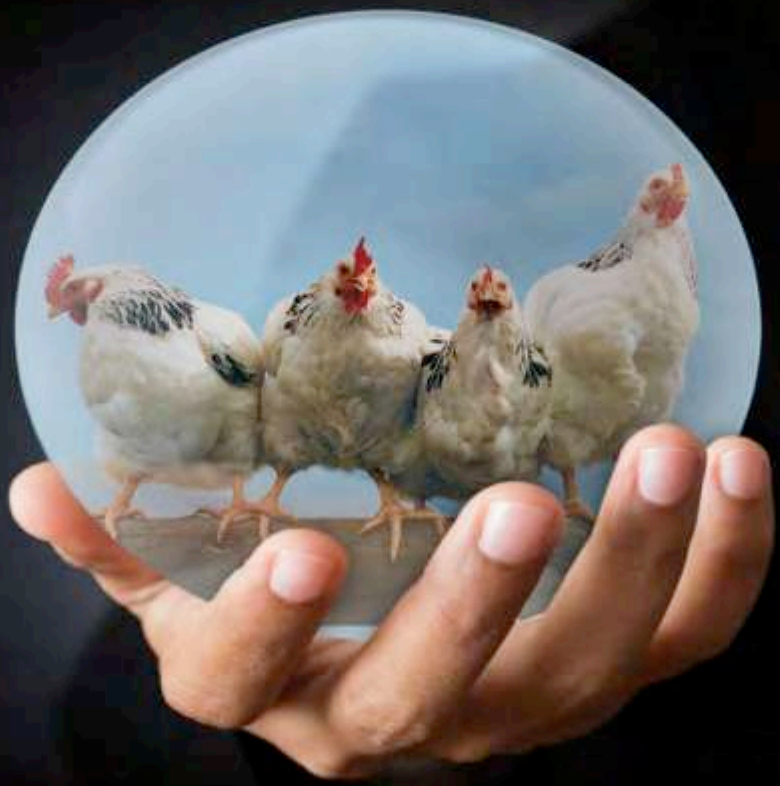
2014

Egg Industry Issues Forum

PREPARING FOR THE FUTURE!



Building *Excellence* for over 90 years

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HEN HOUSE CONVERSION:
What comes with it?

Establishing criteria

- What is the goal ?
  - Our goal in this presentation today is to address renovation and upgrading of existing High rise houses.

- What is your Long Term Goal ?

Option 1 - Remodel with Higher Density A-frame Cages

Option 2 – Remodel to Enrichable

Option 2a -Remodel to Enriched

Option 3-Back to the future…

Option 3-Convert to Aviary Cage Free

What is The Industry thinking?

Option 1 - Remodel with Higher Density A-frame Cages

Very little to no interest

Option 2- Remodel to Enrichable ,or Enriched

Currently top

Option 3- Change to Aviary Cage Free

Gaining momentum

It's All About SPACE!

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It's All About SPACE!

Working with the SPACE available to MAXIMIZE efficient use and COST of converting older/new layer houses.

It’s About SPACE!

- Bird density at 67in² - 116in² - 124in²
- Enrichable or Enriched Colony Housing
- Cage Free – Aviary – Housing

Options

- Keep main structure
- Remove all interior cage equipment, floor joist, beams and support post
- Install new equipment, Enrichable, Enriched, or Aviary cage free
- Upgrade electrical, and ventilation
- Sounds simple but is it:

Photo of High-Rise barn

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Photo of High-Rise barn

Photo of High-Rise barn

Photo of High-Rise barn

Photo of High-Rise barn

What comes with renovation

- Structure engineering changes when cage support beams are removed to accommodate new system
- Hidden Issues within the walls that is not visible at the surface
- Concrete floor condition able to support the new system
- Dimensions of the building able to accommodate a sufficient amount of hens to make the renovation economical.

