

# Ryan Nicholas Rufer

@Issue: Insects



**BUG MOTEL**

## **Research Proposal:**

In designing my Insect Motel, I wanted to create enough space for many different types of insects, yet making something with sculptural form that would be aesthetically pleasing and fit in with nature. The zig zag form Recreates the resemblance of a tree towering over everything, with areas for water and dark areas for hiding or hibernating. Having spaces on both the back and the front of the Motel, with substantial height and size, my bug motel is large enough for a whole metropolis of insects. Sections for butterflies and lady bugs throughout. The idea of making bug motel is to help save the insect population by giving them a home and a place to breed. The insect population has declined dramatically in the past 30 years, mostly because of our use of pesticides and not wanting insects inside our homes, because we think they are dirty and disgusting, when in fact they are beautiful and are needed for our environment to thrive and survive. Therefore, there is no place for bugs to live and they are dying off. My Motel is for all types of bugs, I want it to be a condominium of sorts, for any type of insect that needs a place to dwell. I designed it with many different types, forms, and sizes of nooks and cranny's so it would be inviting and comfortable for any type of insect that needs a home. The form I created has a lot of height in which is can attract all kinds of insects from the ones that come on the ground and those that fly in. Maybe the Tower can be put near a tree so even more insects would be able to climb onto the Metropolis.



## **Research of Insects:**

I am designing for various types of insects, hoping that if one type does not like the home another type will come and occupy it and make it their home. I have included my research for bugs and bug motels. Insect (bug) motels have many shapes and forms, and are created out of many different materials. From scrape wood, to flower pots. The possibilities are endless. Insects are everywhere and in one's home they usually go to a dark place or somewhere with food. So, to recreate that on purpose is not very hard. An insect motel is a structure made from natural materials that bugs can eat or create nests in. Mostly to give them a place to live, mate and thrive, since we poison all our homes and yards so that we do not have bugs in them, we need to make a place for bugs to go before they all die. Insects are important to every aspect of the ecosystem. The types of bugs I hope to have live in the motel I have designed and constructed include but are not limited too Solitary bees, Lady bugs, Butterflies, Moths, Beetles, Wasps, Dragon Flies, Frogs, Bumble Bees, and many others will hopefully consider it home.

Solitary Bees like to live in reeds or holes where it is warm and somewhere they can create a nest area and home to live and procreate. Centipedes and beetles like dead wood, where they can lay their larvae. Lady bugs like dry sticks or leaves and pinecones to hibernate in over winter, so they and their larvae can have plenty of food when they awake. Straw, Hay, Leaves, loose bark, and crevices are all areas bugs love to thrive and live.



My Bug Motel will be out in the wilderness on the ground. I have created a sacrificial board on the bottom of the tower, but I am hoping it will be on some rock, brick, or other surface where it will not get a lot of moisture so it will not rot. The sacrificial board is replaceable, it is adhered with screws so when it starts to rot it will be able to be replaced to prolong the life of the Motel.

To protect the motel from the elements I used mostly Mineral Oil. I have completely sealed the outside surface with the oil while leaving the inside natural wood so that it will help the insects have a natural place to relax. The two butterfly doors I have pigmented with natural Beets to stain it bright red, trying to keep everything as organic as possible. The Bee reeds are made from PVC pipes that can be removed and cleaned then reinserted. All the spaces are accessible with doors, even the screens.

I think my Motel would be most useful in a location such as on a trail in a forest next to some sort of running water so that it can attract as many insects as possible. A creek or pond would have a lot of insects near it, and my Hotel having two balconies, one on each side that contain pebbles and an area for water to accumulate will attract the insects to the motel.





