

People Planet Profit

A small zoo's adventures in sustainability



Strategic Leadership Components:

“If I were given one hour to save the planet, I would spend 59 minutes defining the problem, and one minute resolving it.” - Albert Einstein

Take a step back:

1. Understand priorities and future agendas, develop clarity on how you can contribute in a value-added way
2. Develop a personal process to help you think strategically about your role and the role of your team in the organization's strategy— things that are independent and unique.
3. Leading, guiding, and influencing your team members to be strategic thinkers about their own responsibilities.

Defining Sustainability

Planet

- Protection of natural resources
- Pollution prevention
- Habitat protection

People

- Standard of living
- Community
- Equal opportunity

Prosperity

- Economic growth
- Consumer purchases
- Production savings



Sustainability: meeting the needs of the present without compromising the ability of future generations to meet their own needs

Akron Zoo Mission: We connect your life to wildlife while inspiring lifelong learning and conservation action

S.O.A.R

- Strengths
- Opportunities
- Aspirations
- Results



Akron Zoo Aspirations:

- **Engagement:** Create an understanding of sustainable operations with staff, vendors, volunteers and guests.
- **Energy:** To be Net Zero.
- **Fossil Fuel:** 50% gasoline and oil reduction by 2020 compared to 2009.
- **Waste:** To produce zero waste.
- **Local Food:** To support local food through our operation.
- **Procurement:** To purchase environmentally sensitive products and support green vendors.
- **Program / Service:** Ensure sustainability is a key message.
- **Water:** Reduce water and sewer by 50% compared to 2009.

The Approach

Evaluation criteria:

- **Mission feasibility** – does our mission support it?
- **Capital feasibility** – can we afford to purchase it?

What is the return on investment (ROI)?

- **Operations feasibility** – can we afford to maintain it?
- **Staff feasibility** – do we have the skill set to take care of it?



Water Aspiration: Reduce Water and Sewer use by 50%

Category:	2016	2017	2018
Storm water Management	<ul style="list-style-type: none"> 1) Complete system lot D; dev/install interp. materials 2) Develop raingarden for NE KK corner grading project 3) Eval. existing systems and trouble areas w staff. Focus on metering 	<ul style="list-style-type: none"> 1) Eval. storm solutions to meet site specific issues in AZP; refer to baseline data 2) Propose priority areas 3) Review Big Exhibit design for storm water BMP 	<ul style="list-style-type: none"> 1) Install priority area storm mg't for AZP 2) Review install. of storm water mg't in Big Exhibit and interp. materials 3) review storm retention ponds C Lot for health
Water Harvesting / Recycling	<ul style="list-style-type: none"> 1) review existing rain barrels in AZP 2) proposals for renov. to rainbarrels 	<ul style="list-style-type: none"> 1) install approved new water harvesting systems at Grizzly 2) review AZP water harvesting opportunities 	<ul style="list-style-type: none"> 1) Create list of priority harvesting opportunities 2) Propose for impl. 2019.
Water Use reduction	<ul style="list-style-type: none"> 1) Install condensation unit Meso 2) Eval. potential replication 3) portable H2O meter design 4) review irrigation metering needs and install priority area 	<ul style="list-style-type: none"> 1) Install 2nd condens. unit 2) Eval. water conservation in Big Exhibit. 3) install 2nd priority metering 4) purchase portable H2O meter (hot H2O in Meso bldg.) 	<ul style="list-style-type: none"> 1) Eval. water conservation implementation at Big Exhibit and interp. materials for public

Set Big Hairy Audacious Goals (BHAG)

Resource Usage BHAG Example:

- 2009: To reduce our water and sewer use by 50% compared to 2009 baseline.
- 12/31/16: actual reduction = 80+%
- How did we accomplish this:

One piece at a time! = **Good Stewardship**

Executive Commitment

Board Commitment

Staff Commitment



Stewardship: The Secret To Successful Funding

Development office: “Know your story” – they need a compelling “Case Statement” that supports your mission. (Donor Stewardship)

Board: Tell the compelling story and how sustainability supports your mission. What is the financial bottom line (ROI)?

Executive Leadership: Tell the compelling story and how sustainability supports your mission. Describe the financial bottom line (ROI). What is the strategy?

Management: Tell the compelling story and how sustainability supports your mission. Describe the financial bottom line (ROI). Describe the strategy. What are the tactics?

