

Premises Included in Contractual Agreement

BLEACHERS

CDMC SLAB

BLEACHERS

BLEACHERS

BLOCK 87
OCEAN BEACH, FLA.
ADDITION NO. 3
(P.B. 2, P. 81)

BLEACHERS

Tennis Center

Tennis Courts

BLOCK 88
OCEAN BEACH, FLA.
ADDITION NO. 3
(P.B. 2, P. 81)

Premises Included in Contractual Agreement

S 01°58'41" E 1676.03' (4) 1677.43

MERIDIAN AVENUE

PROMENADE (P.B. 2, P. 81)

JEFFERSON AVENUE
PROMENADE (P.B. 2, P. 81)

11th STREET

EXHIBIT "C"

**REQUEST FOR PROPOSALS TO PROVIDE
COMPREHENSIVE PROFESSIONAL TENNIS
MANAGEMENT AND OPERATIONS
SERVICES AT THE CITY'S FLAMINGO AND/
OR NORTH SHORE PARK TENNIS CENTERS
REQUEST FOR PROPOSALS NO. 8-00/01
SECTION II - SCOPE OF SERVICES**

**REQUEST FOR PROPOSALS TO PROVIDE COMPREHENSIVE
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THE CITY'S FLAMINGO AND/ OR NORTH SHORE PARK TENNIS CENTERS
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INTENT

The City is seeking proposals from experienced, adequately financed and qualified tennis center management firms and/ or individuals to provide tennis instruction, maintenance and management at the City's two (2) tennis centers located at Flamingo Park 11th Street and Jefferson Avenue and North Shore Park located at 350 73rd Street. Proposers must be a certified Tennis Professional by USPTA, or USTA, UCR, USPTR, (other Tennis Certified Agency) and must demonstrate knowledge and experience in tennis instruction and related activities, facility management, tennis court maintenance and related activities, as well as, knowledge of the legal requirements that are involved in this type of operation. Additionally, proposers must have a minimum of five (5) years of experience within the last ten (10) years in the management and operations of a similarly operated tennis center, professional tennis instructor in a similarly operated facility, or other experiences further delineated in Section III, sub-section B of the RFP.

REQUIREMENTS AND SERVICES TO BE PROVIDED

The selected Proposer is expected to provide the public with tennis services at the Tennis Center facilities. The selected Proposer may provide related services as approved by the City. All services and incidental goods provided, together with their price, and hours of operation, must have the prior approval of the City. Such services, fees and charges may be modified only by written request of the selected Proposer to the City and approval by the City Manager. Such approval shall be in writing at least 30 days prior to implementation of the modification. The responsibility for securing and providing security for any equipment, supplies or resale items, including office decorations, and displays, will rest with the selected Proposer and the City of Miami Beach will not accept any responsibility for the Proposer's equipment or supplies or resale items.

TENNIS INSTRUCTION AND RELATED SERVICES:

Furnish good, prompt and efficient service, adequate to meet all reasonable demands, including established minimum schedule and hours of operation for tennis patrons, subject to the approval of the City.

Minimum service levels will be:

Provide an operation that will be safe, customer oriented with prompt service, complaint resolution, effective employee performance and training and timely initiation and completion of all work.

Require background investigation for all pros, assistants and staff.

Provide, promote and instruct lessons in the game of tennis by certified tennis professionals to individuals, groups and clinics. Said service shall offer the tennis patron

Provide, promote and instruct lessons in the game of tennis by certified tennis professionals to individuals, groups and clinics. Said service shall offer the tennis patron a choice of instructor level and hourly fee commensurate with the instructor's level. Said fee and instructor levels will be negotiated and agreed upon between the City and the selected proposer.

Such instruction will be defined at minimum as:

- **Individual lesson** - shall be shared with up to 3 tennis patrons.
- **Group lesson** - shall be shared with up to 5 tennis patrons.
- **Clinics** - shall be groups of no less than 4 and no more than 8 tennis patrons per instructor.

