



BIRD-SAFE DESIGNS

✦ *Design Choices*

✦ **Materials**

- **Window Options**
- **Interiors**
- **Exteriors**

✦ **Site Strategy**

So far I've gone through what should be considered the Don'ts.

Now we start on the Do's.



Bird-Safe Design Choices

**A bird conservationists'
idea of a great design 😊**

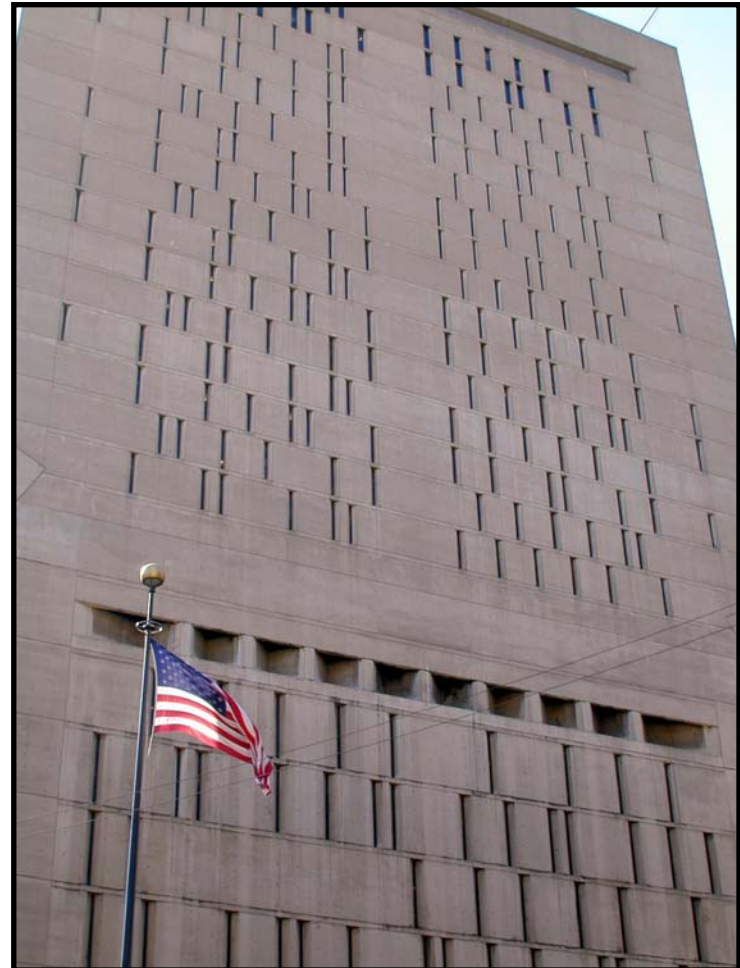
I'll tackle design first.

Mainly because bird conservationists are not the people to give design advice.

My objective is to get architects involved.

If it were left to birders to give design guidance, this would be our model.

But it's not necessary that every building look like the city jail. ☹️





Design Choices: Create Visual Noise

DESIGN GOAL =

**Create visual noise
to send signals
that birds will recognize**

Visual Noise is the combination of various and varied architectural details that make a building look like a building to birds.

It's not any one thing. Visual noise is whatever you use to create your bird-safe design.

These are two of my favorite buildings on the Chicago River on Wacker Drive. That is the Leo Burnett building on the left and the headquarters of RR Donnelley on the right.

10/27/05





Design Choices – Visual Noise

Here is another view. Even in poor weather the Donnelley building reflects the neighboring buildings.

Consider how a bird, sitting in a tree along the river, will react to each building.

The building on the left is all visual noise. There is nothing to confuse the birds along the river.

The building on the right says, *entry to sky here.*





Design Choices – Visual Noise

Historically large buildings were filled with many details.

This is a hotel - a nice example of a lot of visual noise. Until recently, residential buildings and hotels were filled with a variety of Architectural details, especially operable windows, and balconies.





Design Choices – Visual Noise





Design Choices – Visual Noise

Visual Noise can come in any color.

To be bird-safe, the blue flat glass should be non-reflective. If it is not, there is a way to mitigate for that.

The rest of the building design is all visual noise to birds.





Design Choices - Angles

First floor angles are very effective deterrents



Angled first floors are very bird-safe. I point this out because I've been told by architects it is a particular building feature they plan on using a lot. This is the Milwaukee Art Museum designed by Santiago Calitrava. It is sitting right on the shore of Lake Michigan. Without the angled windows, this building would kill a lot of birds. Professor Dan Klem's research found that windows angled at 40 degrees were safest.



