

A Cynet 48 turf-installation machine was used to install the baseball field for the Florida Marlins at Joe Robbie Stadium. Photo courtesy: Cygnet Turf.

In terms of field restoration "on the quick," it would be difficult to name a more challenging situation than that faced by NFL turf consultant George Toma and his crew at Candlestick Park for the NFC Championship game between the San Francisco 49ers and the Dallas Cowboys on January 17. In one week, they transformed a quagmire into field suitable for a professional football game.

The key to success was going long. Prior to the contest, Toma employed a Magnum 42 Big Roll Harvester from Bucyrus Equipment Company to resod the middle sections of the decimated field. The 42-inch-wide, 35-foot-long rolls — cut 1-3/4-inch thick — of bermudagrass sod from West Coast Turf of Palm Desert, CA, incorporated SodWrap[™] from Conwed Plastics, which helped hold them together during harvest and installation.

Toma was, to say the least, "fresh" on the technique and technology — he flew up to San Francisco to meet with San Francisco Parks and Recreation offi-



Harvested rolls of sod at West Coast Turf in Palm Desert, CA, await delivery to Candlestick Park. Photo courtesy: Conwed Plastics.

cials and NFL representatives just days after he oversaw a similar procedure at the Rose Bowl in Pasadena, CA.

After the Rose Bowl game on January 1, the field's sidelines, end zones, and field center where the Rose Bowl logo was painted, had to be resodded in preparation for Super Bowl XXVII. (The other areas of the field were overseeded with Ph.D. perennial ryegrass from International Seed.) Toma worked with Neal Beeson of Sports Turf Facilities Management, the Pasadena Parks and Recreation Department and Rose Bowl stadium crew, and West Coast Turf to get the job done in two days.

The Candlestick project was far more urgent. While the Rose Bowl would host the Super Bowl game in several weeks, Candlestick needed to be ready for an NFL championship game in one week. Despite applications of 12 tons of Turface, the field was still soggy. Toma and others knew they needed to provide a *stable surface in a hurry*, and that, in addition to reduction of manual labor, is the primary advantage of installing sod in long lengths.

"During the meetings in San Francisco, it was tough to convince people it would work — the press in San Francisco ripped me hot and heavy and said it was going to be another swamp," Toma recalls. "But I knew it would work. Coach George Seifert (of the 49ers) said the field that day was the best he'd seen it all year."

Lowdown on Long Sod

Installing sod in ultra-long lengths isn't necessarily a "new" technique, but it is gaining popularity, particularly in situations with tight deadlines. The Cleveland Browns used a Cygnet Turf installation system — employing rolls 45 to 90 feet long — to resod its five practice fields in Berea, OH. At Joe Robbie Stadium in Miami, FL, turf manager Allen Siegwardt "went long" to install the new baseball diamond for the Florida Marlins.

Long-roll sod installation begins at the sod farm, where the sod is mechanically harvested by a special machine in long rolls. Where the average 4-by-4-foot square of sod would likely be cut 1/2- to 3/4-inch thick, long rolls of sod can be as much as 2 inches thick.

The specific thickness of sod cut long for a given situation depends on the installation objectives (stability, installation speed, etc.), the soil in which the sod was grown and the conditions of the installation site. Sod grown in a clay soil, for example, may be cut thinner than sod grown in a sandy soil.

Once harvested and transported to the site, the sod is laid by a specially designed machine. The device simply rolls the sod onto the field. Since the long rolls of sod are extremely heavy, laying them accurately *the first time* is crucial. When laying sod in long rolls, Toma actually overlaps the rows from 6 inches to 1 foot, and then returns to cut it accurately.

Remember the Basics

Whether the lengths of sod you install are 4 or 40 feet, the fundamentals of sod installation do not change. Failure to prepare and amend the soil, lay the sod in a timely matter, keep the sod moist during installation, and so on, practically invites future problems. Here's a few of the basics to keep in mind in *any* sod installation:

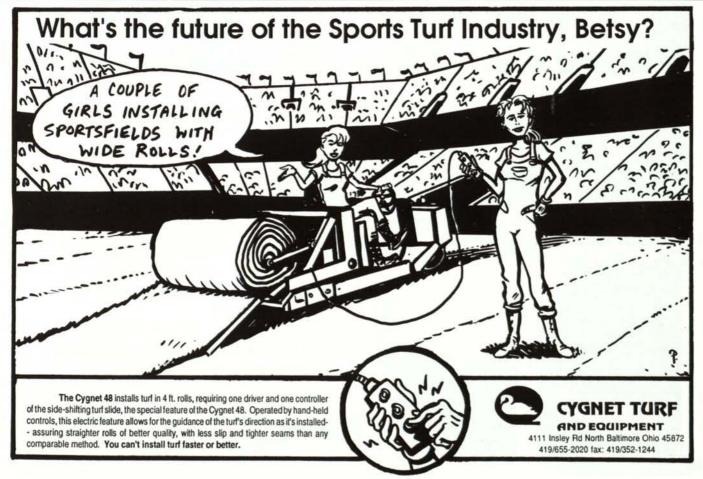
• Selection: Several types of sod may grow in a given area. Choosing the right one requires a basic knowledge of what's available — and what works — as well as a review of the physical characteristics (sun, shade, wind, soil profile, etc.) of the installation site itself. A soil test prior to selection, so that you can match the sod you choose to something grown on the farm in a similar soil, is a good idea. Sod farms, existing sports turf facilities in your area and the National Turfgrass Evaluation Program can be excellent sources of information.

• Soil Preparation: You could probably keep sod alive on concrete if you watered and fertilized it correctly. However, it's safe to say it wouldn't root. A soil test will indicate what the soil needs in terms of nutrients and amendments. Soil preparation also includes rotary tilling to a depth of 6 inches when applicable, breaking up large clods, rolling, and removing debris.

• Installation: Sod is a living plant under stress — the stress of having its roots recently severed. Allowing it to sit on a palette in the hot sun any longer than it has to is a serious mistake. Be ready to go when the sod arrives. On particularly hot or windy days, be prepared to cover the unlaid sod with moist burlap or sprinkle it with water.

Begin installing sod along the longest straight line, such as a fence. Butt and push the edges against each other tightly without stretching and avoid overlaps

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The Long and the Short of Sod Installation

or gaps. Joints should be staggered in each row in a brick-like pattern. Edges and corners should be knife-trimmed. Avoid leaving small strips on the outer edge, as they will not

To avoid creating indentations or air pockets, don't repeatedly walk or kneel on the sod as you're installing it. Rolling the entire area after sodding is complete will improve sodto-soil contact and remove any air pockets.

 Irrigation: Immediately after sod installation, apply an inch of water. The turf should be kept moist until the sod is firmly rooted. That means irrigating daily, perhaps several times a day, depending on the weather. Hot, dry, windy conditions will necessitate more irrigation. Also, keep in mind that turf near structures will dry out faster than turf in other areas. Once the turf is rooted, reduce irrigation frequency while increasing irrigation duration. This will encour-

Installed in long or short lengths, sodding is quickest way to get any field ready for play. It is also the most expensive. Attention to detail today helps keeps athletic fields grow-

Editor's note: Additional sod information can be obtained through the American Sod Producers Association in Rolling Meadows, IL at (708) 705-9898. The address for the National Turfgrass Evaluation Program is: NTEP, Agricultural Research Center West, Building 001, Room 333, Beltsville, MD

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