



# RADIANT FOR MACRO-pods!

Exotic animals appreciate a shelter's warm floor when the heat comes from down under.

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SPECIAL TO CONTRACTOR

Sales calls for radiant heating have proven to be anything but routine fare. For the most part, radiant customers are well-educated folks who have done considerable homework and who have gained a grasp of basic heating issues.

Many particulars must be blended together to weave the fabric of a successful sales adventure, not the least of which includes an accurate assessment

of the end-users' needs, desires and wants. More often than not, listening to their subtle undertones can provide the clues needed.

But what if the customers can't talk or speak for themselves?

I envisioned a visit to a Rehabitat center as one where wounded raptors such as hawks and owls are safely housed and fed until they have healed sufficiently for re-release to the wilderness. I pictured

a place where human contact remained limited to prevent the wild inhabitants from adopting too casual an attitude regarding a healthy fear of mankind.

After winding my way through the rural countryside of Dillsburg, Pa., I found myself traveling along a gravel road into a dense thicket of woodland. Rehabitat is secluded and isolated from civilization, which is no doubt beneficial for beast and mankind alike!

### Enter Owen

My arrival was greeted with a cacophony of noise from several runways housing unusual-looking dogs. No question about when strangers arrive here! To the right there was a home, and my destination for an appointment with Wendy Looker, the director of this Rehabitat facility.

Wendy invited me to take a seat at her home's kitchen table so that we could lay out the plans for a new building. She had heard that radiant heating would offer the greatest comfort for her charges while saving operation costs. But installation costs were a real concern, too, and would need to fit within her very tight budget.

During our talks, Wendy excused herself to get a bottle warmed for a feeding. I assumed a fledgling hawk or owl would be joining us for a mid-morning snack and didn't give it a second thought, due to my being absorbed in thinking about what would be the most economic approach to satisfying the radiant design. The sack she carried back into the room was gently placed on the floor and out hopped Owen, a baby kangaroo — krikey!

Standing almost 2 ft. tall, Owen immediately expressed his joy of being out of his "pouch" by hopping about the kitchen. I'd never been sniffed by a kangaroo before, and Owen immediately stopped to check out the stranger in his environment. Once satisfied I was OK, he continued his journey until he spied his own image in the glossy surface of the dishwasher and, startled, jumped up and back.

My curiosity piqued, I wanted to know more about this species from Down Under that I had long longed to see first-hand. I couldn't get over the fact that here I was, having a casual encounter with a kangaroo in a home's kitchen while on one of the most unusual radiant sales calls of my career!

"Macro-pods" (meaning large feet) was the term Wendy used in her description of Owen, and I was surprised to see his feet were almost as long as he was tall. But macro-pods' large feet also serve as defensive weapons when they use their muscular tails for balance while delivering a crippling blow when kicking their perceived attacker. Wendy explained that as Owen and his kangaroo siblings grew to a height of 6-plus ft., they were going to need a large enclosure to facilitate a more natural environment. To creatures with feet this big, a warm floor would feel like nirvana!

As I would soon discover, kangaroos were not the only ones in need of warm feet: wallabies; bearcats; a two-toed sloth; various species of owls and hawks; plus Australian heeler dogs make up a



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part of the menagerie of exotic species whose native lands offer warm terra firma for their feet. A comfortable environment would greatly enhance their comfort and speed up recovery times.

When I mentioned that we needed to carve out an unheated space for the dogs to reside due to their needing to lose unwanted body heat via panting, Wendy began to trust my design skills. Her comfort level was rising too!

A tour of the numerous outbuildings and fly-ways introduced me to two kinkajous with prehensile tails, several skunks including an albino baby, two foxes, multiple species of owls and hawks and a parrot who, I swear, carried on an ongoing conversation with Wendy the entire time we were in "his" building.

## Volunteers pitch in

In order to remain within our budget constraints, I had to find ways in which to cut labor and material costs. Wendy and I quickly settled upon a plan to utilize as much of the Rehabitat volunteer work force as possible without compromising safety or system designs. This also meant the bulk of work would be performed on weekends and weeknights when the volunteers were available.

I confess I was a bit apprehensive about the tight timeframe we had established for installing the tubing prior to the concrete flooring installation, but those concerns rapidly evaporated once everyone arrived and the first two loops had been installed. By then, everyone had grasped the concept and settled into a routine.