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Windows – External Screens

Window screens do an excellent job of muting reflections and see-through effects. Until air conditioning was common buildings had operable windows and, thus, window screens, which played an important role in preventing birds from being attracted to the window.

Note that the windows on the top do not have screens - you can see the difference in reflections.

It's my understanding that operable windows are back in fashion, which is great because external window screens are probably the easiest way to mute the effects of reflections.





Windows – Many Panes



Distinctive pane dividers provide visual noise

Traditional windows with a lot of panes are very good. The more panes and the more visible the dividers, the more visual noise the window projects.

Note that there are still openings larger than a handprint in these types of windows. If birds are close by - in a tree, for instance - you need to add other bird-safe details. Also note that the multi-pane window on the left has the multiple panes on the inside. To be fully effective, the multiple panes should be on the outside of the window.



Windows – Fritted Glass



Swarthmore College



Fritted or patterned glass is also a big favorite with architects working on bird-safe projects.

After extensive research, the project team at Swarthmore College (PA) picked this somewhat-solid pattern. The Handprint Rule, however, indicates that would not be necessary. They could have selected a pattern of any sort.

This is the 2004 addition to the Science Center. Because the college has had a significant problem with birds flying into windows -they lost all of their hummingbirds that way- the project team included "bird-safe" in the building specification.

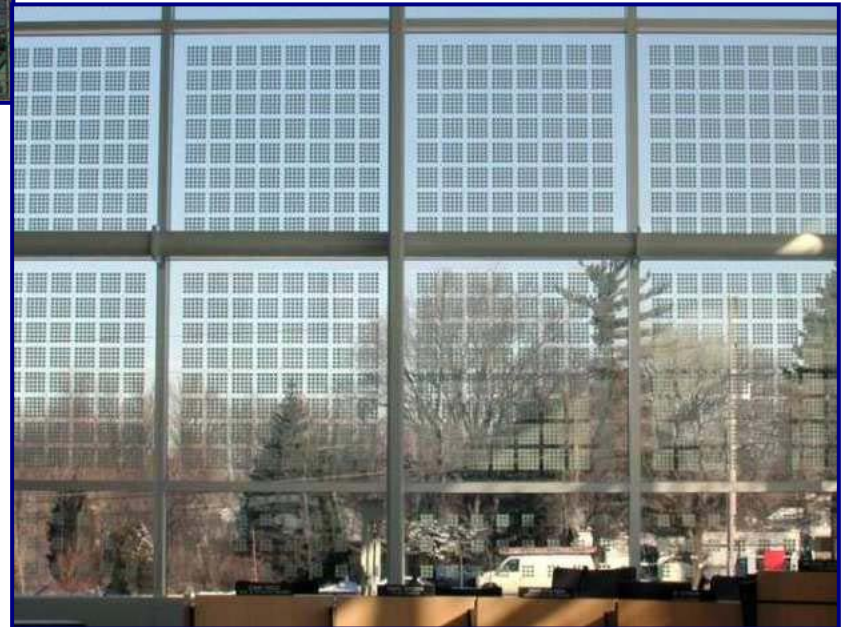


Windows – Fritted Glass



Village Hall and Library, Vernon Hills, IL

Any decorative pattern that covers up the open glass can be bird safe. The key to success is simply ensuring that the pattern is sufficiently 'noisy' that birds aren't attracted to the windows.





Windows – Fritted Glass



Critical: The frit must be visible from a distance for the bird to see it.

By the time a bird sees this frit, it will be too late to avoid a collision.



Windows – Fritted Glass

Critical:
Standard fritted glass is reflective; specify non-reflective glass

At the current time, the main disadvantage with standard fritted glass is that it is highly reflective.

As you can see, the pattern - small squares - does an excellent job of blocking the view of the large interior trees, which would be a significant draw for birds if the glass was clear.

But the clouds are easy to see reflected in the window.
(continued on next slide)





Windows – Fritted Glass

Critical: Standard fritted glass is reflective; specify non-reflective glass

Thus, it is important to work with your glazing vendor to ensure that your selection is not reflective - unless that acceptable in your very specific situation (which will be covered later).

This is the Blue Cross headquarters in Chicago; it is located between a major city park and has its own beautiful garden. The building is a bird attraction all year round.