Staff: How can I be a part of this?..... **SUCCESS!**

“Big C” Expenditures

- Field Conservation (Emergency) = \$39,560
- Education (Awareness) = \$694,272
- Collection Sustainability (Prevention)
(50% of animal care budget) = \$1,297,761
- Green Practices (Root cause)
(annual capital * labor excluded) = \$110,000
- Research = inside “Collections Sustainability”

=15% or \$1.99 million to invest in “Big C” activities.



2015 parking lot: more than just 168 new spaces

Stormtech underground water detention system



Focalpoint: intensive bioretention cell design



Bike Shelter connector to the Ohio & Erie Canal Towpath Trail



Akron Zoo Organic Materials Handling Building

or

the Compost Castle: *lets talk trash*

Akron Zoo history of waste diversion



Zoo zero waste aspirations now...

Investments in sorting containers, staff training, compostable flatware, hauling fees

Change in haulers has increased fees, reduced diversion rates

Zoo commitment is un-phased.



Steps to a new solution

- met with ReWorks to explore options
- convened new dumpster dives to establish new baseline data



Summary of dumpster dives and waste audits during 2016 season for average daily production

4 different Dumpster dives with Reworks

2 different dumpster dives with Big Hanna representatives

3 days of tracking just organic waste being collected in park for Organix

Summary of dumpster dives and waste audits during 2016 season for average daily production

Organic waste (trash)	Trash	Organic waste (compost)	Total average daily production
136 lbs/day	87	193	416
33%	21%	46%	100%

4 different Dumpster dives with Reworks

2 different dumpster dives with Big Hanna representatives

3 days of tracking just organic waste being collected in park for Organix

Big Hanna enables Zoo to divert organic trash to compost

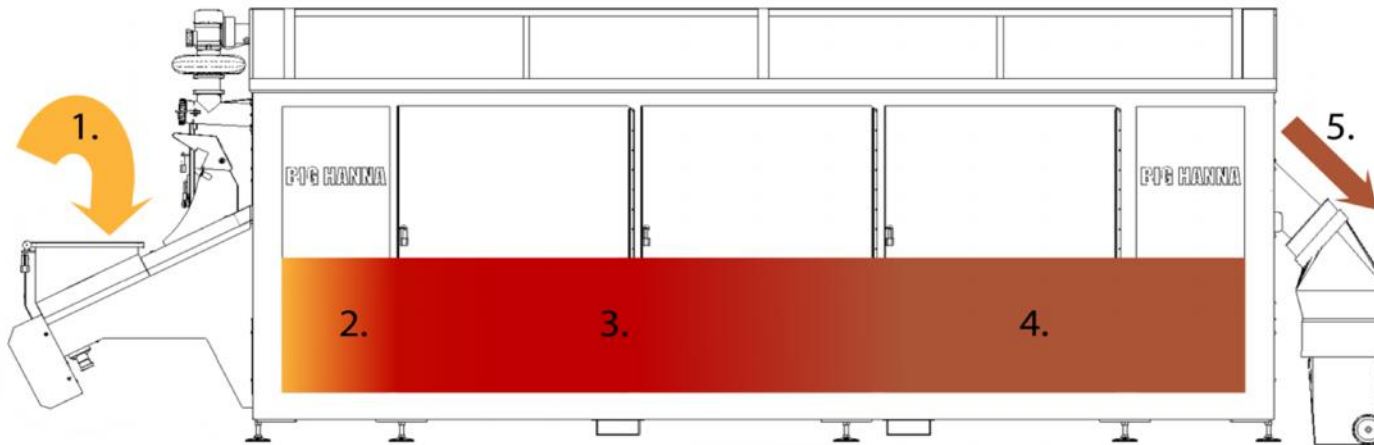
Existing inventory: all cups, plates, flatware have been tested and cleared at the other Ohio Big Hanna locations

Testing continues on biodegradable 'rubber gloves' as potential additional substitute purchase

Initial evaluation shows potential for composting on site, using aerobic digestion, without the smell or rodent issues.

Structure under consideration would complement storage barn aesthetic

BIGHANNATM composter



Fresh food waste and sawdust or pelletized sawdust is fed into the Composter.

Thermophilic phase – 40-70% moisture. High temperature: 122-140°F

Mesophilic phase – Lower moisture. Temperature: 75-105°F

Maturation phase – Low moisture. Temperature: 70°F

Compost is automatically emptied from cylinder.



