

## Avoid Costly New Warehouse Construction: Put Existing Warehouse Vertical Space to Use with a Pallet Rack Supported Work Platform

*Northwest Petroleum Service quadruples its storage space and streamlines logistics at an existing facility with a rack supported work platform*



A growing number of manufacturers, distributors, and service installers are taking advantage of existing vertical warehouse space to essentially “build up and not out” with a rack supported work platform. A pallet rack supported platform like Steel King’s combines the storage capacity of industrial pallet racking with the benefits of a fully-decked elevated work surface.

**T**he longer a successful manufacturer, distributor, or service installer remains in business, the more legacy equipment and parts they must inventory to service existing customers. But as new products and parts get added over time, warehouse space can get increasingly cramped, and inventory picking and parts management can get less and less efficient.

Instead of constructing expensive new offsite warehouse space or building a mezzanine for an existing warehouse, a growing number of manufacturers, distributors, and service installers are taking advantage of

existing vertical warehouse space to essentially “build up and not out” with a rack supported work platform.

“After almost 40 years in business we were running out of space to efficiently store our new and legacy parts and materials, causing us to spend too much time looking for them when needed,” says Bob Fromm, General Manager at Northwest Petroleum Service, a full-line supplier, installer, and servicer of petroleum fueling equipment.

To offer system installation and 24-hour service for service stations, truck stops, airports, convenience stores, municipalities, and industrial



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applications, Northwest Petroleum Service supplies everything from pipes, fittings, connectors, conduit and wiring, to circuit boxes, electronic boards, tank monitoring equipment and point-of-sale (POS) consoles.

“Like a messy garage, the longer you wait to get organized, the worse it gets,” says Fromm. “We had outgrown our existing warehouse’s assorted pallet rack and hand-built shelving, but it was cost prohibitive for us to buy, lease, finance, or staff an additional off-site facility. Constructing a building supported mezzanine for extra space in our existing warehouse was too costly as well.”

To support a mezzanine, the warehouse would need to be structurally engineered to meet building code. Operations would be disrupted during months of construction. Property taxes would rise because the mezzanine would become part of the permanent building structure. And any permanent mezzanine would be inflexible to future changes in product such as size, shape, or volume.

“We wanted to maximize our warehouse storage capacity, longevity, and flexibility with optimal cost and logistics,” adds Fromm. “We also wanted to keep high-value product, such as the POS consoles and electronics, more secure than our existing warehouse allowed.”

For help, Northwest Petroleum Service turned to Wisconsin Lift Truck Corp., a material handling and automated systems distributor.

Recognizing unused vertical space in the warehouse, Tim Zunker, the Wisconsin Lift Truck project manager who helped with system integration, suggested a pallet rack supported work platform by Steel King, a leading manufacturer of material handling and storage racking products.



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To achieve this, pallet rack components are used to support a work platform above, with beam levels below for standard pallet rack storage. The upright frames can extend through the work platform floor to provide more storage levels above. Rack styles from

hand-stack and push-back to carton-flow, pallet-flow, cantilever, and drive-in can be used, as can a variety of floor surfaces, stair types, hand rails, kick plates, gate types, and open or decked shelves.

“Not only is such a pallet rack supported platform less costly than buying or financing additional warehouse space, but it also simplifies meeting building code requirements”, says Zunker.

Because a rack supported platform is classified as a storage rack-work platform—not as a structural building change—it can avoid building code issues such as lighting, ventilation, size of stairs, distance to exit, and bathroom availability. As loads are distributed quite evenly across the racking, many times the existing floor slab can be used. Since a rack supported platform can be rearranged to suit future needs and is not considered a structural part of the building, it does not raise property taxes.

To optimize warehouse performance and cost, Zunker recommended and Northwest Petroleum chose SK2000 pallet rack, a boltless, closed tubular upright product by Steel King. The pallet rack forms the foundation of the rack supported platform and provides most of its storage capacity. A stair-accessible upper level with lockable enclosures provides more secure storage for high-value items such as electronics.