Fees for the various levels and types of instruction to be conducted will either be for a fee or free of charge, depending on mutual advance agreement of the Tennis Pro and the City.

Coach tennis teams sanctioned and approved by the City of Parks and Recreation, such services to be provided for a coaching fee or free, depending on mutual advance agreement of the City.

Offer demonstrations of aspects of the game of tennis in promotion of the Center. Such instruction will be defined as a demonstration. Such demonstrations may be either for a fee or free of charge, depending on mutual advance agreement of the City.

Establishment, operation and tabulation of tournaments as requested by the City or facility tennis patrons, including participation in establishing specific needs for individual tournaments.

Promote junior tennis by establishing a junior tennis team at each center, teams will play in a league with other Miami Beach or Miami Dade County Tennis Facilities.

Provide advice to the City of changes, regarding the tennis industry in general, tennis rules and regulations, equipment and promotional methods associated with the operation of public tennis facilities.

Advise the City of schedules of clinics, tournaments, and seminars on tennis, tennis merchandising, tennis management and other professional information.

Provide Seasonal (three classes, each fall winter and spring) group clinics at low cost (a per lesson fee for six to eight lessons to be negotiated and approved in advance by the City) to the community.

The selected Proposer and employees shall be distinctively uniformed or appropriately attired so as to be distinguishable as the Proposer.

The selected proposer shall take good care of facilities and shall use the same in a careful manner and shall at its own cost and expense repair City property and facilities damaged by its operations under this Agreement.

In addition to professional tennis instructions the scope of services required of the proposer under terms of the agreement will also include but not necessarily be limited to:

1. Overall Tennis Centers Management in accordance with City policy, directives and established policies.
 - a. Tennis court reservation services
 - b. Facility / court monitoring
 - c. Tennis lessons reservations
 - d. Food and beverage service (if applicable)
 - e. Pro shop operations
 - f. Courts /grounds/ buildings maintenance to City specifications
 - g. Booking of local, regional and state tennis tournaments
 - h. Marketing, promotion and advertising of the City's Tennis Centers to residents, day guests and Miami Beach hotels.
 - i. Must provide summer and specialty camps based on full day Recreational Division Camp format.
 - j. Must adhere to all City of Miami Beach established tennis center rules (to be jointly developed by the City and selected proposer.)
 - k. Tennis professionals must possess and maintain an occupational license.
2. Collection and accounting of all revenues.
3. Payment and accounting of all expenses in a timely manner.
4. Formulation and implementation of operating programs, business plans, and budgets.
5. Handling of personnel including employment, (including certified background investigations), training, and terminations.
6. Preparation of monthly and annual financial operating statements in a format acceptable to the City.
7. Operate the facility in accordance with a City of Miami Beach Tennis Centers Policy Manual to be jointly prepared by the selected proposer and the City.
8. At minimum comply with the facility and courts maintenance standards as delineated in the attached Tennis Centers Maintenance Specifications.

The City retains responsibility for the following:

1. Administration of all terms and conditions of the Agreement.
2. Approve all fees and other principal tennis center operating policies prior to implementation.
3. Approval in advance of any alterations to existing facilities.
4. Approval of all tennis tournaments.
5. Approval of time(s) and the number of tennis courts to be used by the tennis professionals for tennis instructions on a daily basis.

EXHIBIT "D"

HURRICANE PROCEDURES FOR CENTER

CITY OF MIAMI BEACH RECREATION DIVISION

2001 HURRICANE PROCEDURES

1. HURRICANE WATCH PROCEDURES:

A. ALL STAFF

1. If a Hurricane Watch is issued while you are on duty, stay at your facility and call your immediate supervisor for instruction.
2. If you are not on duty, and a Hurricane Watch is issued, call your immediate Supervisor for instructions.
3. You may be called to your facility to follow hurricane procedures and may be assigned anywhere help is needed.

B. ALL SUPERVISORS

1. All supervisors are to report to the Division office at City Hall.
2. Each supervisor will instruct their staff at each facility to carry out safety procedures.

