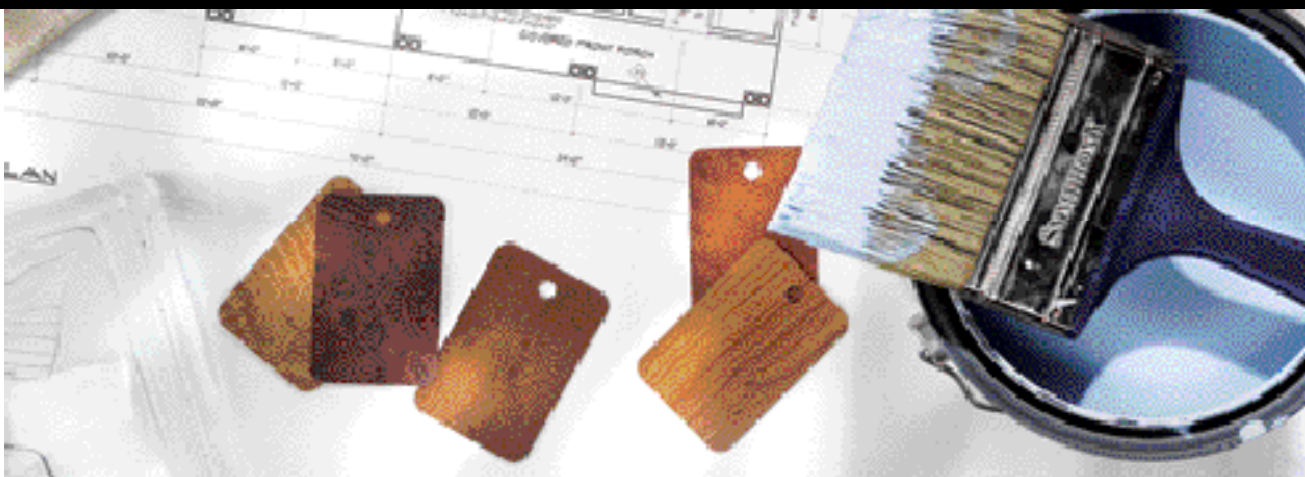


# Extreme Makeover



## Designing your car wash project with value-engineered efficiency

by Aaron Voorhees

Around two years ago, I had the opportunity to meet Doug Massey. He was the owner of a property that had an outdated, run-down, four-bay self-serve car wash that had been built in the 1960s. The wash had an office building and a garage that had been used for storage. Some time in the mid-'80s, two of the bays were converted to automatics. The original wash also had an office building and another business located at the back of the lot. The heated slab on top was obsolete and no longer working. This heated slab had been installed during the '80s renovation and had been poured on top of the original unheated slab. There were many sections of this concrete that were more than 15 inches thick! Concrete of that



**After:** The new state-of-the-art wash features one automatic and two self-serve bays, with a connecting retail store and office above.



**Before:** Outdated and run down, the car wash was in desperate need of an extreme makeover.

thickness was going to be a formidable challenge during excavation. The car wash equipment was very old and in poor condition. Over its 40 years of service, the original metal building had suffered major deterioration and was in desperate need of a complete and extreme makeover. Massey wanted to level the old site and build a state-of-the-art car wash with retail and office space.

### Redesigning the Project

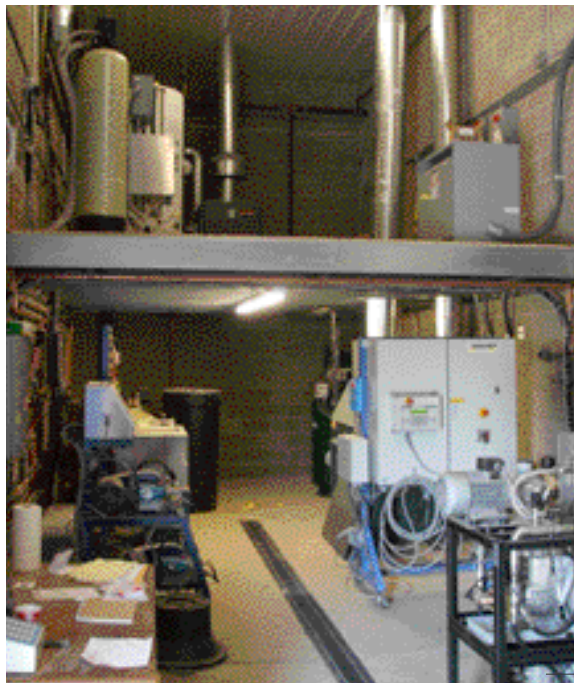
At the time I met Massey, he had already hired an architect who had designed a beautiful building with a car wash, retail and office space. The design was very creative but far too costly and was beyond his budget. Massey had been introduced to me because my company,