EC ALL Ltd

P.O. Box 47801, Nairobi 00107

www.ecall.com - www.bighanna.com

BIGHANNATM *composter*

Pulp is fed into in-vessel composter

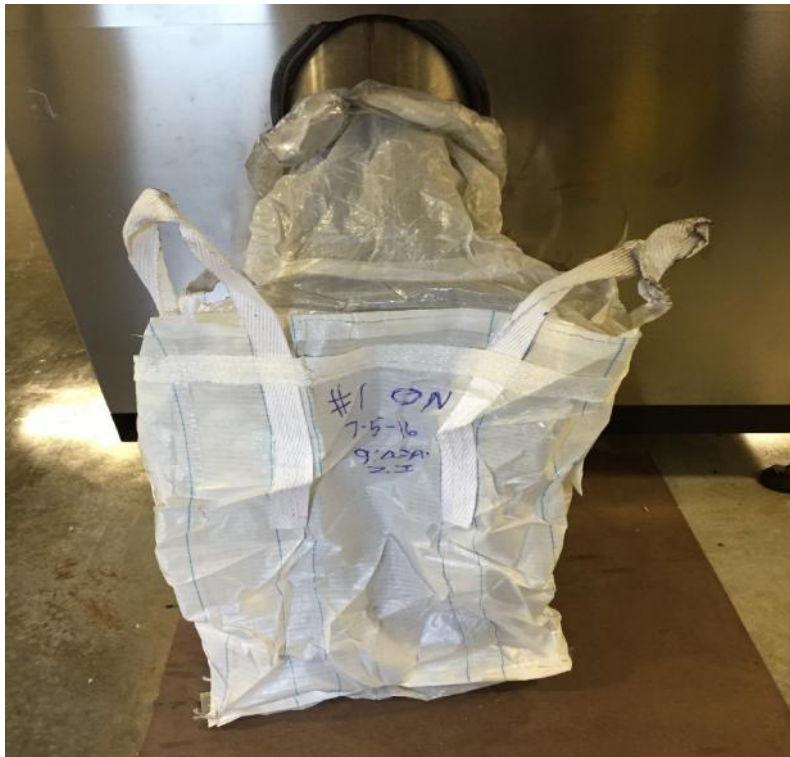
Food waste is converted to compost over 24 day period