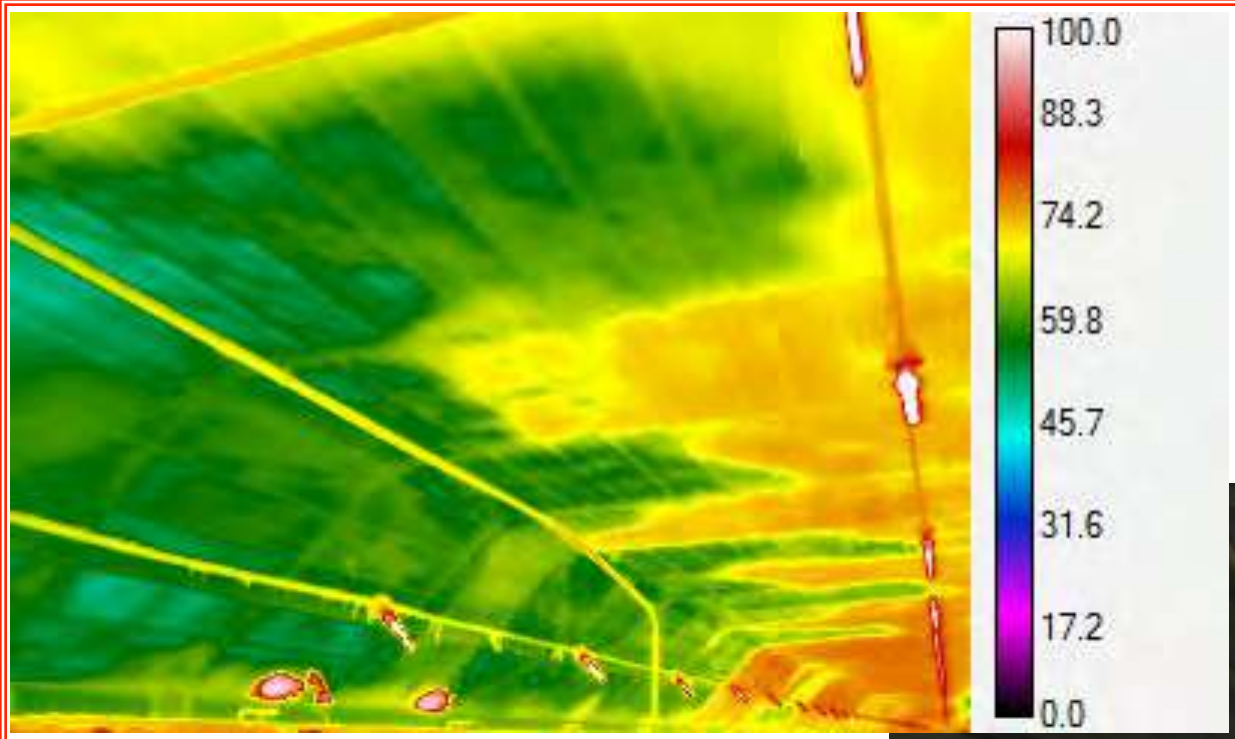
Demolition of all interior equipment and support beams requires reinforcement of side walls to withstand wind sheer