C. ALL TENNIS CENTER MANAGERS

1. All Tennis Center Managers are to report to your Tennis Center.
2. Notify your immediate supervisor that you are on duty.
3. Follow safety procedures.

D. ALL POOL MANAGERS

1. All Pool Managers are to report to your pools.
2. Notify your immediate supervisors that you are on duty.
3. Follow safety procedures.

ALL PERSONEL ARE NOT TO LEAVE THEIR SITE UNTIL PERMISSION IS GIVEN BY YOU SUPERVISOR.

PROCEDURE TO SECURE FACILITIES:

A. TENNIS CENTERS

1. Tennis personal is to come to work immediately, if off duty.
2. Clip wires and take down windscreens. Roll up tightly by sections and store all nets.
3. Remove all brooms, etc. and store in safe place.
4. Tie down benches to posts.
5. Store all trashcans in locker rooms.
6. Bleachers: remove all seats and store as instructed.

7. Secure all loose objects in the pro-shop.
8. Turn off all power at main panel box.

DO NOT LEAVE THE FACILITY UNTIL FULLY SECURED.

B. PLAYGROUNDS AND YOUTH CENTER

1. Remove everything on the first floor that can be damaged by water.
2. Remove all objects away from window.
3. Turn off power at the main panel switch.
4. Bring in all trashcans and store in a safe place.
5. Tie all benches and swings securely.
6. Be sure that all sports equipment is stored in a safe place.

DO NOT LEAVE THE FACILITY UNTIL FULLY SECURED.

C. SWIMMING POOLS

1. Take down all canvas on deck; sun shelters, umbrellas, etc., roll up and store in safe place.
2. Clear the decks and store all movable items in the deck storage room.
3. Lower the water in the pool about two (2) feet (youth center lower three (3) feet).
4. Stack things off the floor that can be damaged by water.
5. Lock all windows and doors.
6. Shut off electricity to pumps, chlorinator, etc.
7. Turn off power at main switch.

2. POST HURRICANE PROCEDURES

A. ALL STAFF

1. All staff is to call City Hall as soon as possible, and wait for further instructions.
2. All staff will be assigned work location to begin cleanup of all storm damage so that services to the public can be resumed as soon as possible.

B. ALL SUPERVISORS

1. All Supervisors are to report to City Hall as soon as possible.
2. Coordinate the damage assessment and clean up procedures.
3. Immediately upon reporting back to work, a damage report must be turned in to the R Assistant Director.
4. Assign staff to each facility.

C. ALL TENNIS CENTER MANAGERS

1. All Tennis Center Managers are to report to their Tennis Centers as soon as possible.
2. Prepare a written damage report of their facility.
3. Assign staff to cleanup procedure.

D. ALL POOL MANAGERS

1. All Pool Managers are to report to their Pool as soon as possible.
2. Prepare a written damage report of their facility.
3. Assign staff to cleanup procedure.

EXHIBIT "E"

**HOURLY PLAY, MEMEBERSHIPS AND
YOUTH TENNIS POLICY**

A RESOLUTION ESTABLISHING A SCHEDULE OF MEMBERSHIP AND USER FEES FOR TENNIS CENTERS OPERATED BY THE CITY OF MIAMI BEACH PARKS AND RECREATION DEPARTMENT AND RESCINDING THOSE PORTIONS OF RESOLUTION 86-18593 RELATING TO TENNIS CENTERS.

BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF MIAMI BEACH, FLORIDA, that effective October 1, 1992 there is hereby established a new fee schedule for membership and user fees for Tennis Centers operated by the City of Miami Beach Parks and Recreation Department, in accordance with the following fee schedules:

TENNIS CENTERS:

<u>MEMBERSHIPS</u>	<u>CURRENT</u>	<u>PROPOSED</u>
Resident Adult	\$100.00	\$150.00
Resident Senior Citizen	75.00	125.00
Resident Junior (under 18)	40.00	50.00
Resident Family (Husband, Wife, 2 Children)	200.00	300.00
Each Additional Child	30.00	40.00
Non-Resident Adult	175.00	350.00
Non-Resident Senior Citizens	125.00	250.00
Non-Resident Junior	60.00	70.00
Non-Resident Family (Husband, Wife, 2 Children)	400.00	700.00
Each Additional Child	50.00	60.00

Half year memberships would continue to be available at half the annual fee. City Employees/Retirees memberships would also continue to be available at half the annual fee.

