

RUNKLE CONSULTING, INC.



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A lovely day in Uzbekistan, circa 2002

April - A Special Month for Runkle Consulting

April is a special month for Runkle Consulting. Not only is April 12th the birthday of our principal engineer, it is also the month that marks our official entrance into one of our core businesses. In April 2008, we began transitioning from third-party

inspections of residential homes in the Greater Atlanta, Georgia area towards working with shipping containers worldwide. This month's newsletter tells the story of that journey.

Getting Into Containers

We designed our first container building in 2006, and I've lost count on how many we've done since then. What was originally just an odd project we took on has become one of our core businesses. For me personally the story begins a bit earlier, back to 2002 when I was in Uzbekistan, so I'll start there.

The Beginnings

In 2001 I was in the Air Force Reserve, and I had completed 20 years of service in the US military. First it was the Army, then Army National Guard, then the Air National Guard, and when I moved to Georgia I switched over to the Air Force Reserves. I'd had an interesting career, and I was done. I had filed my retirement papers and was preparing to get out. Then 9/11 happened. I pulled my retirement and deployed to the United Arab Emirates for several months.

We did a lot of building over there, and it was all with modular buildings. The Gulf countries use modular buildings extensively because they need facilities that can go up in a hurry and are only needed for a few years until a specific oil field is exhausted. Modular fits the bill, and there are quite a few companies there that manufacture the buildings.

A few months after I got back from the Emirates, I was offered the opportunity to volunteer for another deployment. The location wasn't given, but I was pretty sure that it was most definitely the Emirates again, which would be a pretty nice place to spend another 6 months or so.

Turns out, it was Karshi-Khanabad Airbase (nicknamed K2) in Uzbekistan. It was rain, sleet, and snow all at the same time. Everywhere was mud. The base was poorly drained, so you were always walking through two or three inches of water. There was plenty to build, but we had no personnel trained to do construction and everything had to be done by contract.

But, having thousands of contractors on the base would be a security nightmare, so modular construction was the way to go. Unfortunately, the standard wooden trailers used in the United States and in the Emirates couldn't be used lumber was horribly expensive, and difficult to get (we were several thousand miles from the nearest shipping port).

However, there was one item that was cheap there – shipping containers. Uzbekistan has few exports and has to import almost everything, so shipping containers were cheap and in abundance.

Converting the containers into modular buildings was not difficult. We'd layout a set of plans with our container templates, show a basic floor plan, and send everything to the local manufacturer. The manufacturer would then put together the buildings, and minimal labor was required on base to set them in place. It was a pretty good system except electrical work is not a strong point in that part of the world. We did get occasional electric fires in the walls. Shipping containers were also used in Afghanistan for the same reasons. I thought it was all very interesting at the time, but it never occurred to me that I'd work with the same materials here in the US. I returned to the US and didn't give shipping containers much thought.

It Starts

One afternoon in 2006, we got a call at the office. The caller wanted to build a house in Atlanta out of shipping containers on Gartrell Road in the old Fourth Ward. None of the engineers he called would touch it. I shrugged. I'd designed a bunch of these things in K2, it was no big deal. A bit more detail on the plans would be required, and it would be easy. I wasn't exactly right.

It took quite a bit of work to just get started. I have a shelf load of references for buildings made with wood, concrete, and steel. There are standard types of construction details for those materials. I found no references worth using for containers. We were on our own – although we did get some drawings on containers, we had to do our design calculations by hand approximating what was going in the container.

After this project was done, it was obvious that we needed to do some more research to get going in this for real. I wasn't too hopeful for more container jobs, but we needed to get some good software to do our analysis and design anyway. So, with a lot of research we bought Bentley RAM Elements finite element software. It allowed us to make custom steel member shapes, which would let us analyze containers appropriately. Also, it worked good with wood, and we were designing a lot of complex mansions at the time, and it was useful for that. The RAM software really made our operations much more efficient, but I pretty much forgot about containers, which was the reason we bought the software in the first place.

The Recession Changes Everything

What made the difference was the Recession. Things got bad. I had to cut down my business to just me, and in 2008 I was literally doing nothing much of the time.