Add Buttress supports to exterior

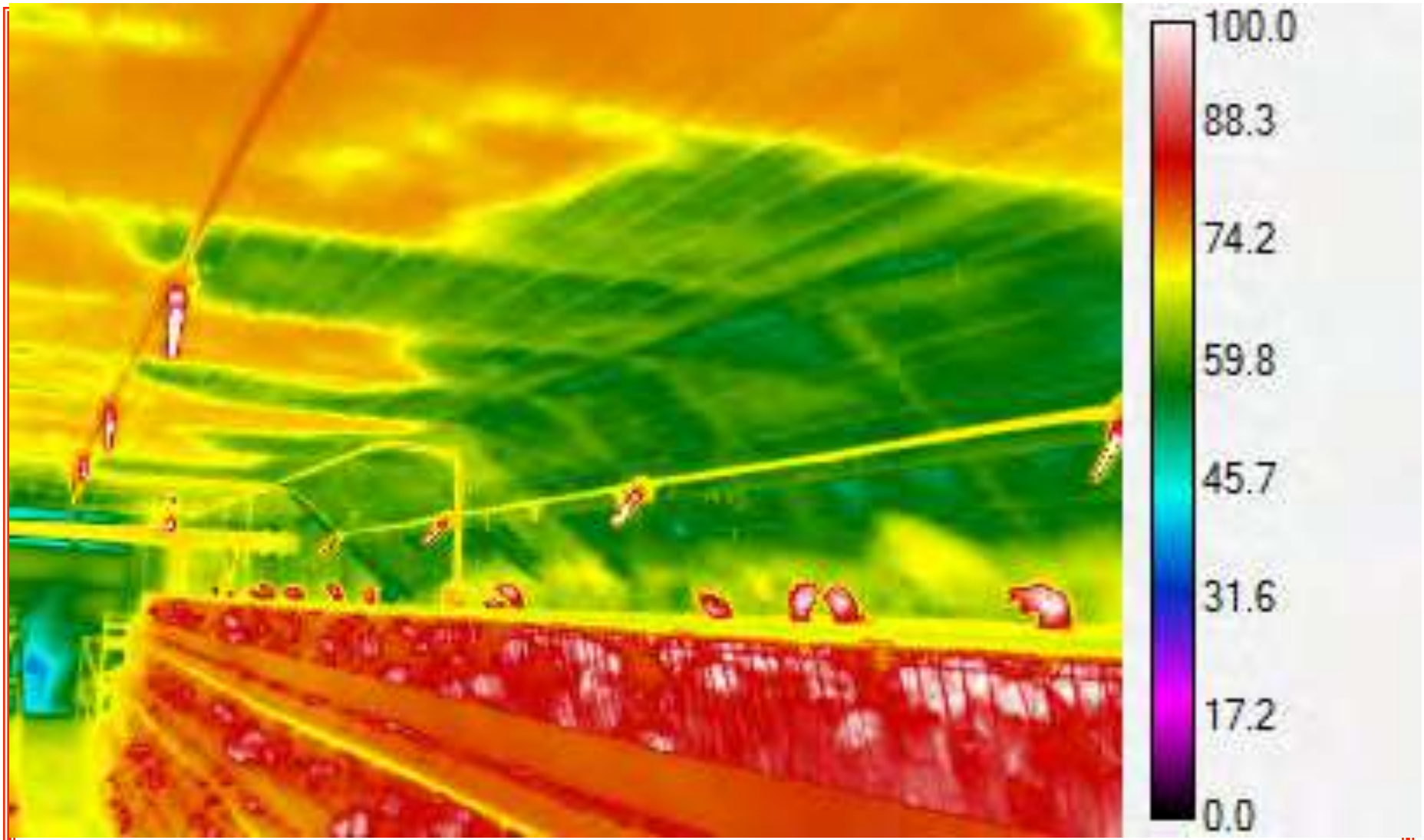
Example to possibly save the stability of the structure