Fees are also established for hourly day and night court usage.

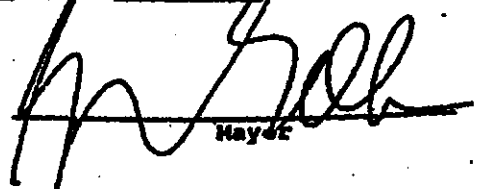
<u>HOURLY COURT FEES</u>	<u>CURRENT</u>	<u>PROPOSED</u>
Day - hourly per player	\$2.00	\$2.50
Night - hourly per player	2.50	3.00

City Employees/Retirees would pay half the hourly court fee.

<u>LOCKER RENTALS</u>	<u>CURRENT</u>	<u>PROPOSED</u>
Annual - with membership	\$10.00	\$ 50.00
Annual - without membership	10.00	100.00
Daily - with own lock	0.00	2.00

Those portions of Resolution No. 86-18593 which established membership and user fees for Tennis Centers are hereby rescinded.

PASSED and ADOPTED this 15th day of September 1992.


Mayor

Attest:


Richard E. Boman
City Clerk

FORM APPROVED
LEGAL DEPT.

CITY OF MIAMI BEACH

PARKS & RECREATION DEPARTMENT

TENNIS PLAYING POLICY - YOUTH

The City of Miami Beach shall permit youths under 18 years of age to play tennis "free of charge" during non-school hours, subject to court availability.

When courts are crowded, they must either pay the hourly court fee or have a junior ~~membership~~ ^{PERMIT}

This policy covers daylight hours only.

EXHIBIT "F"

**CONTRACTOR'S PROPOSED FEES FOR
PROFESSIONAL TENNIS LESSON, CLINICS
AND PROGRAMS**

FLAMINGO PARK PRICE SCHEDULES

AFTER-SCHOOL PROGRAMS

PEE WEE TENNIS- Ages 4-6 years old.

An introduction to tennis with emphasis on games, sportmanship and beginning level stroke techniques.

Mon.&Wed. or Tues.&Thur. 2:30-3:30p.m. Cost: \$72.00 for 8 classes per month.

Mon.&Wed.&Fri. or Tues.&Thur.&Fri. 2:30-3:30p.m. Cost: \$108.00 for 12 classes per month.

JUNIOR TENNIS- For ages 7-14 years old.

An introduction to tennis with emphasis on stroke techniques, game fundamentals and sportmanship.

Mon.&Wed. or Tues.&Thur. 3:45-5:15p.m. Cost: \$108.00 for 8 classes per month.

Mon.&Wed.&Fri. or Tues.&Thur.&Fri. 3:45-5:15p.m. Cost: \$162 for 12 classes per month.

TOURNAMENT TENNIS- For the serious tournament player. Emphasis on mental toughness, stroke production, physical conditioning and strategy.

Mon.&Wed. or Tues.&Thur. 5:30-7:30p.m. Cost: \$160.00 for 8 classes per month.

Mon.&Wed.&Fri. or Tues.&Thur.&Fri. 5:30-7:30p.m. Cost: \$240.00 for 12 classes per month.

ADULT PROGRAMS

WOMEN'S LEAGUE CLINICS-Level A & B.

Emphasis on doubles strategy and drills, stroke production and physical fitness.

Mon.&Wed. or Tues.&Thurs. 9:00-10:30a.m. Cost: \$120.00 for 8 classes per month.

MEN'S CLINIC- For the serious player. Emphasis on physical conditioning, stroke production and strategy.

