

Partners in Excellence



Thompson Toyota

By John Redfield



Exterior view of Thompson Toyota showroom

In early 2012, The Thompson Organization hired Penn Valley Constructors, Inc. to transform their mid-1970's era Toyota car dealership into a modern facility more suitable for expanding their sales and service operations. This was achieved by building a 69,745 square foot complex consisting of a state-of-the-art service building and a technology focused showroom.

Numerous design meetings were held among Penn Valley Constructors, the Owners, architect, mechanical engineers, site engineers, automotive equipment vendors and interior designers to ensure a coordinated set of plans and specifications were developed and ultimately approved by The Thompson Organization and local officials. During construction, weekly field meetings between Penn Valley Constructors staff and the sub contractors were held to review upcoming work, coordinate the various trades and discuss safety concerns. These meetings helped to keep the project safe, facilitate communication among the team members and increase efficiency.

A major requirement of this project was to allow The Thompson Organization to continue their sales and service operations while under construction. To accomplish this, the site work portion of the project was divided into separate phases so access to all areas of operation could remain open.



Two story showroom with wood paneled feature wall

The construction schedule consisted of three separate phases and provisions were made during each stage to ensure that The Thompson Organization staff and their customers were shielded from the construction activities.

Phase One construction involved renovations to the existing Used Car showroom such as adding two tire carousels, a locker room and an employee lunch room. An 8,427 square foot addition was added to the existing structure to serve as a Parts and Service department with two levels of parts storage, a training room, elevator, Service write-up center and offices. Phase One also consisted of building a 32,000 square foot service center connected to the Used Car building. This addition was constructed utilizing pre-fabricated concrete panels.

The concrete wall panels were insulated and achieved an R24 value. They were built offsite in a controlled environment resulting in more accurate panel construction and reduced installation time. All of the panels were erected in less than a week which greatly reduced the impact of winter weather conditions.

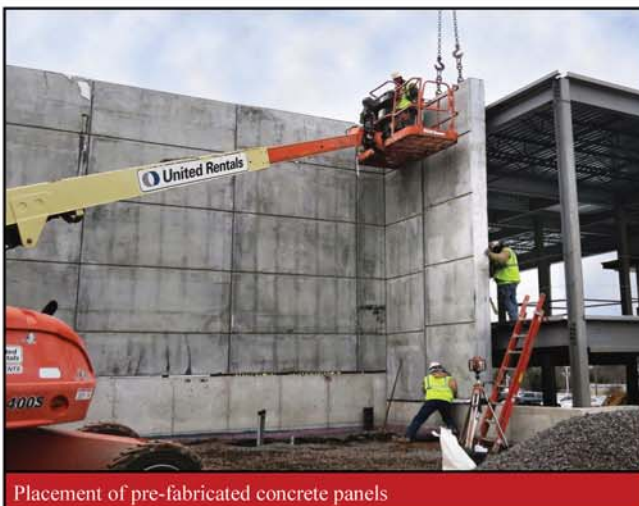
The newly constructed service center contains forty-two service bays with lifts and two with alignment racks. A computerized, on-demand, fluid dispensing system was



Lifting of pre-fabricated concrete panels by crane

installed above the service bays, designed to provide quick and measured access to two grades of oil, compressed air, nitrogen and windshield washer fluid. This system increases productivity, reduces material waste and increases accuracy in billing. Three waste oil heaters that run on the waste oil generated from the service operation are the primary heat source for the service center. A car wash that runs on recycled water was built near the rear of the property, allowing for every vehicle that comes in for service to receive a complimentary wash.

To maximize parking on the site while minimizing the impact on the environment, a unique parking lot was created on the roof of the new service center. Nearly 100 rooftop parking spaces were created and are accessed by a newly constructed concrete ramp. The parking deck consists of metal roof decking, a 6" thick structural concrete slab and a 4" thick concrete wearing slab. Sandwiched between the two slabs is a roofing system consisting of hot applied waterproof membrane, rigid insulation and Hydrodrain 300 drainage board. Due to site access limitations and safety concerns for workers below, the concrete pours for the parking deck were completed at night. This "round the clock" scheduling allowed for normal construction activities to continue during the day.