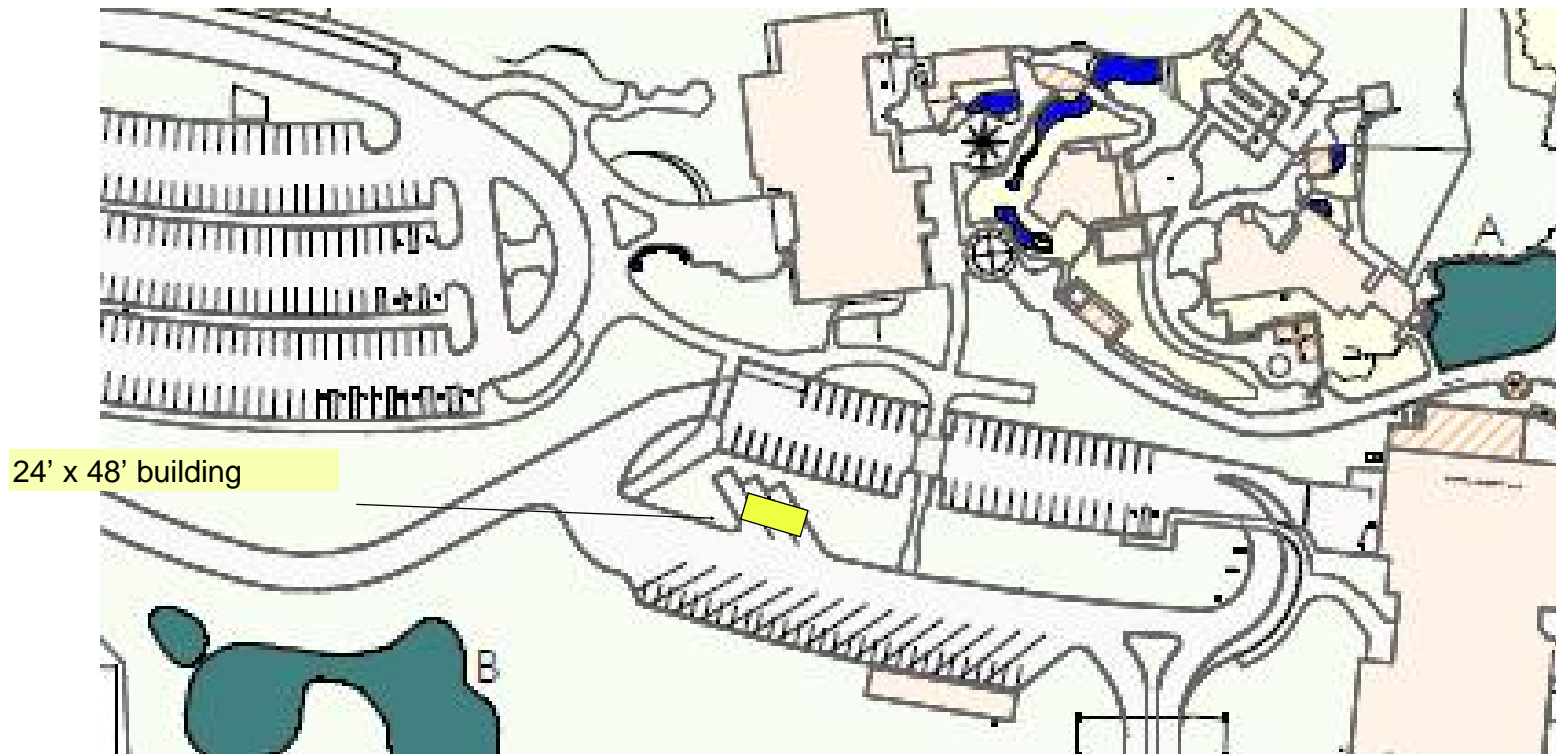
Ventilation Fan for Bio Filter



“In the bag...”



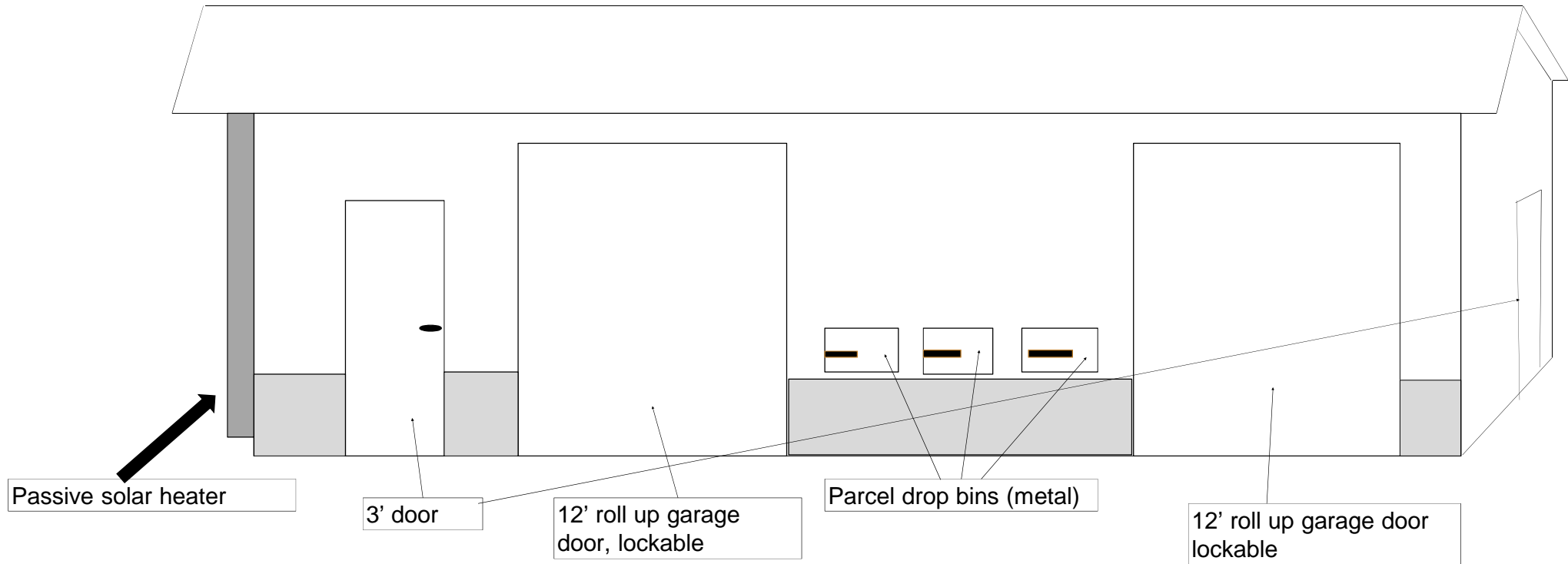
Proposed compost center is 1/3 the size of the event storage barn



