



Jack Murphy Stadium

THE ROAD TO SUPER BO



The National Football League placed a tremendous amount of faith and trust in San Diego Jack Murphy Stadium in 1984 when it selected the stadium to be the site of this year's Super Bowl XXII. During the '83 baseball season, some players referred to the field as being "AstroDirt." For the NFL committee to think the stadium field could become one of the top-rated fields in the country by 1988, was a long shot. The "Road to the Super Bowl" for Jack Murphy Stadium is a story that equals any football team's struggle on the gridiron.

Like any city-owned stadium, Jack Murphy Stadium has had its glory days and its embarrassing moments since it was built in 1967. For 21 years, the stadium, home field for the San Diego Chargers, the Padres and the San Diego State Aztecs, has been one of the busiest natural turf facilities in the country. In 1987 alone, the field was the site of 81 baseball games, 18 football games, two concerts and four days of "dirt" events.

The busy season normally ends with the Holiday Bowl on December 31, but this month the stadium could conceivably host a "wild card" game or the division and conference playoffs before the Super Bowl on Jan. 31. The California Interscholastic Federation (CIF) high school football championship, held on a rainy Saturday in December, and unusually cold weather have added to the challenge of getting the field ready for the NFL's major event of the season, the Super Bowl.

Built in a sandy coastal valley, the field started out as one of the best naturally-drained fields in professional and college sports. It was one of the first stadiums in the Sun Belt to install Santa Ana bermudagrass, a hybrid developed by Dr. Vic Youngner of the California Extension Service for its superior low temperature color reten-

tion, wear tolerance, smog tolerance and dark blue-green color. For a long time it was a field that could take about any abuse and bounce back remarkably. To keep the field a players' favorite during the '70s, the Padres frequently consulted Emil Bossard, the dean of baseball groundskeepers.

In 1979, a "100-year flood" inundated the field with fine silt and clay that resulted in problems that took more than four years to resolve. High tide combined with a record-setting downpour sent water over the banks of a nearby canal into the stadium. When the water receded, not only were the stadium's drains filled to the grates, the silt had penetrated the sandy field soil and left a two-inch layer on top. Suddenly there was no drainage. Efforts to remove the silt and to reopen the sandy soil by tilling never brought the field back to its original condition. The field got harder and harder, the roots shallower and shallower and the drainage worse and worse.

The stadium management, trying to avoid the cost of rebuilding the field, called some of the leading stadium groundskeepers for a cure. Efforts to reopen the soil by aerating and sand topdressing could not reach the heart of the problem, the now-plugged soil from two inches to a foot beneath the surface. After four years of disappointment, Fred Conger, the interim stadium manager, decided the field had to be rebuilt and ramrodded a proposal through city government to spend \$400,000 on renovations.

The approval for the improvements came just before the Super Bowl committee met in 1984 to select the site for 1988. David Fleming, superintendent at Singing Hills Country Club in nearby El Cajon, and a drainage engineer worked with Dr. William Davis of the University of California at Da-

continued on page 27

WL XXII



San Diego Jack Murphy Stadium during the 1984 World Series, the first year for the new sand-based field.

Super Bowl XXII

continued from page 25

vis, and Conger to draw up plans for a sand-based field. With the plans in hand, a delegation of San Diegoans for Super Bowl XXII and Chargers' owner Alex Spanos convinced the NFL that the city was the best site for the event in 1988. "I think Conger and the plans deserve a lot of the credit for the NFL's decision," says Fleming.

The specifications called for removing the silt-laden top 12 to 14 inches of soil, installing entirely new drainage and irrigation systems, and trucking in thousands of yards of sand. A gate valve was added to prevent any future flood water from entering the stadium through the storm sewers. Both the irrigation and drainage systems were designed to match the configuration of the field for each sport. Drainage pipe was installed in one pattern for football and another pattern for baseball. A similar design was followed for the Rain Bird controllers and Toro heads.