Utilizing Watts Onix rubber tubing turned out to be a good judgment call as it remained in place while awaiting the ministrations of the zip-tie gang. This also allowed the person running the tubing to follow my design without having the tubing recoil on its own prior to being fastened.

Teamwork prevailed, and smiles quickly replaced any concerns. Good-natured bantering between these volunteer veterans quickly revealed their deep-rooted friendships. Each one had become enamored with Wendy's Rehabitat

operation during one of her many educational talks and were captivated by the majestic appearance of hawks, owls or other exotic species.

Wendy's husband, Joe, a postal carrier has long worked additional hours in order to help support his wife's passion, and their daughter, Stephanie, chipped in making this a full-fledged family effort. Gary, a plumber by trade, was delighted to work on a radiant system and become a Wet Head — I was delighted to provide his first foray into this arena. Jamie works in the tax collection division for the state of Pennsylvania; Duane works for Purina by day.

Many of the Rehabitat tenants have appeared on national television shows including Late Night with Conan O'Brien. Endangered species are bred in captivity here by utilizing animals whose injuries preclude their release. Screech owls, barn owls and kestrels are raised and released to the wild.

In the evenings, dozens of turkey vultures settle in to visit with the raptors housed in one of the largest enclosed fly-ways in the Northeast. If given an opportunity, the mischievous and opportunistic birds will contrive a way to steal the many bits of food (dead mice and rats) placed in as natural a manner as possible for the raptors being housed.

In addition, although just as ugly as I'd always imagined, these surprisingly intelligent rascals like to play with floating toys in the Lookers' pool and tease the wire-haired dachshund dogs by walking around on the wire screening covering their runways. It quickly becomes apparent that they enjoy teasing the dogs and have made quite a game out of it. After a play period, they settle in for a night's roost and disappear by the next morning. They somehow know they're in no danger of harm here and allow one to approach to within just a few feet — each eyeing the other with rapt curiosity.

## Design simplicity

With the new building divided into three distinct areas — for office and

dogs, raptors and macro-pods — it was necessary to incorporate design simplicity friendly to a volunteer crew and that minimized materials while operating at peak efficiencies for delivering both comfort and economy. Continuing along the theme of quick-as-lightning installation to reduce labor costs, we settled on using a direct-vent propane-fired compact wall-mounted Laars Mini-Therm JVi boiler and a Watts pre-manufactured injection panel. Utilizing injection piping granted us the opportunity to minimize piping while, at the same time, maximizing the ability for utilizing remotely mounted manifolds.

Given the very low flow rates needed to transfer Btu with injection pumping, 1/2-in. Watts E-PEX B lines were added for each of the two remotely mounted manifolds. The manifolds were kept close to the floor level so that their distribution loops could disappear into the concrete directly below, and the injection tubing rises up from the concrete to supply the needed supply temperatures.

By installing them in this manner, it is feasible to provide a protective cover for shielding the radiant products from inquisitive gnawing or aerial bombs and keep the inhabitants from inadvertently injuring themselves. Precise control of these three individual areas, with a cool spot for the dogs, will now be possible with an infinite



Contractor Dave Yates works at the master board. Injection piping was used to minimize the amount of piping required for the job.



Stephanie Looker (left) and Jamie VanBoskirk volunteer to help tie down tubing to help reduce labor costs on the project. The Rehabitat center worked on an extremely tight budget.

ability to alter each area's temperatures as needed for an ever-changing menagerie of inhabitants.

Mid-term during the installation, a newborn wallaby entered this wildlife Rehabitat family and was named for his favorite radiant heating contractor!

Warm macro-pods, raptors, and dog runways for speedier recovery and return to the wild makes for warm hearts and pleasure of newfound friends! You can visit with them at [www.rehabitat.org](http://www.rehabitat.org). I'll be the one humming a few bars from that oldie but goodie by Rolf Harris:

*Watch me wallabies feed, mate,  
Watch me wallabies feed,  
They're a dangerous breed, mate,  
So watch me wallabies feed  
Altogether now!  
Tie me kangaroo down, sport,  
Tie me kangaroo down  
Tie me kangaroo down, sport,  
Tie me kangaroo down.*

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