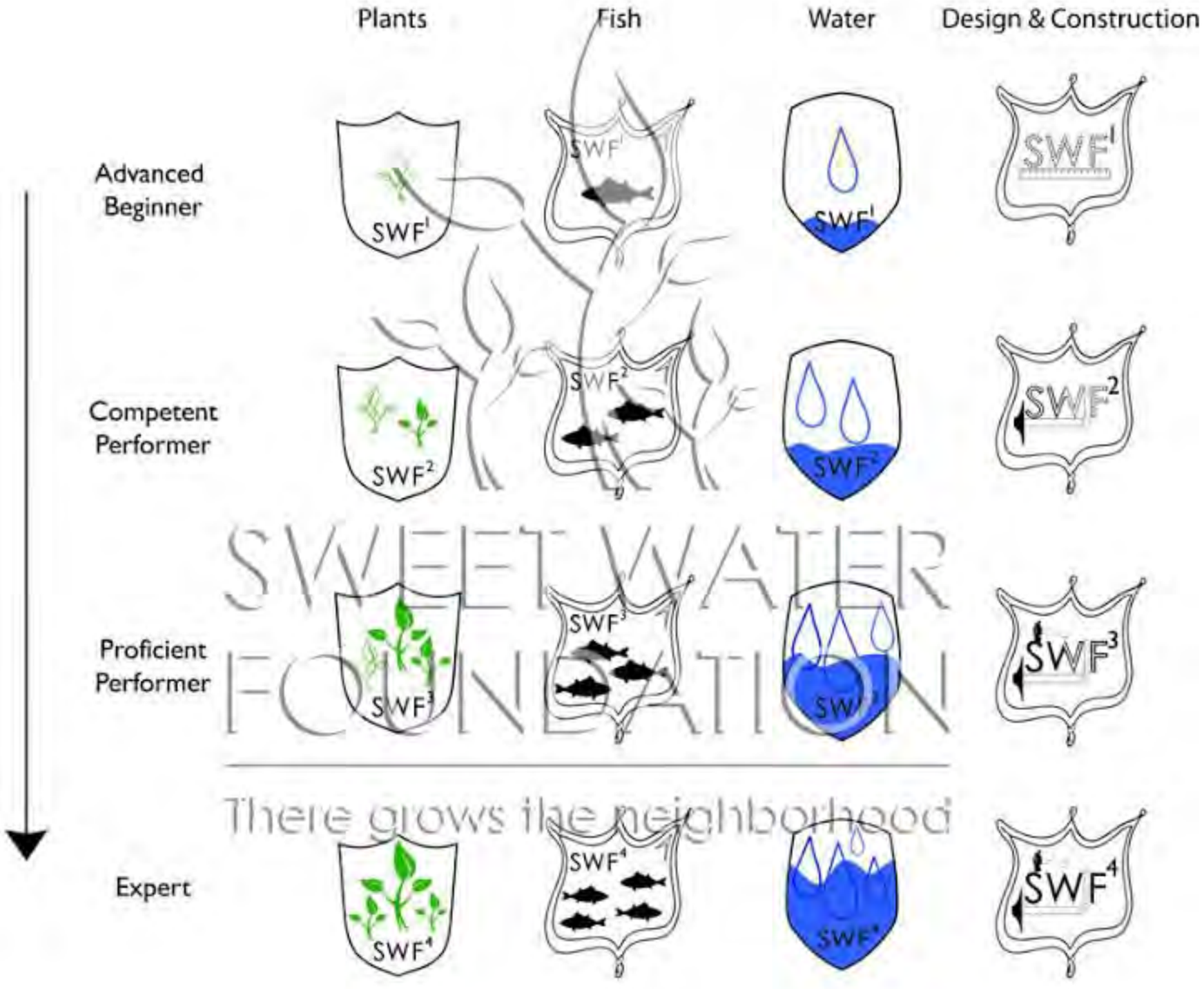


SWEET WATER AQUAPONS BADGE HIERARCHY



Name (first, middle I, Last)
Birthday (needs be protected!)