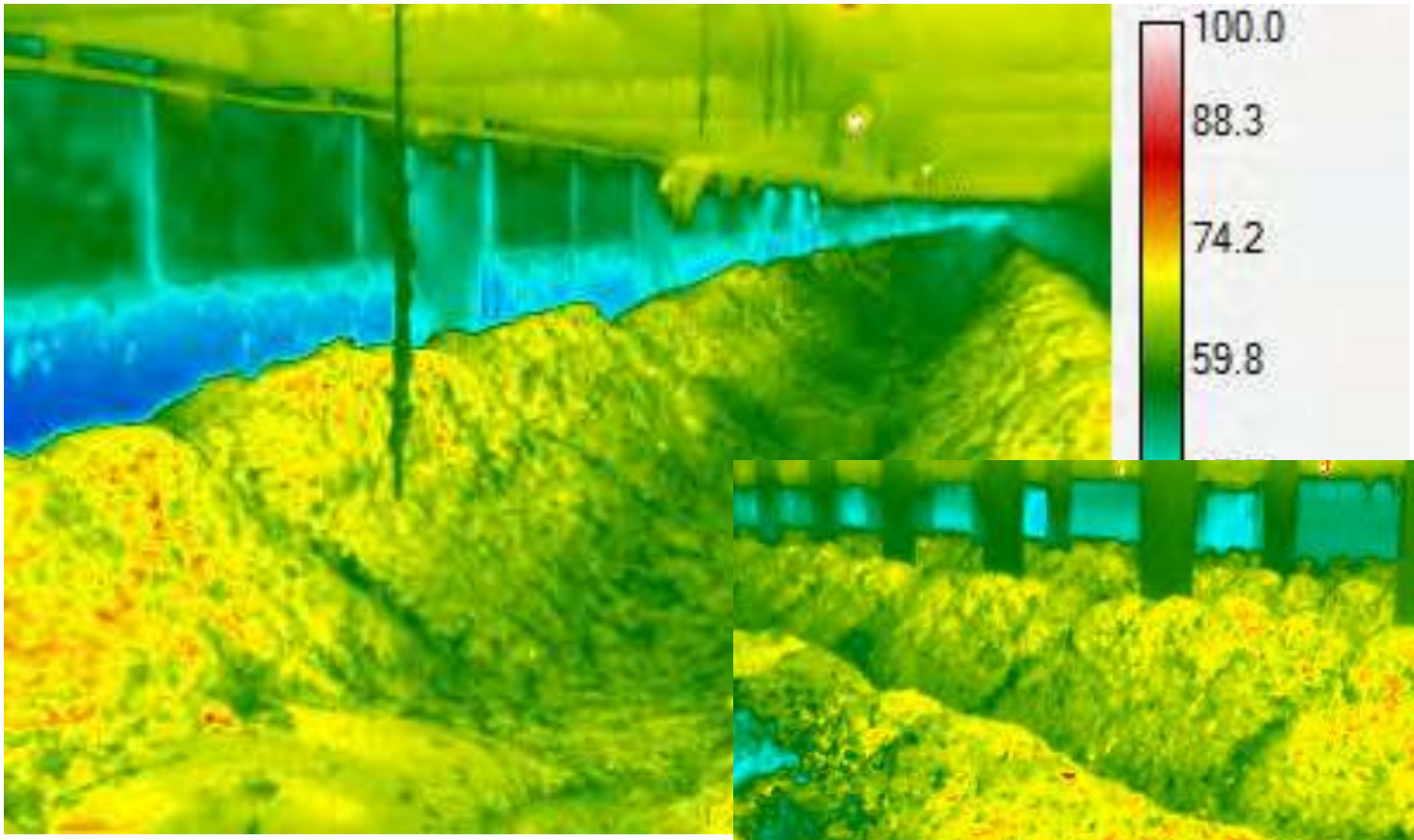
Concrete floor Damage

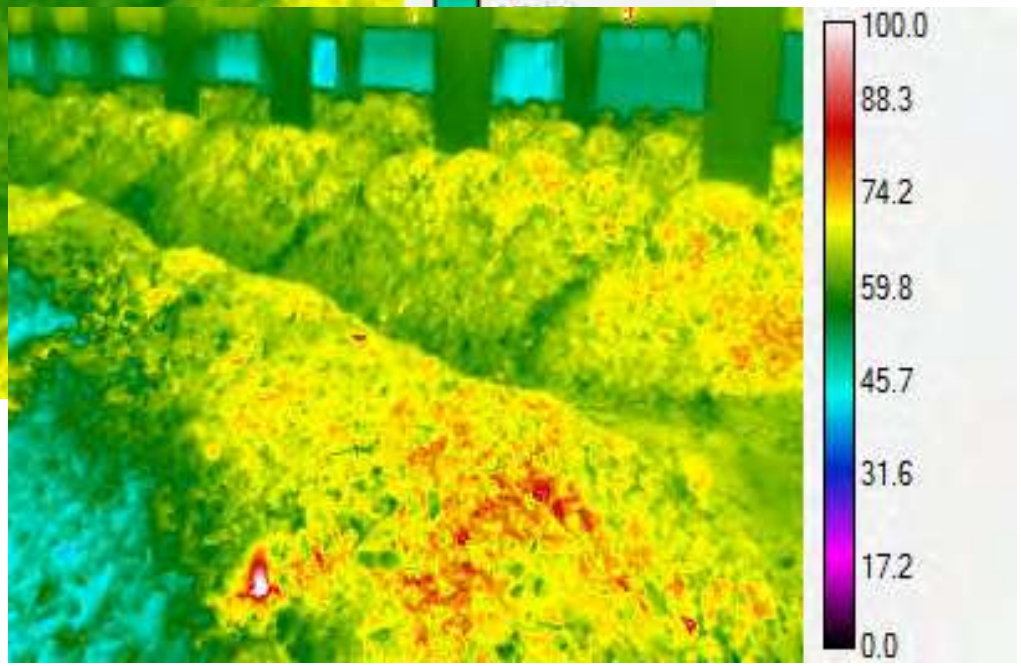
Insect Damage



Lack of insulation


100.0
88.3
74.2
59.8
45.7
31.6
17.2
0.0





Cold transfer through walls in pit

Strip walls and reinsulate

Addition of fans

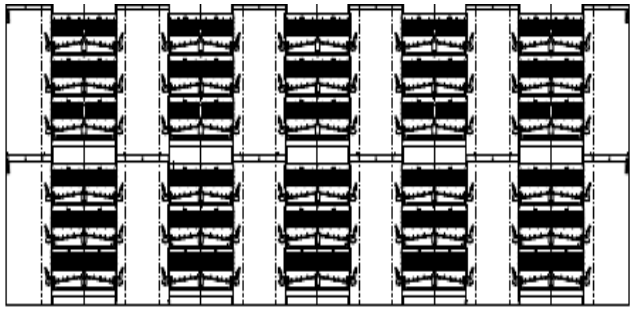
After Remodel

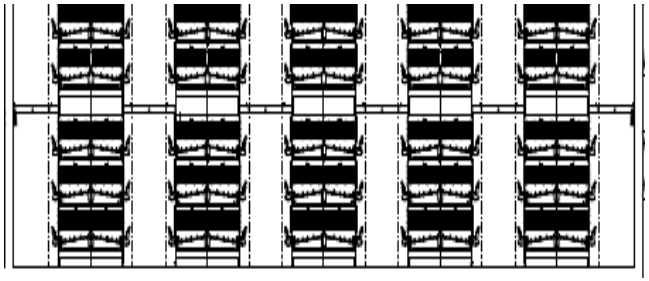
Before Remodel

After Remodel

Option 2- Remodel to Enrichable ,or Enriched

- How does remodel affect bird capacity
- We looked at two options for a 50 ft. x 500 ft. house
- 6 tier , 3x3 requires 18 ft. sidewall
- 5 tier , 3x2 requires 16 ft. sidewall





6 Tier Conversion

A High-Rise Manure Pit house holding 100,000 hens at todays density standard of 67 in²

- **Convert that house to Enrichable at 67 in² making it a 3 + 3 = 6Tier.**
  - **200,000 hens**
  - **You doubled the bird capacity in the same building foot print.**

5 Tier Conversion

A High-Rise Manure Pit house holding 100,000 hens at todays density standard of 67 in²

- **Convert that house to Enrichable at 67 in² making it a 3 + 2 = 5 Tier.**
  - **166,667 hens**
  - **You increased the bird numbers in this house by 66%.**

6 Tier Conversion

A High-Rise Manure Pit house holding 100,000 hens at todays density standard of 67 in²

- **At the 116 in² House now holds 60,000 hens – 40% reduction**
- **Convert that house to Enrichable at 116 in² making it a 3 + 3 = 6Tier**
  - **200,000 less 40% = 120,000 hens**
  - **You still increased the capacity above the original hen numbers of 100,000**

5 Tier Conversion

A High-Rise Manure Pit house holding 100,000 hens at todays density standard of 67 in²

- At the 116 in² House now holds 60,000 hens – 40% reduction

- Convert that house to Enrichable at 116 in² making it a 3 + 2 = 5 Tier
  - 166,667 less 40% = 100,000 hens
  - You maintained the same level of birds in house after the conversion.