The Next Level Corporation, is dedicated to helping small business owners achieve their investment goals utilizing design and construction management. If the site has already been architected, as in Massey's case, we work with the architect to redesign the building, maintaining appealing aesthetic features, meanwhile lowering construction costs.

When we design a building from scratch our designers bring creativity to the buildings' appearance and help to maximize site layout to increase function. Our construction experts bring the "know-how" to the building process with knowledge on how a building is constructed, what materials are more cost-effective, and are experts in the most time-efficient construction practices to get the project completed on time. If we can save the investor money on interest reserves by a relatively fast build and effective material allocation, half of our job is done. The other half, of course, is creating a functional building that achieves the investor's goal of actually attaining a profitable business.

If you have not read my two-part article in the Feb 2007 and March 2007 issues of *America's Car Care Business* entitled "Inception to Cash Flow," I highly recommend you do. These articles can give you a good background on constructing a car wash and the many ways a contractor or design/ builder can cater to the investor no matter what budget constraints there are.

Massey was receiving bids that were returning to him hundreds of thousands of dollars higher than expected. We bid the project in its current state and also took the liberty to give him some soft hypothetical bids if we were to redesign some different elements of the project. Massey and the equipment manufacturer agreed to our redesign suggestions and commissioned our company to redesign this project with the budget in mind.



**Before:** The equipment room was in need of a complete overhaul.

**After:** Extreme makeover of the equipment room.

To recap from our first article, the design triangle shows there are three interdependent criteria to consider when building your own business from the ground up: the size of the building, the design, and the total project budget. The size of the building was already determined as was the budget. With those two factors fixed, the only variable that could be adjusted was the design and construction of the building. We personally own and operate our own washes and know that the best way to make the most money sooner is to not owe the bank more than what is necessary. Our washes and those that we have designed and built for other investors are a testament to the fact that you can have an aesthetically pleasing building and site design, without spending tens of thousands of extra money. If you have a larger than necessary mortgage payment every month, your business will have to produce, in some cases, more than what is possible to make a profit. In other words, why would you have a whole bunch of dead weight of debt by owning a wash that functions exactly the same as other washes its same size, but costs a *whole bunch* more? Does that make any sense? I am a firm believer in function over form yet truly believe you can have a good-looking building without the thousands spent on make-up or aesthetics. Don't overbuild for the area or the demographics but do your research and find the right size of wash, type of equipment, building size and site function. Find the sweet spot and build with profit-producing features in mind.

### Maximizing the Budget

When designing I emphasize the idea of “cash flowing” as quickly as possible. It is unnecessary to build in excess. Let's define excess—going over and beyond the architectural committees' requirements, city and county zoning resolutions, or any other requirements or specs that are directly imposed on this type of structure. This includes landscape areas on the lot as well. I recommend minimums on trees and bushes and not maximums. I have seen landscaped areas cost \$30,000 more because of excess trees, ponds and ground cover. Remember, you want people to see your site and not a bunch of trees. If you want to add more to your landscaping, I recommend perennials or flowering plants and bushes. Flowers and flowering plants are very pleasing to customers. To spend another \$100,000 or \$200,000 extra on a building or \$30,000 more in landscaping is a waste and doesn't make sound business sense. Massey understood this. He was advised to use any extra money on other projects, more car wash equipment that actually brings in more profit, marketing his wash or simply keep the savings.