Placement of pre-fabricated concrete panels



Castellated beam installation



Rooftop parking deck above the service area

Castellated steel beams, measuring 45" tall, support the weight of the roof deck system and vehicles. These beams provide a clear span of 80' to allow for an open service area below. Their unique open web design enabled piping, ductwork and electric conduits to run through them, which was instrumental in providing the clear headroom required above the service lifts. The rooftop parking deck connects to the showroom building via an exterior bridge that runs above the covered service drop off area.

The service drop off area connects the service building with the new showroom. This area features valet service and is covered by a large canopy with skylights allowing for natural light. LED directional indicator lights were installed above each of the four lanes to help direct traffic.

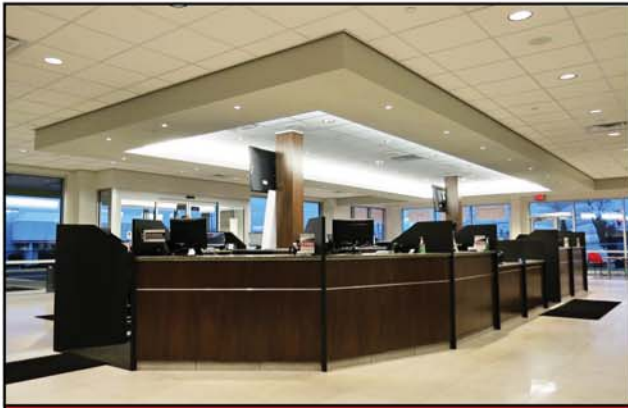
Phase Two of the project was the construction of the new state of the art showroom. To make way for the new

showroom, the old service building and showroom were demolished. Temporary offices were built during Phase One to accommodate the showroom staff during this phase of the project. The new showroom building consists of nearly 18,000 square feet of interior space and includes a two story showroom, three interior bays for new car delivery, an elevator, offices, conference room and an internet sales office to help capture the growing on-line car shopping market.

The showroom front entrance doors are framed by a lighted 34' high Toyota portal structure. Upon entering the building a curved, two story wood paneled feature wall catches the eye immediately while the Toyota vehicles on display stand out due to a LED track lighting system. This lighting system can be adjusted to highlight the cars in various display arrangements. Over 3,600 square feet of covered exterior space was created to display the latest car models in a dry environment.



Service bays with 45" castellated steel beam roof support



Service write-up area

The temporary sales support staff offices that were built as part of Phase One were demolished to make way for Phase Three of the project. In this phase, four customer lounge areas were created in the service building which include a café, a TV room, a children's play area and a designated quiet computer area — complete with iPads, USB and regular outlets for charging personal electronic devices.

To reduce operational costs and improve customer experience, many technological advances were included in the design of the project. Some examples are provisions for electric car charging stations, high efficiency HVAC equipment, programmable thermostats,



TV room in the customer lounge area

LED light fixtures and motion detecting lighting controls.

The relationship between The Thompson Organization and Penn Valley Constructors, Inc. started in 1992. While Thompson Toyota represents the largest single project and largely completes the Doylestown Thompson campus, it will not be the last Penn Valley project built for Thompson. New projects are on the drawing board.



Three interior bays for new car delivery

For further information, visit:

The Thompson Organization
122 West Swamp Road
Doylestown, PA 18901
215-345-9460
www.1800Thompson.com



Mezzanine view of showroom

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Fax: 215-295-2980
sales@pennvall.com
www.pennvall.com

Penn Valley Constructors, Inc.

1707 South Pennsylvania Avenue
Morrisville, PA 19067

Issue 21, October 2015