Kudos to Blue Cross for including the fritted glass to block the view of the interior trees; now they just need to break up the reflections with some visual noise.





Windows - Film



“Frit” created through window film

You can apply film to an existing window to give it the patterned effect. (You can also use a paste of Bon Ami soap as paint to stencil on windows to test out your designs. Or just leave the soap stencil on the window. It's a cheap way to accomplish the task of adding visual noise with aesthetic design.)

Companies like 3M make film that can be printed with any design. It is intended to be used on trucks and buses for display advertising. It works just fine on regular windows. (A web search will bring up many companies that sell window films.)



Windows - Film



**The “iT House” by Taalman Koch Architecture
using 3M Graphic Film**

More info at www.tkithouse.com

Graphic thanks to Taalman Koch Architecture, Los Angeles



Windows - Film

CollidEscape
perforated film –
standard 3-M product

- Available with custom designs
- Very easily applied with soap and water



Another type of 3M window film is perforated for one-way viewing. The conservation community calls it *CollidEscape*. It is available from www.ldfcolliidescape.com and other 3M distributors.

Like the clear film, *CollidEscape* is typically used for marketing messages outdoors, such as wrapping a bus in advertising. 3M distributors offer it for use on building windows. A distributor told me that her office was printing the film to look like blinds in office building windows.

The assumption here is that you are working on a remodeling or remediation project. I don't mean to suggest you'd start out using this type of film on a window.



Windows - Decals



Decals must be both visible and fully cover the window

Decals are also decorative features for remediation - but the decals must be visible and cover the entire window, following the Handprint Rule.

Both of these buildings know they have a problem with bird collisions. Neither has grasp the basics on what needs to be done. Rather than calling a professional designer, they probably left it to the maintenance department to solve their bird collision problem.



Windows - Paint



Professional artwork at a museum on left

Janitorial solution below

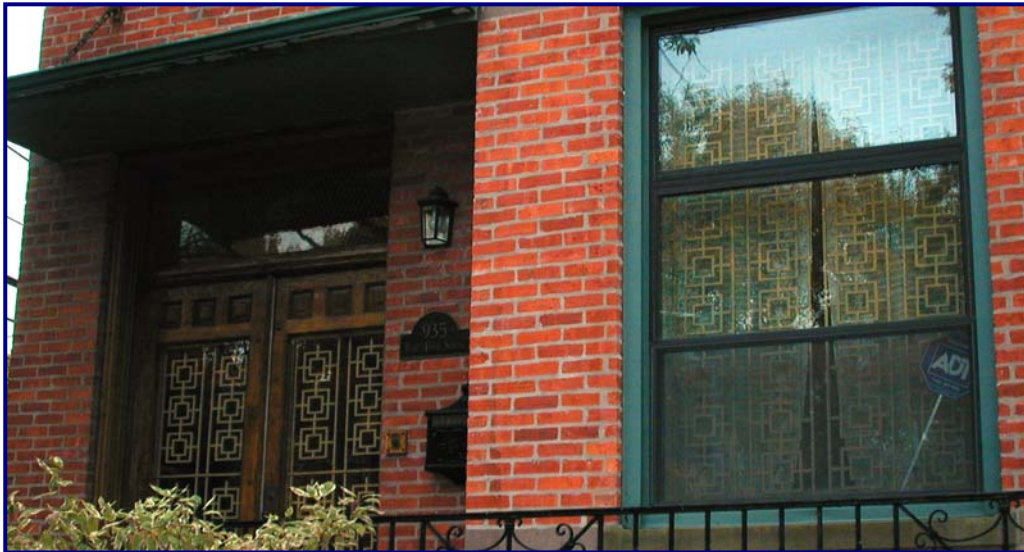


Using the windows for artwork will also work. This would be a great solution for business office lobbies. The fish windows are a piece of art at the Museum of Contemporary Art in Chicago. Obviously they don't meet the Handprint Rule requirements. I'm just showing the window as an example of the possibilities.

The stripes on the right are the work of the maintenance department at Chicago's Adler Planetarium. I think it is a missed opportunity that the building owner did not use the windows for artwork related to their mission.



Windows – Decorative Grills



Perhaps you recognize the windows on the top right from Soldier Field.

And that is a Frank Lloyd Wright window on the right.

The grill in the door above is likely for security. Note that the matching window grill is on the inside and, thus, there is little visual noise to block out the reflections.