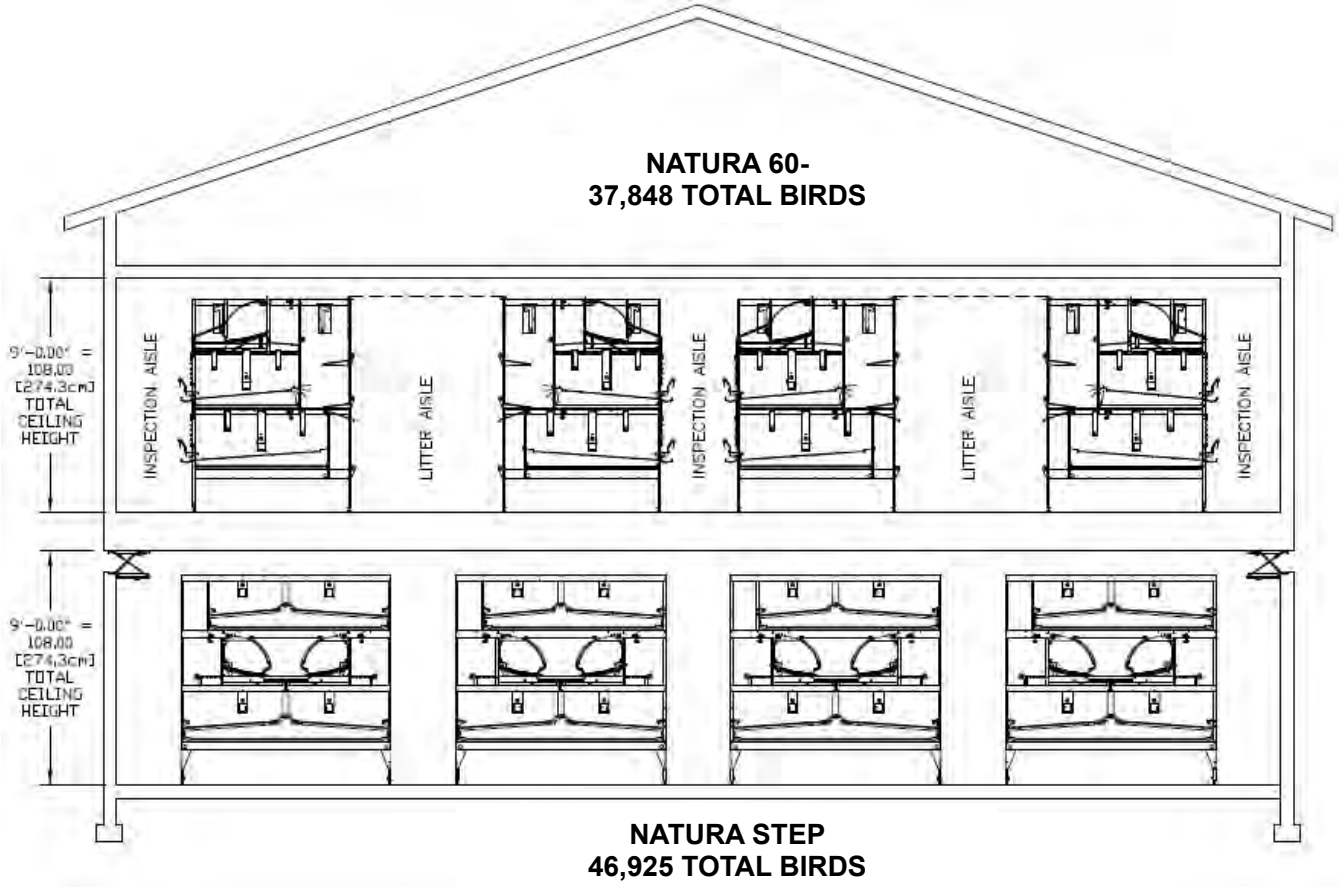
Projected conversion cost per bird includes demo, renovation, equipment, electrical, ventilation, manure storage

- **Option 2 – 6 tier**
  - 67 in²- 200,000 hens = $15.77 per bird +/- $2.00
  - 116 in² - 120,000 hens = $23.34 per bird +/- $3.00
- **Option 2 – 5 tier**
  - 67 in²- 166,667 hens = $16.55 per bird +/- $ 2.00
  - 116 in² - 100,000 hens = $24.50 per bird +/- $3.00

Option 3- Convert to Aviary Cage Free

- 54 ft. wide x 503 ft. x 19 ft. total ceiling height
- We looked at Two different systems
- Each system requires a minimum of 9 ft. ceiling height
- If structure has a height less than 19 ft. it would only be able to accommodate 1 system or 50% less birds.