Wednesday 7:30-9:00p.m. Cost: \$15.00

MEN'S COMPETITIVE LADDER- A competitive challenge tournament ladder with a season ending tournament. Cost: Free

FRIDAY NIGHT MIXED DOUBLES- A social and competitive mixer for men and women with prizes, games and refreshments.
Friday 7-9p.m. Cost: \$10.00

ADULT HITTING SESSION- For the individual who feels like hitting with the pro without any formal instruction. Cost: \$30.00 per hour.

PRIVATE LESSONS

Senior professionals- Cost: \$50.00/hour or \$225.00 for a series of 5.
Assistant professionals- Cost: \$40.00/hour or \$180.00 for a series of 5.

SUMMER CAMP-

This is the fun time of the year for the kids who are out of school. Our program definitely focuses on the tennis but also included are trips to water parks, movies, bowling, swimming and more to come.

Monday thru Friday 9a.m.-4p.m. Lunches are included. Cost: \$250/child.

EXHIBIT "G"

**TENNIS COURTS MAINTENANCE
STANDARDS**

CITY OF MIAMI BEACH
RECREATION DIVISION

TENNIS CENTERS

"CLAY" COURT CARE MANUAL



USPTA

EDUCATION COMMITTEE

This booklet has been reviewed by the USPTA education committee and is recommended as an excellent reference on fastdry court construction and maintenance.

\$5.00
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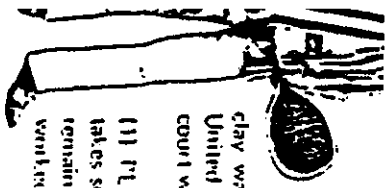
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WRITER'S COMMENT

I have built hundreds of courts throughout the Southeast during the past 20 years. The majority of these are the fastdry type of court.
 Now, it is not safe to assume that just because a construction company can build a fine tennis court that they are also maintenance experts. There is a considerable difference in the knowledge and skills required to build a good court and those required to keep that court in good condition.
 Notwithstanding the construction work we have done, my main concern, the area of design and development relative to better, faster and more efficient ways to water, brush and roll the fastdry court.
 I am convinced that the green, granular, fastdry type of tennis court is the finest playing surface in the world... If it is properly maintained. That's a big IF... and if this book can eliminate some of that IF then the time it has taken to assimilate the data and the months it has taken to write... and rewrite it... will be worth it.

Wade L. Herren
 Member, USPTA
 Herren's of Birmingham, Post Office Box 3386 Birmingham, AL 35255

ANATOMY OF FASTDRY



From its introduction of the fastdry surface in the 1920's, clay was the most popular and the most commonly used court in the United States. When properly constructed and well-maintained, a clay court was, and still remains, an excellent playing tennis surface.

Despite its popularity, clay possessed two shortcomings: (1) PLAYING TIME is limited after a penetrating rain because clay takes several days to dry, and (2) MAINTENANCE TIME AND COSTS remain high since new lines must be marked each time the courts are vented.

In the East and South, a few scattered tennis courts used a granular surface made of a brick dust imported from England and France. Howard Co. Inc. Co., these courts dried extremely fast after a rain, and tennis posed no problem since canvas tapes were nailed to the surface.

During the 1920's, the Har-Tru Corporation, a company that mined and produced green granules in southern Pennsylvania for the roofing industry, conceived the idea of developing a product similar to Co. Inc. Co.

Their research department was convinced that their "green-stone" would make an excellent tennis surface. Over a period of many months, through experimentation with different mixes, binders and bases, they found (1) their "greenstone" would track, (2) that particles would find their own crevice, and (3) their binder would give the "greenstone" its initial set and then wash out.

As a result of these experiments, an industry was created which produced a new tennis court surface that replaced clay as the most popular tennis court in the United States. Evidence of its popularity may be found in the fact that the Center Court at Forest Hills, site of the U. S. Open Tennis Championships for many years, is Har-Tru.