## INSECTS



**Butterflies**



**Bees**



**Dragon Flies**



**Beetles**



**Lady Bugs**



**Wasps**





**Frogs**



**Spiders**



**Lacewings**



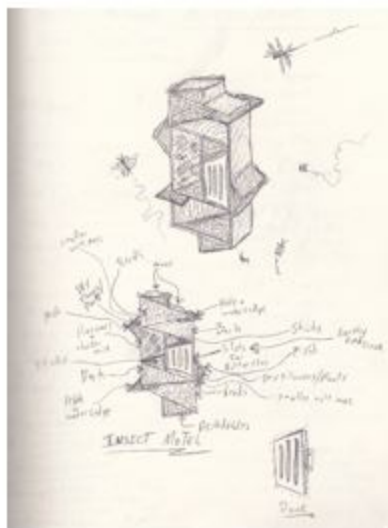
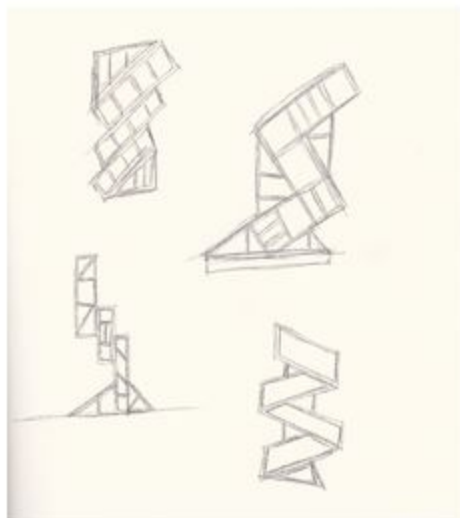
**Bumble bees**



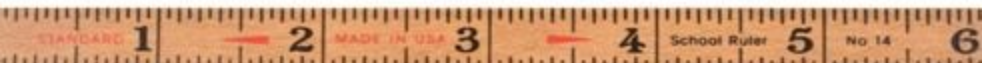
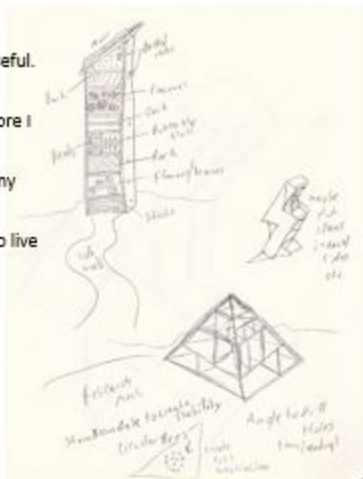
**Moths**



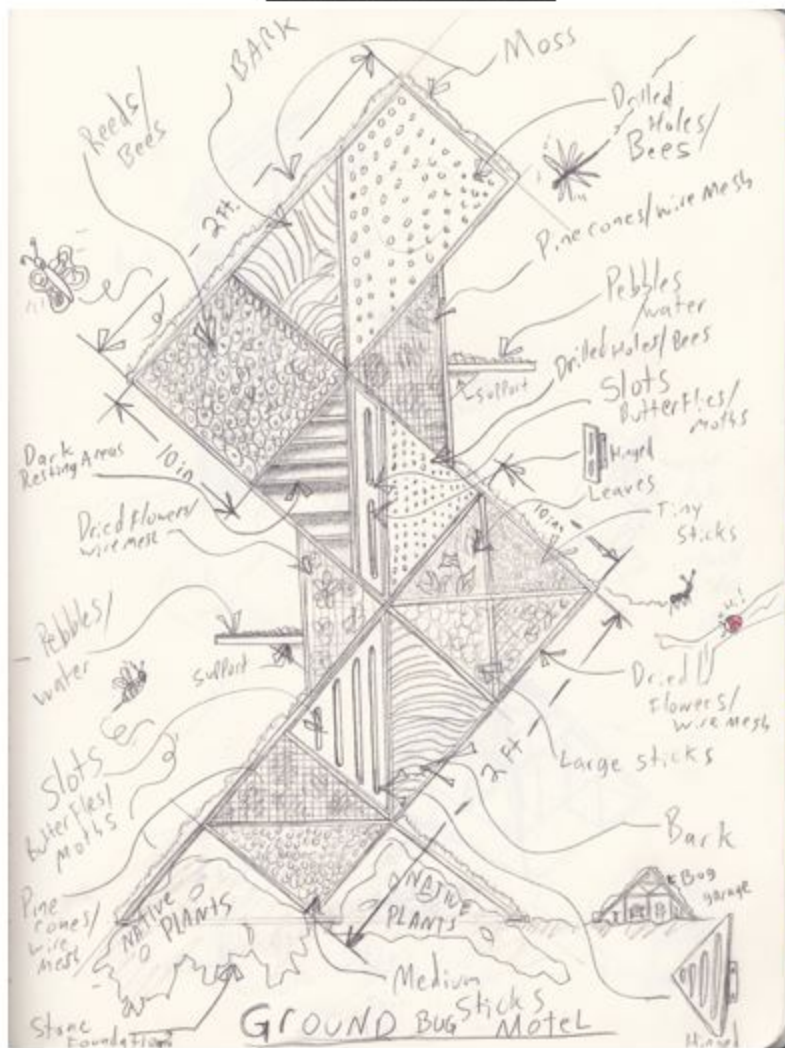
## PRELIMINARY SKETCHES



In my schematic sketches, I tried to create a form that was pleasing and useful. I tested out many shapes and sizes before I finalized my design. I tried to make many different spaces and areas for insects to live and hangout.