Role(s)
Skills
Qualifications

Dossier
Badges

Program (SWF, school, etc)
Role [Program specific]

SWF Program Learner

Outsiders Check Learner's Dossier

Outsiders Interested in SWF Learners

Learner Earns New Badge

Opportunities

Outsiders Assess Skills & Offer New Opportunities

Satisfies Badge Reqs

Performance metrics
Requirements (what is needed before you start)
Requirements (what is needed to complete)

SWF Program Evaluator/Instructor

Evaluates Learner's Work (based on reqs)

Name (first, middle I, Last)
Program (SWF, school, etc)

Role(s)
Skills
Qualifications

Dossier
Badges

Program (SWF, school, etc)
Role(s): Evaluator/Instructor

Richard Santana

Milwaukee, WI / Birthday: June 4th, 1999

edit

BADGES

CONGRATS!

You keep it flowing & balanced. Naturally.

You've just earned the Expert Water Badge from Sweet Water.

SWEET WATER FOUNDATION

There grows the neighborhood.

PUBLISH FINAL PROJECT

SHARE

print certificate

Richard Santana

Milwaukee, WI / Birthday: June 4th, 1999

edit

PROGRAMS

Sweet Water Foundation, $avvy Youth, ChicagoYES, DiscoverWater.org

SKILLS

Media: Photography, Video, Audo Editing
Math & Science: Basic Finance, Analytics, Charting, Visualization, Water Cycle, Aquaponics, Bacteria, Basic Chemistry

INTERNSHIPS

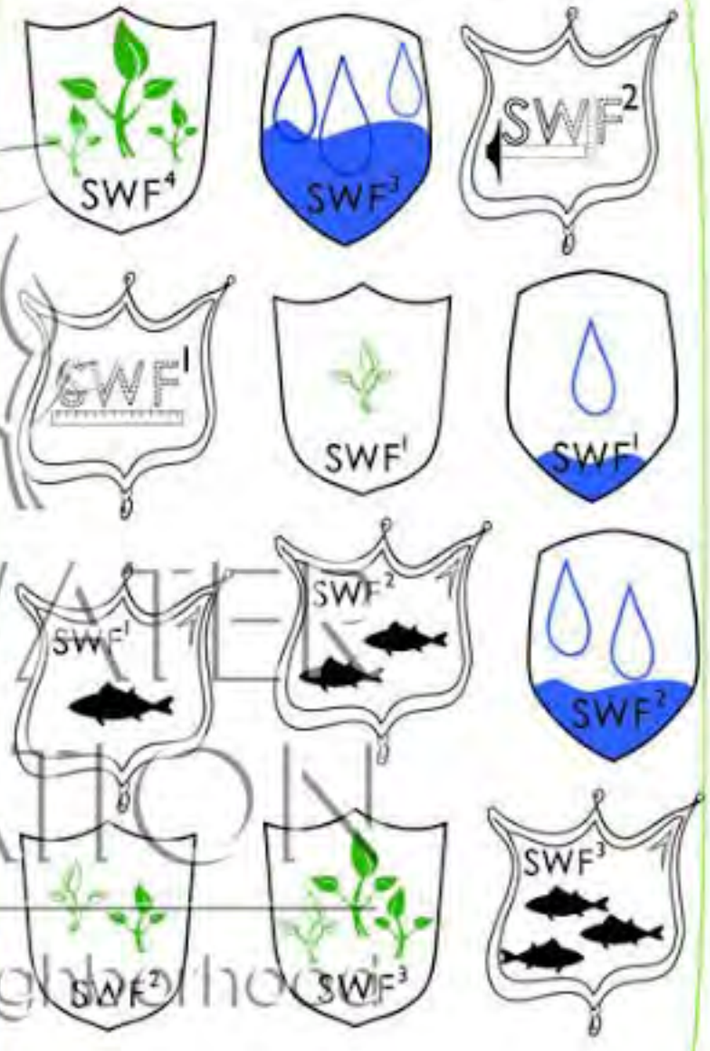
SWF + DiscoverWater
MKE/Chi Joint Water Program

PROJECTS / ACCOMPLISHMENTS

SWF: Water - Proficiency Project
SWF: Fish - Competency Project
DiscoverWater.org: Project

more ...