Until the early 1970's all of the fastdry material being used was mined and processed at one plant in southern Pennsylvania (which continues to produce high quality material today). Then it was discovered that the same greenstone deposit extended into central Virginia, where currently two modern plants are also producing quality fastdry material.

Fastdry is the generally accepted generic name for the green, granular court surface material used in the construction of tennis courts by the same name. In addition to the trade names such as Har-Tru, Madico, Tenico, Greenrock and Tru-Green, etc., other names used to describe the fastdry court are "clay" court, "soft" court, "state" court, "corporation" court and others.

CONGRATULATIONS

Yes, CONGRATULATIONS on having a fastdry tennis court.

You have chosen the tennis court built for enjoyment - the finest playing surface in the world.

Listed below are twelve good reasons which confirm this:

- 1 **MORE FUN** - The slower, lower, and shorter bounce of the ball allows players more time to get to the ball and to prepare for the stroke. This results in longer rallies, more action and, thus, more fun!
- 2 **MORE CHALLENGING** - Offensive and defensive strategy and finesse, a full repertoire of strokes and physical conditioning are necessary ingredients of the complete player on fastdry. (The serve and volley is not enough!)
- 3 **LESS TIRING** - The minute, ball-bearing-like fastdry particles make stopping, starting, turning, twisting and sliding relatively easy, less tiring movements. One can play longer on fastdry before reaching a given state of "tired."
- 4 **EASIER ON THE EYES** - Fastdry absorbs sunlight and does not reflect, thus eliminating glare that is both harmful to the eyes and annoying. The "moist-green" fastdry surface provides an excellent background for seeing the ball.
- 5 **COOLER** - Since fastdry possesses a natural affinity for water and since the base beneath the fastdry is porous, daily watering keeps the fastdry moist and relatively cool due to the cycle of water/air interchange through the tiny crevices between the fastdry particles.

FASTDRY CONSTRUCTION

6 SAFER - Broken bones . . . strained, turned and twisted ankles . . . pulled and torn ligaments . . . and strained muscles are relatively infrequent injuries on the Fastdry type of court. This is due to Fastdry "lateral resilience" which permits sliding and controlled, gradual stops.

7 SAVE \$\$\$ - Fastdry is a relatively non-abrasive playing surface. Tennis balls, rackets and shoes last nearly twice as long on that 5.0-1-1 Fastdry court.

8 MORE PLAYING TIME - Because Fastdry is porous and the base beneath is also porous, the Fastdry court will soak up water like a blotter; after a light shower, and play can be resumed immediately. (The surface is even improved in this process.)

9 TRUE BOUNCES - Like clay, the Fastdry court produces a perfectly natural bounce. The speed and height of the bounce and the reaction of the ball bounce to various spins all are "true" . . . there is no distortion or exaggeration.

10 EASIER TO REPAIR - Surface blemishes, breaks, cracks, scuffs, low places, etc. can be repaired quickly with a minimum of effort and expense.

11 MORE PERSONAL - Fastdry requires daily attention and care, though this care takes only about five minutes per court each day. There is something special about a freshly prepared Fastdry court that has had LLC.

12 CONSTANT OPTIMUM CONDITION - With proper maintenance, the condition of the Fastdry surface is renewed DAILY (Other court surfaces being to deteriorate immediately after resurfacing and continue this deterioration until resurfaced again in five years. Additionally, as the surface wears smooth, the ball bounce gets faster and faster.)

If you think that Fastdry courts are difficult to build you'd be right. But, it's another thing to MAINTAIN that court in good playing condition . . . through dry spells and wet spells . . . during high winds and torrential rains . . . through sizzling heat and freezing cold . . . day in and day out . . . with equipment breakdowns . . . sprinkler system malfunction . . . and a "couldn't-care-less" maintenance crew which turns over twice each year (just before your two biggest tournaments).

Understanding proper maintenance techniques for the Fastdry court requires a knowledge and comprehension of four basic aspects of Fastdry court construction: (1) subsoil stability; (2) proper slope; (3) gradation of base material; and (4) surface material mixture.