### Final Construction Drawing



U.S.A. TICONDEROGA® Leadate® 3304 NO. 2 - HB



In my Final Drawing I created a zigzag form with many places and spaces for bugs to live, mate and hangout. I made plenty of Areas for all types of insects to live, in nooks, leaves, pinecones, bark, reeds, dried flowers, including two balconies with pebbles and water to feed the insects. I tried to be very detailed of what goes where so I could figure out exactly what was needed to construct the motel. The height of the motel is 4'-0" Tall by 33" Wide by 11" Deep. It turned out larger than planned but in the end I think it all came together well and is a great home for insects to enjoy for many years.

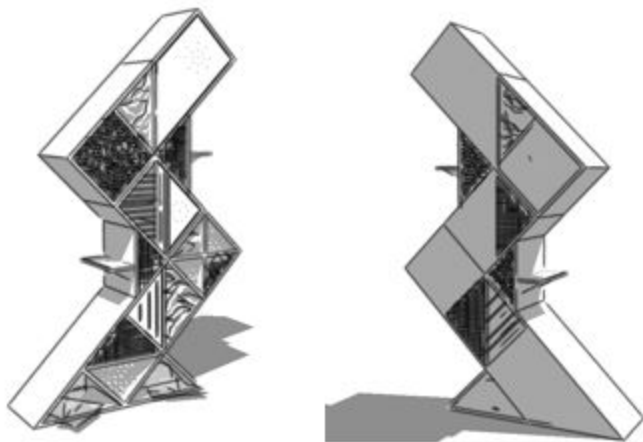
#### CARDBOARD MODEL:

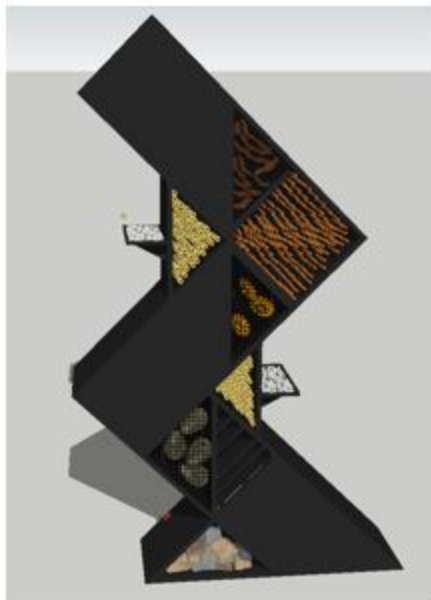


My Cardboard model is about 4 feet tall and differs from the sketch as I added a back area to utilize all aspects of the Motel so that the back would not just be a flat surface. The model turned out great despite the time crunch, I hope to straighten out some of the angles in the final wood Motel and it will be a natural wood color instead of black.



### DIGITAL DESIGN; SKETCH-UP MODEL:





My final sketch-up model is identical with the cardboard model. I will be using a lot of wood and the red doors for butterflies will open with a hinge and the bee areas will also be doors that will open for easy cleaning. The motel is in three sections, the top "box" is approximately 2'-6" long by 10" high by 10" wide. The bottom section "box" mirrors the top except for the triangular pieces added for stability. The overall height is 4'-0" Tall by 33" Wide by 11" Deep. Both the front and the back of the tower is utilized as well as the sides where the balconies are located.

**FINAL IMAGES:**



**Front**



**Back**







Moss



Removable Cleanable Bee Hive



Bark

### FINAL THOUGHTS/ REFLECTION:

During this project, I have learned a lot about insects, that they are dying and we are killing them. Also, that you can create a home for them with just about anything you have lying around the house. I think it is important that we as a community try to do our part in saving the insects as much as we can, because they are what keeps us alive. We should not be afraid of them or think they are gross. Creating a Bug Motel in your backyard would not be a bad thing. You are helping the population of insects grow and you are giving them a place to live instead of your own home. Before I started this project, I knew nothing about insects dying off, I knew nothing of insect motels. After learning about the life of insects I find that insect motels can look very beautiful and add a lot to one's yard. They can be quirky like the owner, or fanciful. They can be whatever the person's personality is, it is like a piece of art in your yard that is useful. I think everyone that has a home with a yard should have a Bug Motel to create a place for the insects and to create a conversational piece for friends and neighbors. The more people know about insects and how to save them, the better chance we have at saving them. Go build an insect motel Today! And start saving part of the world that is keeping us alive.