The stadium matched the specifications for the sand as closely as possible. River sand, half in the medium-size range, was substituted for the 60 percent medium-size sand as recommended by the University of California's Davis.

All the work had to be completed in eight weeks starting the end of January 1984. As things turned out, the Santa Ana sod had only three weeks to get established before the first baseball exhibition games. "The Santa Ana sod was actually dormant when it was installed," Fleming remembers. "The field went from straw yellow to dark green in a matter of days as the bermudagrass broke dormancy." Whether the field played a role in the Padres making it to the World Series that year is uncertain, but it had to be part of the reason for the team's success.

A trump card in the quest for Super Bowl XXII for San Diego may have been the fact that Bill Wilson, former stadium manager of the Rose Bowl in Pasadena, CA, had agreed to come out of retirement to take over as general manager of Jack Murphy Stadium. Wilson had worked with the NFL during a previous Super Bowl at the Rose Bowl. He had also been a member of the Los Angeles Olympic Committee in 1984. The veteran policeman and stadium manager had a reputation as someone who could get the job done. "I was going stir crazy after a few months of retirement," he recalls.

Wilson took over during the World Series. With a new field under his command, his first order of business was to hire a grounds manager who knew what the players wanted in a field. "I wanted someone who knew more than how to maintain turf," he recalls. "He had to know what the players and coaches look for in a field, especially for baseball."

A number of major stadium grounds managers flew to San Diego that year to talk with Wilson. The person who got the job had maintained a relationship with San Diego Stadium and the Padres that his grandfather had established years before. Brian Bossard is Emil Bossard's grandson.

His experience with professional sports started when he was 12 at Cleveland Municipal Stadium in Cleveland, OH. He worked beside his grandfather, his father Harold and his uncle Marshall in the lakefront stadium for nearly 20 years providing the Indians with one of the best fields in the American League. His uncle Gene and his cousin Roger had built a similar tradition with the Chicago White Sox at Cominsky Park.

The 1985 baseball season started off with a bang. The winter was colder than normal. The "dirt events" in February gave Wilson and Bossard just three weeks to get ready for the Padres' exhibition games. Although they had hoped to give the bermudagrass time to recover and protected it with ply-

wood sandwiched between two layers of plastic, they realized the only way to preserve the quality they had the year before was to resod. Wilson had included the cost of resodding the field in the contracts with the motocross and off-road vehicle show producers. "We wanted to make sure none of the clay brought in for the events reached the field," Wilson explains.

One of the first things Bossard noticed were patches of turf that were less vigorous than others. He had seen similar symptoms before and called in a turf pathologist. His hunch was correct, nematodes had invaded the sand root zone. After thinking the situation over, keeping in mind the previ-

continued on page 28

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Super Bowl XXII

continued from page 27

ous problems with infiltration, he decided to fumigate the field prior to sodding every spring. The fumigant was injected into the field with a chisel fumigator that cut rows of grooves into soil a foot deep. Not only did the shanks of the fumigator break through any layers beneath the surface, they delivered methyl bromide deep into the field. "The infiltration rate of the field was five and one-half-inches per hour when the field was new," states Bossard. "It drops during the year as the field is used. After we fumigate each spring, it jumps back up to more than four inches per hour."

Bossard has soil samples tested monthly to keep a close watch on nematodes and soil fertility levels. "We do everything we can to discourage a reinfestation of nematodes," says Bossard. At the first sign of nematodes, he cuts back on aeration. "We base nearly everything we do on the nematode counts." Rather than pulling cores and spreading them over the field with a drag every time he aerates, Bossard switches to solid tines to "shatter" the soil when it starts to get hard in certain parts of the field.

One of the toughest parts of the field to control compaction in is the portion of the outfield where portable stands are brought in for football and out for baseball. The 29 seating units, which look like huge wheelbarrows, are rolled onto the field with special towmotors and pieced together like a puzzle. Some of the sections weigh as much as 400,000 pounds. It takes six to eight hours to put the seats in or take them out. Bossard keeps the area dry before the stands are moved and quickly repairs any indentations in the outfield before baseball games.

