

Enviro Vaults:

Prefab and Prudent



You may question spending thousands of dollars on a fancy vault to store chemicals and pesticides. Until you go to sleep at night.

If the maintenance facility at one North Carolina golf course were to catch fire, local firemen would watch it burn — along with hundreds of thousands of dollars of turfgrass equipment.

It's not that the firefighters hold a grudge against the superintendent or club owner. Nor are they peeved that the course plays too tough or consumes some of their water. Rather, local ordinances and department policy forbid firefighters from battling blazes where chemicals, fertilizers and other potentially hazardous materials stored inside buildings may threaten their lives.

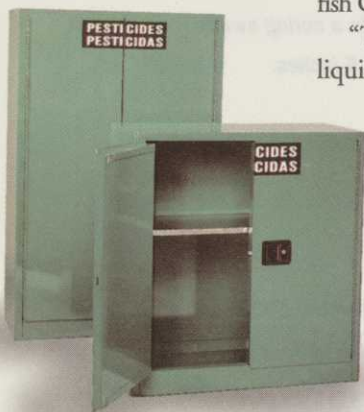
That's one reason superintendent Mike Yant purchased a prefabricated, 13-foot by 17-foot storage facility at Sailfish GC in Stuart, Fla.

"The way things are right now, the chemical and liquid fertilizers are stored with all of the equipment inside the building," Yant said in May before taking delivery of his new hazardous storage building. He was worried what might happen if a fire broke out.

Peace of mind

As Sailfish GC invested to renovate the club's maintenance building, Yant plopped down nearly \$13,000 for a hazardous storage facility. It's money well spent, he says, and for reasons other than a possible fire.

By moving chemicals out of the maintenance facility, workers can go about their daily chores without inhaling fumes, says Yant, who hopes to create a safer work environment by protecting personnel from hazardous materials. The separate facility also allows his crew easier access to the turf products, and he has peace of mind that he's in compliance with everything from National Fire Protection Association standards to Environmental Protection Agency and Occupational Safety and Health Administration regulations.



Because prefabricated storage facilities come in all sizes and shapes and feature dozens of options, superintendents say that it's critical to determine specific needs and goals before shopping.

"It was one way to make room in the maintenance barn for other equipment," Yant adds.

When superintendents like Yant talk about hazardous storage facilities, one theme resurfaces: peace of mind. They say storing and locking chemicals, flammables and combustible liquids inside what is essentially a leak-proof, temperature-controlled vault helps protect themselves from liability. The storage facilities do everything from keeping out disgruntled employees to containing accidental spills that could contaminate soil and ground water.

Pay \$8,000 or \$50,000?

Call up any one of a number of companies that handle hazardous storage facilities and you'll immediately realize there is no shortage of options. You can choose structures built from heavy gauge steel, structural channel and tubing and chemical-resistant coatings.

Storage facility needs vary dramatically based on industry, says Roger Kincaid, vice president of U.S. Chemical Storage LLC in Boone, N.C. He estimates that a typical 18-hole course can purchase a decent storage unit for between \$8,000 and \$13,000, although multifacility courses with 72 holes or more will probably need to spend more.

Safety Storage Inc., for example, based in Hollister, Calif., manufactures storage units in 6-, 8-, 10-, 12- and 14-foot widths with lengths in 2-foot increments up to 52 feet. Superintendents at larger facilities sometimes put storage buildings end-to-end or side-by-side to increase capacity. Securall of Laporte, Ind., includes

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standard features such as dust-proof interior lights with weatherproof switches and vapor-resistant exterior lights with photocell switches.

Manufacturers say options range from air conditioning, heating, fire suppression systems, explosion-proof electricals and explosion vent panels to security locks with interior safety releases, electromechanical exhaust ventilation systems, chemical resistant sump liners and safety showers with eye wash units.

Some superintendents opt to build their own permanent storage facilities to customized specifications, often using concepts employed in pre-engineered structures as design models.

What's practical?

Buying a storage unit is different from other equipment purchases in that decisions are shaped as much by local codes and regulations as by specific course needs, superintendents say. Start by discussing requirements with local zoning and building authorities, the fire marshal and the course's insurance company representatives.

Question storage company representatives about the usefulness of various options and features, superintendents suggest. Will a 6-foot-long, 3-foot-wide, 6-foot-tall chemical storage locker do the job at your course instead of a large, fire-rated storage building? Heating may prevent chemicals from freezing in Michi-

gan, but how important is it if you're storing chemicals at a course in the Mojave Desert? What are the practical differences between fiberglass floor grating and galvanized steel floor grating?

It pays to educate yourself about everything from gas sensor modules and dry chemical nozzles to fusible links. Learn about sump capacity rules, which vary across the country, as do wind resistance specifications, roof snow load ratings and ventilation requirements.

When Yant compared three vendors' storage units, he found that they all met basic requirements and pricing was competitive. So his selection came down to differences in practical features, such as shelving, lighting and workstations.

While some superintendents opt to build conventional, permanent storage buildings, manufacturers of prefabricated storage units claim their buildings are as much as 60 percent cheaper. There are no costly construction delays or problems routing course traffic, they add, and prefabricated buildings often speed up the permitting process. Decisions may affect property taxes, too.

Aesthetics are an obvious concern when considering storage facilities, but superintendents say the bottom line is that they streamline storage, handling and dispensing of chemicals, protect workers and prevent accidental poisoning of wildlife. ■



Carefully consider inside options such as shelving, lighting and workstations when comparing storage facilities for your course.

7 Tips For Buying a Storage Unit

- 1 Ventilation** — Some local codes require blow-out panels or ventilation systems that release when interior pressure reaches 20 psi or a specified rate. Some codes require at least six changes of air per hour when a storage unit is occupied. Consider an outside on/off switch so workers can remove fumes before entering.
- 2 Automatic sprinkler system** — Some codes require an automatic interior sprinkler system or a non-water fire-suppression system, such as an automatic dry chemical extinguisher.
- 3 Location** — Proximity of storage units to property lines, other structures and flammable vegetation directly relate to a storage building's fire-resistance rating. Proposed sites should be areas that drain well, are at least 100

feet from water tables but are accessible to potable water, utilities and a fire hydrant.

- 4 Materials** — Non-explosive wiring and lighting is recommended. Windows and skylights may pose security problems. Shelving should be designed for easy access and coated with a material that can be easily cleaned. Some superintendents prefer concrete structures, but prefabricated buildings typically feature steel interior and exterior walls (made from different gauges) that are welded or are fastened with bolts or interlocking and clipped panels.
- 5 Access** — Larger, locker-style buildings often come with double-door sets. Each door set is about 4 feet, 10 inches wide to accommodate pallets delivered via forklift. Some doors are as wide as 100 inches. Reach-in lockers (about 6 feet wide, 3 feet long and 6 feet tall) and walk-in lockers (about 9 feet tall

with a flat roof and a series of doors) are just two examples of prefabricated options. Consider an area inside the storage unit for equipment such as protective clothing, chemical records and for small-quantity mixing.

- 6 Drainage** — In areas where chemicals are stored or handled, the perimeter of the floor should be raised at least 4 inches to create a dike that will contain spills. Floor drains should be capable of being rapidly sealed and shut in case of a spill. In most cases, drains should lead to a sump or tank capable of handling large spills or overflow from contaminated water from fire fighting.
- 7 Appearance** — Some superintendents are opting for hut-style, walk-in buildings with a pitched roof that gives the building a more conventional vs. an industrial look. Select exterior coating materials and colors that blend in well. ■