Option 3 – convert to Aviary Cage Free



Projected conversion cost per bird includes demo, renovation, equipment, electrical, ventilation, manure storage

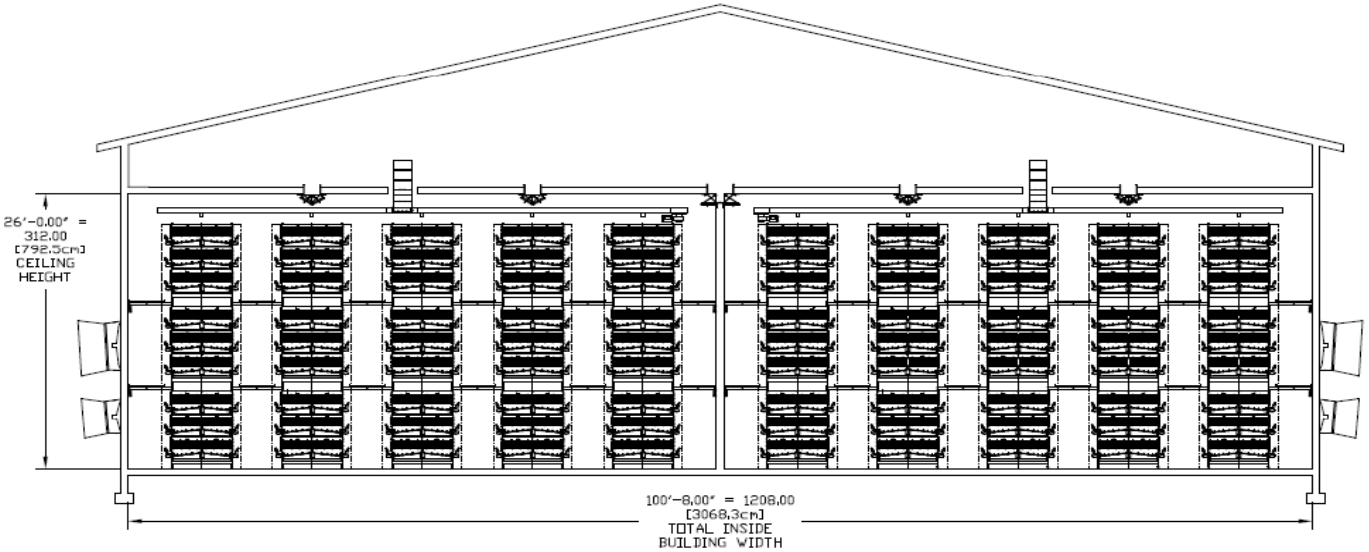
54 ft. x 503 ft.

1.2 ft.^{2} per bird

- **Option 3 – 2 floor**
  - **75,696 to 93,850 birds**
  - **$25.58 to 29.38 bird +/- $3.00**

- **<u>Option 3 – single floor</u>**
  - **38,983 to 46,925 birds**
  - **$29.35 to $32.34 bird +/- $3.00**

Tear down Two High rise replace with New Construction



102 Ft. x 426 Ft. x 26 Ft Height

124 in² = 200,880 birds

116 in² = 214,734 birds

67 in² = 371,777 birds

Option 3 -Before Demolition

Demolition

After Demolition

Option 3- After new construction

Demolition of Two high Rise capacity 100,000,replace with 1 house New Construction and Manure storage

- Enrichable **67 in² - 371,776 birds- $ 14.87 per bird**
- Enrichable **116 in² - 214,734 birds- $ 25.74 per bird**

- Enriched **116 in² - 214,734 birds- $ 27.17 per bird**
- Enriched **124 in² - 200,880 birds - $ 29.04 per bird**

CONVERT or Not CONVERT AN OLD HOUSE

- **Building permits – value of the permit and how you can utilize it.**
- **More difficult in todays World to gain a permit and it takes more time to gain approval.**
- **Cost of remodeling old housing with new Enrichable equipment averages $16 to $24 per bird.**
- **Cost of building new housing for Enrichable with new equipment averages $15 to $25 per bird.**

Acknowledgments

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Big Dutchman

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CHORE-TIME

THANK YOU

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