One slow day in April 2008, I got a phone call from some guy who was really into the idea of building with containers, and we spoke for about an hour. It made me think, maybe I was on to something? Homebuilding, which was supporting my business for years, was dead. I had to look elsewhere for work.

After the call, I realized at the very least container construction would give me something to do while my business sank. I had been coming to the office every day, and literally sleeping on the couch hoping someone would call. I could research containers, build a good website about these things, and really become an expert. That would keep me busy. I might be moving deck chairs on the Titanic, but I figured that it was better than standing at the rail waiting for the ship to sink. Seeing how the world financial crisis hit later that summer, it was not a bad idea. Otherwise, I might have been watching CNBC all day in panic.

So, during the spring of 2008, I spent a lot of time down at a container yard called Container Technology in Morrow, GA (<https://www.containertech.com>). The people there were very nice and let me spend time back in their facility just examining and measuring containers. I even found a place that I could buy container drawings from! At the same time, I rebuilt my company's website. I always had a website, but it was not very good. It basically gave my address, phone number, and said what I did. I had procured maybe two or three clients from it, so I didn't take it seriously. With little else to do, I spent the summer of 2008 really working on the website. I put in information about all of the services we offered and included quite a bit about shipping container buildings. Almost immediately the website started bringing in business.

To my surprise, things started to change for Runkle Consulting even though the economy was collapsing around us. The rebuilt website allowed people who wanted a modular building to find us worldwide, and we began an extensive period of international work. The redesigned website also brought in other work because of our decision to list all of our services, and this work (mostly property assessments of foreclosed houses) also made a difference in keeping us in business.

At the end of 2008, I found that 85% of my revenue had come from people that found me on the web. It felt like I made the Titanic refloat itself by moving chairs from the starboard decks to the port decks.

The container work increased over the years. In the first few years there were a lot of projects that never got started, and a lot of wasted time. However, the number of container projects and revenue increased every year. This past year 42% of our revenue came from shipping container projects.

Our Business Is Not What It Was

During the recession I spoke to the owner of another engineering firm, and he said his company would never be the same. That was true, sadly, his company dissolved. I thought to myself that my company would never be the same either, we would be better. I like to think we are.

Prior to shipping containers, we did all our work in Georgia. Most of our work was single family residential, and it been mostly third-party inspections of single-family residential projects, and the structural design of very large houses. Our projects now range from apartments, offices, industrial facilities, community centers, and all sorts of other stuff. Today we work in almost all states in the country. We've done foreign projects in Canada (a lot of work there actually), Tel Aviv in Israel, Chili, and Martinique (that was an interesting one, the Codes were in French).

It's kind of odd when I think about it, but it all goes back to what I thought at the time was a huge mistake of volunteering to go to Uzbekistan.

Client Highlight - Three Squared Inc. Architectural Firm

Three Squared Inc Architects

This month we made a quick trip to Detroit, Michigan to visit one of our key clients - Three Squared, Inc (<https://www.threesquaredinc.com>).

Three Squared is a 13-employee architectural firm in Detroit, Michigan that specializes in residential and mixed-use developments using innovative architecture. Our visit to their office, which is the first shipping container building in the state of Michigan, allowed us to meet several members of their team and see a building using panels manufactured by Guardian Structural Technologies, who we highlighted in our October 2023 newsletter.



The Three Squared Inc philosophy on home building



The exterior of a home built with panels from Guardian Structural Technologies



Structural Engineers

Runkle Consulting was founded in 2000 by George W. Runkle III, PE, SE. We provide structural design for structures fabricated from shipping containers, the structural design for building cladding, and forensic engineering services.

[Contact Us](#)

What We Do



Building Cladding

We have 15 years of experience in the structural engineering of exterior building panels, store fronts, and curtain walls for commercial and government buildings.



Shipping Container Buildings

We provide design services for the design of buildings fabricated from repurposed shipping containers. Our services include the complete design package, architectural, structural, and MEP. Depending on the area, we may be able to help you find a fabricator to provide the containers.



Cold Formed Steel Design

We have extensive experience in cold formed steel design. We can provide structural design services and shop drawings for your project.

CONTACT US

P.O. Box 702 Grayson, GA 30017
georger@runkleconsulting.com
(678) 225-4900



Runkle Consulting Inc. | 512 Grayson Parkway | Grayson, GA 30017 US

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