BADGES



Sweet Water

AQUAPONS

Interdisciplinary, Intergenerational
Education Through Aquaponics

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There grows the neighborhood

Our Progress

Past

Today

Future

Curriculum Development

Stakeholder Interviews

Secure Web Development Team

Develop initial web design

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Develop AQUAPONS Platform

Initiate AQUAPONS Beta with Control Group

Iterate program as feedback is received

Impliment marketing & dissemination plan

AQUAPONS

http://www.aquapons.edu

AQUAPONS

RESOURCES BADGES COMMUNITY ABOUT

Content Area Badges

Skill + Content Area

+ Practitioner Level + Content Area

Search

OVERVIEW

SKILL REQUIREMENTS
SENIOR APPRENTICE

PLANTS

- Plant Propogation + Harvest — 2
- Nutrient Needs — 2
- Pest Management — 2
- Environmental Conditions + Lighting — 2

FILTRATION ACTIVITIES

Title of a Fun Nutrient Activity

JUNIOR APPRENTICE

- Plant Propogation + Harvest — 5 Activities — 1
- Nutrient Needs — 8 Activities — 1
- Pest Management — 10 Activities — 1
- Environmental Conditions + Lighting — 7 Activities — 1

SENIOR APPRENTICE

DESIGN + BUILD

- System Design + Components — 9 Activities
- Materials, Tools, Supplies, + Equipment — 12 Activities
- Environmental Factors — 10 Activities
- Energy — 6 Activities

AQUAPONS

http://www.aquapons.edu

AQUAPONS

RESOURCES BADGES COMMUNITY ABOUT

My Profile › My Skill Badges › Activities Overview › Title of Fun Fish Activity

‹ Previous 1 2 **3** 4 5 6 7 8 Next ›

Title of a Fun Fish Activity

OVERVIEW

RECENT DOCUMENTATION

UPLOAD

Share your progress by uploading photos, video, or text files.

NEW ENTRY

Create a journal entry for this activity right here on the site.

REVIEW

Review what you've shared about your accomplishments.

RELATED RESOURCES

Power Point Presetation
Download ›

This Resource is a Link ›

Book Title of a Resource by Author Name

PDF Document Resource
Download ›

Power Point Presetation
Download ›

This Resource is a Link ›

Another Book Title Resource by Author Name

Learner & Assesor Flow

Mastery Levels

Aquapons Badges promote a model for sustainable communities by enhancing awareness of the surrounding enviroment.

Social Impact

Economic Impact

Environmental Impact

Users

Community Partners

Educators

Employers & Administrators

Hobbyists

Professionals

Students

Partners


Educational Institutions
UNIVERSITIES
K-12 SCHOOLS
HOME LEARNERS
2-YEAR COLLEGES
INDEPENDENT LEARNERS
Community Institutions
COMMUNITY/ ECONOMIC DEVELOPMENT GROUPS
FAITH GROUPS
AFTERSCHOOL PROGRAMS
SWEETWATER AQUAPONS PROGRAM
VETERANS PROGRAMS
FARMERS MARKETS
URBAN AGRICULTURE
ARCHITECTURE/ ENGINEERING
CITY PLANNING
WATER TECHNOLOGY
FOOD SCIENCE & SERVICES
Business Institutions
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biomimetics/biomimicry:

1.

:the examination of Nature, its models, systems, processes, and elements to emulate or take inspiration from in order to solve human problems. The term biomimicry and biomimetics are derived from the Greek words *bios*, meaning life, and *mimesis*, meaning to imitate. Biomimetics is the study of the structure and function of biological systems as models for the design and engineering of materials and machines.

source: http://biomimicry.net/

informatics:

: the science of information, the practice of information processing, and the engineering of information systems. Informatics studies the structure, algorithms, behavior, and interactions of natural and artificial systems that store, process, access and communicate information. It also develops its own conceptual and theoretical foundations and utilizes foundations developed in other fields

source: http://ischool.uw.edu/informatics/prospective/at_uw

BIOMIMETIC INFORMATICS

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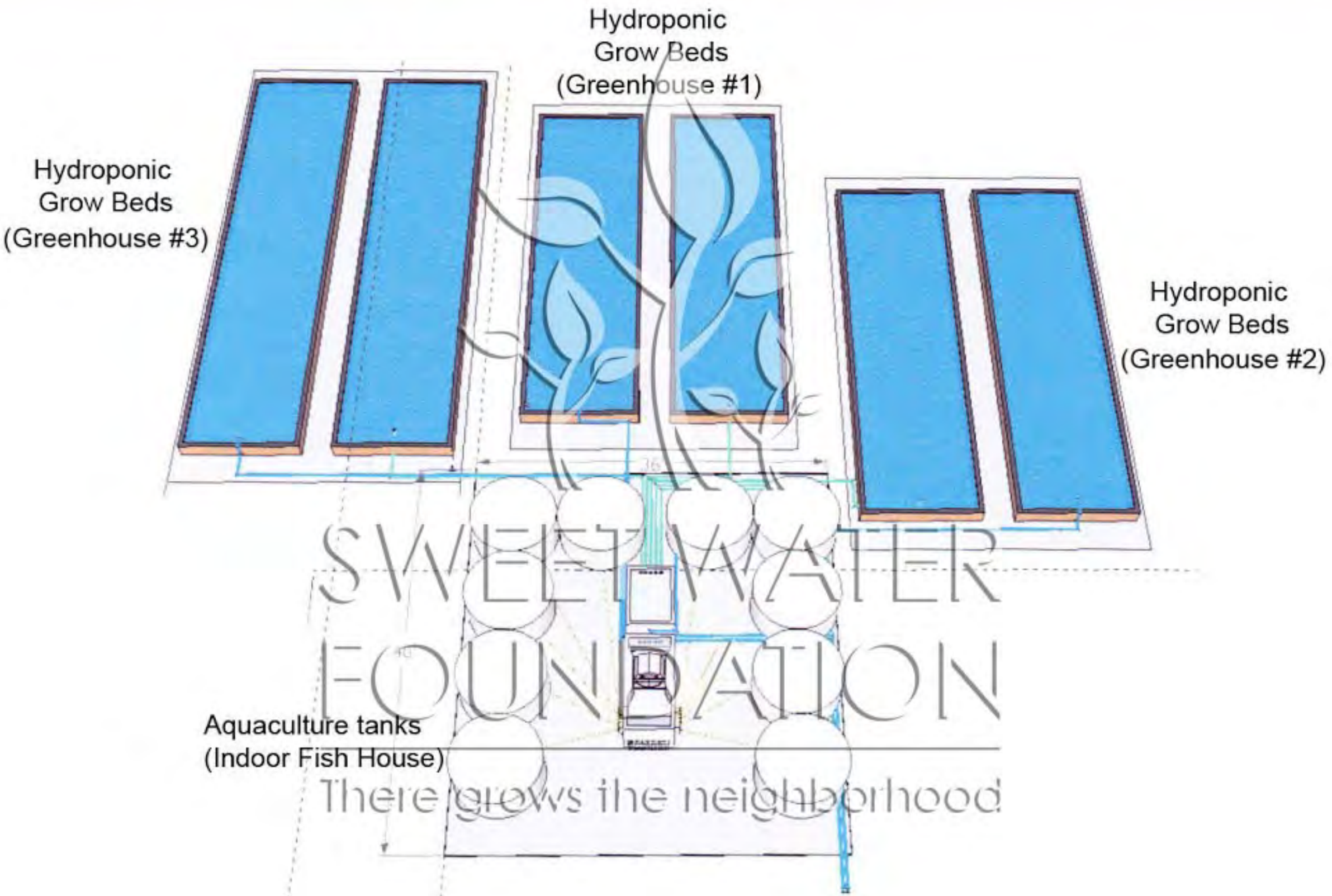
Sweet Water 2.0 (Greenhouse Aquaponics System)



Sweet Water 2.0 (Greenhouse Aquaponics System)

Greenhouse 1 - 2 x 30.76m²/331.1=ft² raft tanks = 61.52m²/662.2ft² total hydroponic area

Greenhouse 2 - 2 x 45m.29²/487.5ft² raft tanks = 90.58m²/975ft² total hydroponic area