Approximately two pounds of nitrogen per 1,000 square feet are applied to the field every month during the growing season in both granular and liquid forms. The field also gets spoon-fed weekly with liquid nutrients,

chelated iron and vitamin B-1 applied by a boom sprayer. Wetting agents are applied every other week through the irrigation system. Bossard keeps a close eye on the cation exchange capacity (CEC) of the field soil as well, adding organic products such as GroPower when the level drops. In the fall, he might apply straight potassium to firm up the overseeded ryegrass.

While Bossard keeps on top of soil conditions that affect the turf, he keeps a closer eye on the way the turf affects the players. "When I first came, grounders through the infield were too fast, bounced too low and had a lot of topspin," he points out. "Infielders want the ball to bounce between 15 and 23 inches high no matter how hard the ball is hit." Bossard has been slowly changing the infield grade to make it flatter, the idea being a flat infield cuts down on topspin.

continued on page 30



Brian Bossard.



In 1984, the top 14 inches of the field, choked with silt and clay, were removed and replaced with river sand of a prescribed size. New drainage and irrigation systems were also installed in both baseball and football field configurations.

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Super Bowl XXII continued from page 28

He adjusts the infield irrigation cycles and aerates to produce just the right bounce 99 percent of the time. He tests the bounce before every game.

Soil moisture also plays an important role in football. Deep roots are important to the durability of the center of the field during the heavy football schedule. Bossard takes core samples almost daily to check for the depth and uniformity of water infiltration. He applies wetting agents to counteract any areas of hydrophobic soil and keeps the surface on the dry side.

When he overseeds in October, Bossard is also looking for deep roots as fast as possible. Rather than broadcasting the perennial ryegrass seed onto the surface, he first slices the surface in two directions with a stolonizer. The seed is then broadcast, topped with sand and then dragged into the grooves made by the stolonizer with a mat.

Before games, the San Diego crew will frequently broadcast a mixture of ten percent sand, 90 percent Nitrohumous (an organic compost) and seed over the field for the players to work into the soil. If this doesn't keep up with the damage caused by the players, Bossard applies a mixture of pregerminated ryegrass mixed in Milorganite following each game. A two acre sod farm next to the stadium is maintained for resodding seriously damaged turf areas.



Bill Wilson

While San Diego is known for its year-round moderate temperatures, nighttime temperatures can approach the freezing point during football season. To keep soil temperatures up for the young ryegrass the field is covered with six mil vented plastic for periods as long as four to five days. When temperatures drop near freezing, the crew covers the field with a two-piece unvented tarp at night and removes it late the next morning. The dark green tarp absorbs the early morning sun. By keeping the field relatively dry at the surface most disease problems are avoided.

Bossard has been using all his tricks this fall to keep turf on the center of the field. A rainy, cold season has stifled some of his efforts to keep the field dry and the ryegrass roots deep. Games held in the rain also damaged much of the dormant bermudagrass in the center of the field. "In eight days, I can produce almost a new field," he states. The two high school championship games were played in the rain and the Chargers played the next day. That set Bossard back further than he'd like.

Wilson and Bossard have begun preparations for the Holiday Bowl. The New Year's Eve game is sponsored by Sea World.

continued on page 32

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Super Bowl XXII

continued from page 30

This year's contest is between the University of Iowa Hawkeyes and the University of Wyoming Cowboys. Part of the logistics of the Holiday Bowl is the large Sea World emblem which will be painted in the center of the field. If the Chargers don't win their division but have the best team record, the stadium will host a "wild card" game on January 3. That gives Bossard three days to remove the Sea World logo and replace it with the NFL logo. If the Chargers win their division, the stadium could host a division playoff game on the 10th and the American Football Conference Championship game on January 17. That would leave less than two weeks to get the field ready for the Super Bowl.