While a Steel King engineer designed the racking to meet project load and building code requirements, a Wisconsin Lift Truck engineer helped



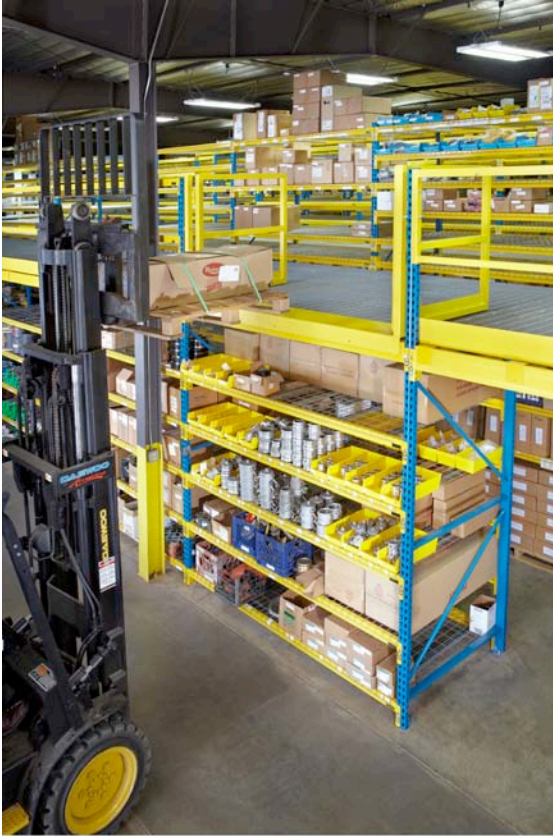
Unlike permanent building supported mezzanine, the rack supported work platform is adaptable and easy to change to suit future needs. Since the rack supported work platform is free-standing and adjustable, it's relatively simple to change its size and configuration to meet future operational needs.

to maximize storage capacity within the existing warehouse.

Compared to pre-project warehouse capacity, vertical storage space was increased from about 8' of usable rack previously to about 16' of usable rack with the pallet rack supported work platform. Horizontal storage space was added by maximizing long runs of rack and minimizing short runs of aisles. Four more rack bays were added, and stairs were placed near walls to maximize usable space. Expedited installation of the system within one week helped to keep the project on track.

“The Steel King rack supported work platform has essentially quadrupled our storage space within our existing warehouse,” says Fromm. “Because we can now store parts by manufacturer and function under one roof, we’re picking and inventorying parts about 50% faster, which cuts the cost of labor and speeds delivery.”

“We’ve avoided the high cost of paying for an offsite warehouse and staffing it,” adds Fromm. “We’ve avoided the cost of constructing a building supported mezzanine and the



The strength of the SK2000 rack will resist fork truck damage and allow Northwest Petroleum to place heavier items upstairs.

months of operational disruption it would cause. With the operational efficiencies we'll attain with the rack supported work platform, we expect ROI in a couple of years."

A number of SK2000 pallet rack features also will help the company meet its strength, durability, and maintenance goals for the rack supported work platform. Compared to open back roll formed columns, the closed tubular uprights are 44 times more torsion/twist resistant, with 250% greater frontal impact resistance and 68% greater side impact resistance. All beams are constructed of high-strength

(55,000 p.s.i. minimum) steel, and holes are placed on the column's face, not the corners, minimizing strength loss.

"The strength of the rack will resist fork truck damage and allow us to place heavier items in the upstairs lockable enclosures, if we choose to," says Fromm.

Because the rack is powder coated rather than painted with enamel, it's 94% more resistant to chips and scratches. "We expect decades of productive, aesthetic use from our rack supported work platform," says Fromm. "Besides improving our productivity, it's proving to be a win-win sales showcase for prospects and existing customers."

Finally, unlike permanent building supported mezzanine, the rack supported work platform is adaptable and easy to change to suit future needs. "Since the rack supported work platform is free-standing and adjustable, it's relatively simple to change its size and configuration to meet future operational needs," says Fromm. "Any manufacturer with unused vertical warehouse space that's looking to improve logistics and cut cost should look into a rack supported work platform."

For more info on improving warehouse logistics with a rack supported work platform, contact Donald Heemstra at Steel King, 2700 Chamber St., Stevens Point, WI 54481; call 800-826-0203; email: [dheemstra@steelking.com](mailto:dheemstra@steelking.com) or visit the website [www.steelking.com](http://www.steelking.com).