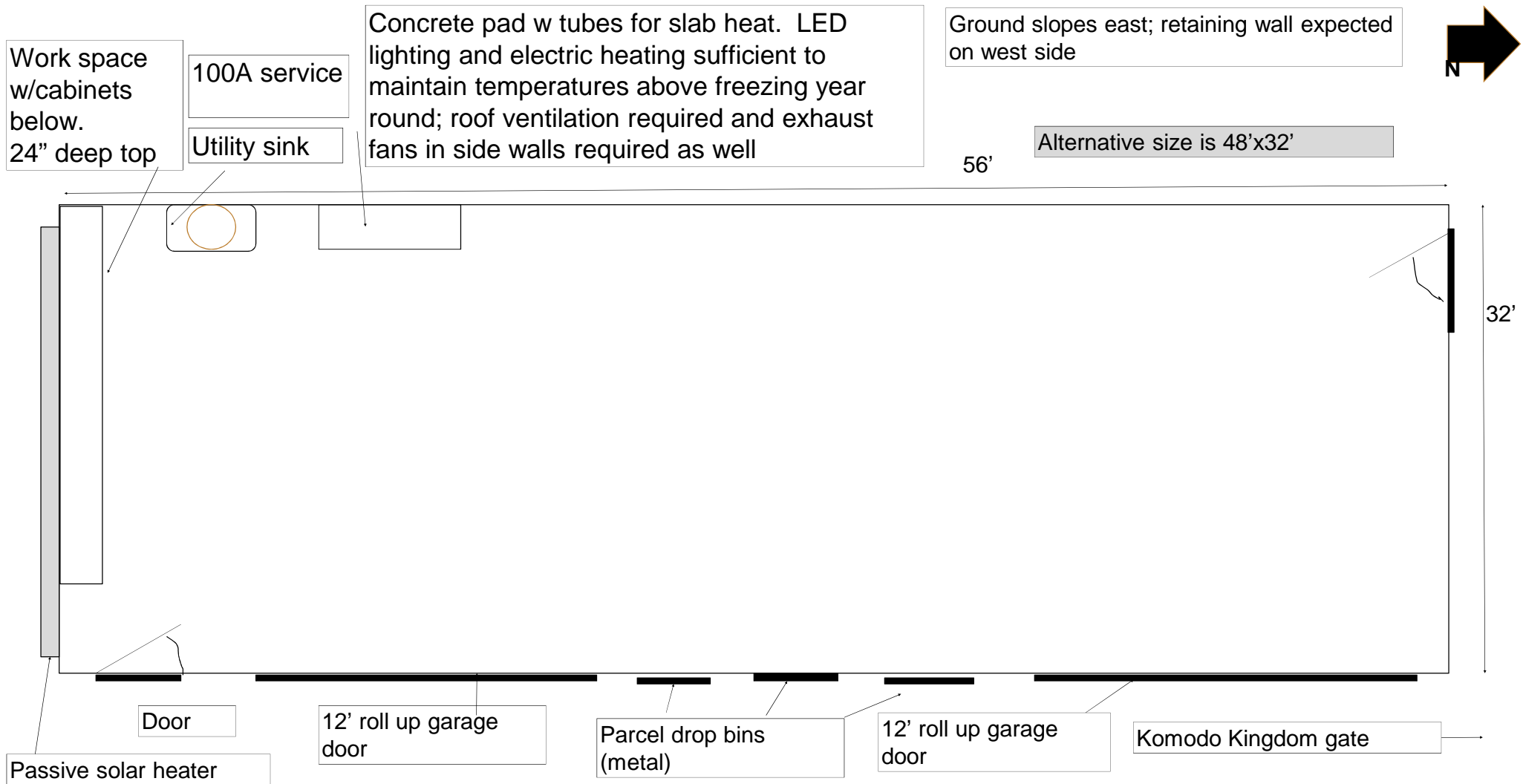
Aerial photo of site :



East elevation



Top view



Questions?

Thank you!

Contact:

Chris Norman

c.norman@akronzoo.org

330.375.2550 ext. 7248