Portions of the field are covered with dirt for motocross events.

While the Super Bowl is a major concern to Bossard, it is the primary concern of George and Chip Toma, the NFL field consultants. Bossard and the Tomas are no strangers. George Toma worked with Emil Bossard after World War II in Florida and Cleveland. "I'll never forget," he remembers, "the Cleveland field was bentgrass in those days." Toma credits the elder Bossard for much of what he applies today for the Kansas City Royals and Chiefs and the NFL. That same knowledge was passed down to George's son Chip. Wilson has known George since 1977 when the two first met at the Rose Bowl. The team of two of the leading families in groundskeeping and the respected Wilson provides the NFL with one of its strongest Super Bowl staffs ever.

The Toma's preliminary plan for the Super Bowl is to arrive in San Diego the day after Christmas. While Ph.D. perennial ryegrass is pregerminating for Jack Murphy Stadium, Chip will concentrate his efforts on adapting the facilities at San Diego State University and the University of San Diego to serve the two conference champions for four days of practice before the game.

The fields at the University of San Diego were resodded this past summer. Instead of overseeding, the plan is to paint the new fields with green turf paint and mark them just as they would a stadium field for a game, including the six-foot-wide side lines. "The main differences between college and professional fields is the location of the numbers and the hash marks," explains Chip. The college goal posts, 24 feet wide, will be replaced with professional goals, 18 feet 6 inches wide. Windscreen will be installed on fences around both practice sites to keep curious spectators from disturbing practices.

San Diego State's fields will be overseeded. Both sites will be provided with tarps and covered at night. "The practice fields are more important than the game field in a lot of ways," stresses George. As a result, they get as much attention as the stadium field.

If Jack Murphy does host playoff games, the Tomas and Bossard will have their hands full. If not, the pregerminated ryegrass will have almost a month to get established. Arrangements have been made to cover the field with perforated six mil plastic and blow heat under it with greenhouse heaters. A single inflated duct will carry heat from butane heaters down the center of the field.

continued on page 34

Super Bowl XXII
continued from page 32

A month is also plenty of time to grow out the turf painted with the Sea World emblem.

The worst case, or the best as far as the Chargers are concerned, would be the narrow two-week time frame if the team goes to the AFC finals. Just in case, Toma is making arrangements to have Kentucky bluegrass/ryegrass sod ready for the the area between the numbers. "It worked in San Francisco," states George. There, sod from Kesar Stadium was cut two inches thick in sections 18 inches wide and 48 inches long and installed at Candlestick. "Each piece had to be carried from the truck to the field on plywood because it was so heavy. You couldn't see the seams after Barney Barron's crew finished laying it. Not one section was kicked up by the 49ers during their game." The sod was heavily topdressed with calcined clay, he added.

While Bossard and Toma are working on the field, other crews will be adding another 12,000 seats in the end zones. On game day, 73,500 fans will pack into San Diego Jack Murphy Stadium for Super Bowl XXII. The center of the field will have the NFL logo, both end zones will be painted with the logos of the AFC and NFC champions and the perimeter of the green field will be draped with brightly colored banners. Few people will know how much effort went into preparing the stadium for the event.



All soil is washed off the Santa Ana sod before it is installed every March.

It will be the first Super Bowl for Bossard, the second for Wilson and the 22nd for George Toma. Four years of preparation will culminate in a few short hours. When it's over, Bossard and Wilson will start concentrating on the Padres' exhibition games in March and Toma will head for Florida to handle final preparations for the Kansas City Chiefs new spring training facility at Boardwalk and Baseball near Orlando, FL.

"I know there won't be any problems with the playability of the field during the Super Bowl," concludes Bossard. The Tomas will take care of its appearance for the millions of television viewers as they have numerous times before. "We are in the entertainment business," states Wilson. "It's our job to see that the NFL has a successful Super Bowl. That's what we get paid for and that is what we, as professionals, do."

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