Greenhouse 3 - 2 x 51.06m²/549.6ft² raft tanks = 102.12m²/1099ft² total hydroponic area

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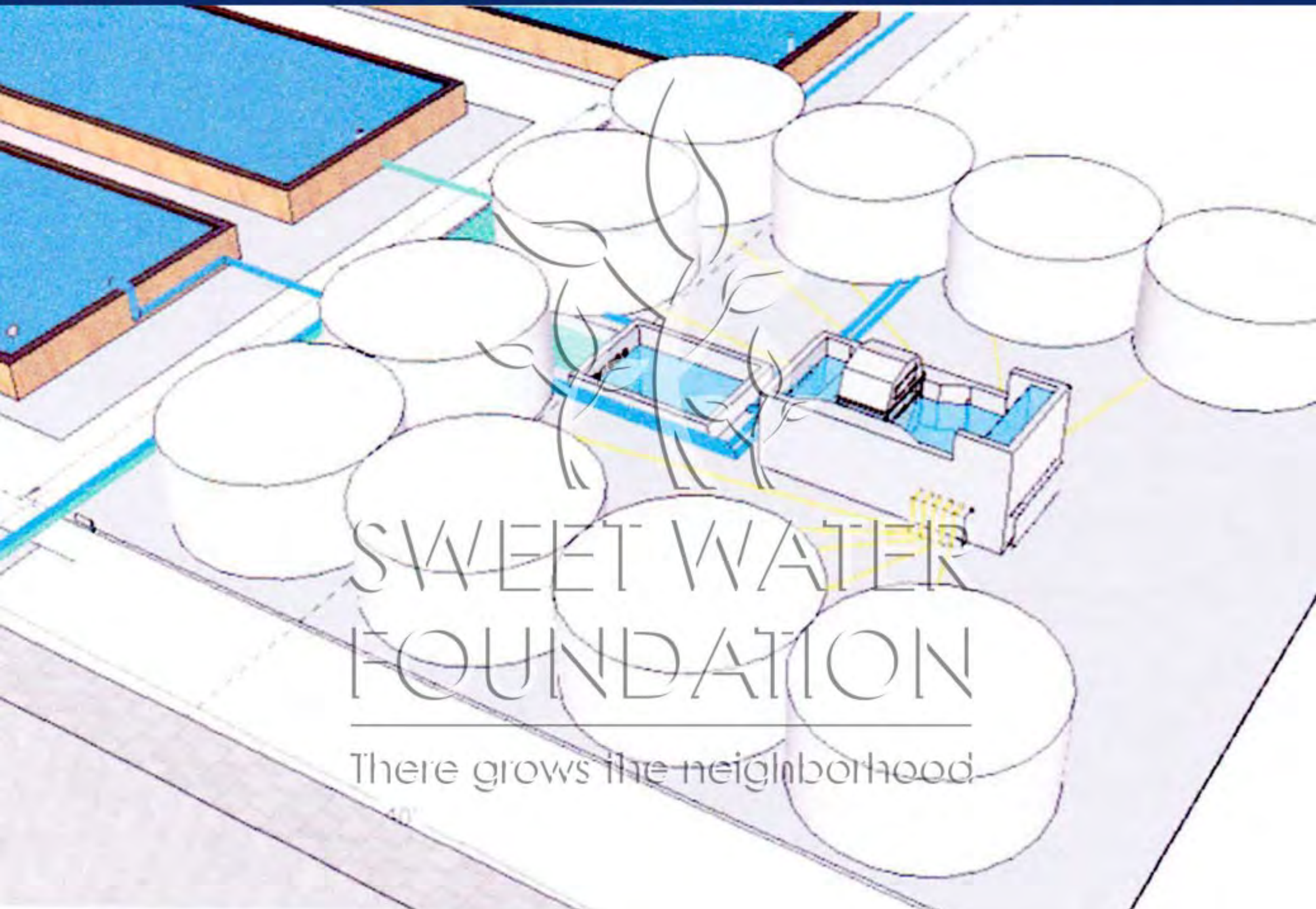
Sweet Water 2.0 (Greenhouse Aquaponics System)



Sweet Water 2.0 (Greenhouse Aquaponics System)

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