Like I mentioned, Massey's project was in desperate need of some trimming to make his dream a reality. We began with the design of the building and construction materials. We started with the most obvious—the roof. The architect had designed a roof that was curved, made of metal, and that required each curved truss and roof panel to be custom fabricated, instead of using prefabricated in-stock items. On both ends of the building, we went with a simple truss roof with a 4-12 pitch. For the self serve we went with a prefabricated metal roof system with a 1/2-12 pitch. Simple to order, simple to build! And it looked great, giving the building the same

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pleasing visual elements that the curved roof offered, without the expensive curves. The whole roof could now be put together with carpenters rather than steel workers and welders—another area of huge savings. The roof also needed easy access for the equipment supplier to run hoses to the bays. This could be achieved on a flat roof system very easily and would have been almost impossible to do with the original curved roof design. These are some of the examples of how a design/build company can work with the architect to help save the investor money.

The next item we looked at was the construction material of the building. The first thing that needed to be changed was the use of glazed block. Glazed block is very nice but is very expensive, and in the quantity that would be required for this project would have cost a small fortune. We needed to come up with other options for him to consider to reduce the cost yet provide the same function and appealing look. We achieved this by using smooth face CMU block for the entire project. We then lowered the elevations a few block courses to the minimums, maintaining function and minimizing costs. There was no reason for his building to be higher than necessary—other than to waste more money. Block of *any* kind will get very expensive above two scaffolds high. Be sure you are using it wisely.

With these major changes and a few other minor ones, we were able to save Massey tens of thousands of dollars bringing it into budget. This project just took a little tweaking—remembering two of the three legs of cost variables were already set. Massey’s wash has just opened its doors for business. He is the proud owner of a wash that features one auto bay, two self-serve bays with a retail store connected and an office above. Another makeover success!

If you want to maximize your dollars on the construction of a new car wash, get with a design/build from the very beginning so they can assist with value-engineering from the start, working with the architect at the onset, avoiding costly redesign architectural fees.

### Other Makeovers in the Making

So far this spring, we have looked at a dozen projects for clients and have recommended changes that could be made without changing the appearance of the building yet would produce substantial savings. One redesign in particular is worth mentioning; if the pitch of the roof were changed by just three-quarters of an inch, the material used

could be substituted for another, producing an immediate savings of 40 percent on that material’s line item and the cost of the labor to construct it would be reduced by 45 percent. Amazing what three-quarters of an inch can make!

On another project, the foundation could be redesigned and engineered to use less concrete and steel—approximately \$11,000 less. I knew this because the soils report for this site had the “exact” same requirements for foundational support as the one that we just designed and built. The current foundation design called out huge 16-inch caissons with six huge steel rods in each one. We could increase the number of caissons, use smaller steel rods, and achieve the same structural support for the foundation, for an \$11,000 savings.

We just completed a Royal Building erection on a three self-serve and two automatic wash that took only five days to erect the entire building! Instead of using traditional block construction, this type of structure uses PVC forms that snap together like Lego’s. The walls are then reinforced with inserted steel rods and poured solid with concrete. This was a new venture for our company and provided a great opportunity for all of my subs and employees to be trained on this type of building by bringing in one of the foremost authorities on RBS construction—thanks Dean! The construction schedule was greatly compressed compared to traditional block construction and would save the investor thousands on interest reserves on the front end. He will save money on the back end because of minimal maintenance on the wall surface in the bays. The PVC forms provide a weather- and chemical-resistant finish. All block and traditional masonry materials have to be sealed and coated to be weather and chemical resistant, which is an additional cost in time and material.

Makeovers can be extreme with older washes being scraped and rebuilt, as in Massey’s project, or they can be moderate with older or newer washes receiving a face lift. They can be extreme or minor in the development phase when an investor has a set of blue prints for a wash that has not been built yet. In any case, if you have the right contractor with a lot of experience in value-engineering, who has built multiple washes before, who keeps his finger on the pulse of the raw materials market, you can have a very streamlined and cost-effective project. **ACCB**

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