If shortcomings occur in any of the above areas during construction, maintenance efforts will be compromised to the degree that these deficiencies exist.

While it is possible to live with construction-related maintenance problems, it is important to identify these deficiencies and understand: (1) the relative degree of their deviation from the optimum; (2) if and how and at what cost these deficiencies might be corrected; and (3) how to cope with them from a maintenance point of view.

SUBSOIL

Unsuitable or unstable subsoil is perhaps the least likely of all construction-related deficiencies.

Except for sandy soil and gummy clay, prevalent in only a few sections of the country, chances are that your subsoil is more than adequate for Fastdry construction. When subsoil problems appear on existing courts, solutions are expensive and their effectiveness marginal.

In the case of a gummy subsoil that holds water tenaciously, it is possible that lime treatment will encourage subsoil stabilization. Under this corrective procedure, holes would be drilled through the surface and base at regular intervals and a "lime slurry" introduced into the subsoil. The degree to which the lime will spread laterally through-out the subsoil determines the degree to which the gummy subsoil will stabilize.

Note: Extensive soil tests and studies by a qualified laboratory should be performed before any work is advised.

In the case of sand or a too sandy-clay subsoil, either of which allows water to drain through like a sieve, the best solution is to remove the talms, strip off but reserve the base and surface material, install a 3" to 4" non porous clay subbase over the sand, and then reinstall the base and surface material and talms. Another method would involve installing a 2" layer of stone screenings directly over the existing court surface, a new 1/2" surface course and talms.

SLOPE

The more a court slopes, the faster it dries after a rain, BUT, the steeper the slope, the greater the loss of surface material since more will wash away.

Obviously, a choice exists. There is, on the one hand, the desirability of sloping the surface MORE to have faster drying courts... and, on the other hand, the desirability of sloping the surface LESS to avoid the loss of surface material. So, a balance must be sought.

The optimum slope is one inch in twenty-four feet. The recommended minimum slope is one inch in thirty feet and the recommended maximum slope is one inch in twenty feet.

EL PLANE

in 30 Feet—Minimum

in 24 Feet—Optimum

in 20 Feet—Maximum

in 10 Feet—Hard Surface

From a maintenance point of view, the more serious problem occurs when a slope is excessive. For instance, if a rubber court were sloped at the same rate as an asphalt court, which is one inch in ten feet, the surface material would wash flush with the high side of the marking tapes while the low side would erode badly. This would create (1) a tripping hazard, (2) bad bumpers, (3) blenished appearance, and (4) a continual maintenance problem of trying to keep the lowside filled with court material.

Below are two logical solutions (both costly) to an excessive slope situation:

- (1) Remove the talms and surface material, bring in new stone base to the proper slope and then reinstall the surface and tapes, or
- (2) Remove the talms and use new surface material to restore the court.

BASE COURSE

The base course is a 3" to 4" thick layer of crushed stone (or similar material) that is installed directly over the prepared subgrade (subsoil) and immediately under the 1" surface course.

The base course performs two primary functions: (1) It allows water to pass through the surface course which permits the courts to dry quickly after a rain; and (2) it stores moisture thereby resupplying the surface with water as surface moisture evaporates during the day.

With a coarser, more porous base material, the court dries faster after a rain. In contrast, with a dense base, more water will be retained, thus keeping the surface moister throughout the day. However, a too dense base is apt to become less porous over a period of time, even to the point of "setting up" like concrete or cement.

As with slope, a choice exists. There is the desirability of having courts that dry faster which the highly porous base material allows, but there is also the desirability of having the courts stay moist (thus, more playable) longer which the highly dense base provides.

The recommended base material gradation is a one-half inch to dust or a three-eighths inch to dust "cupher run." This size is an acceptable compromise between the two extremes, and also eliminates the need for a "choke" course of stone and screenings recommended by some experts.

The only solution to a base deficiency, except learning to live with it, is to completely rebuild the court.

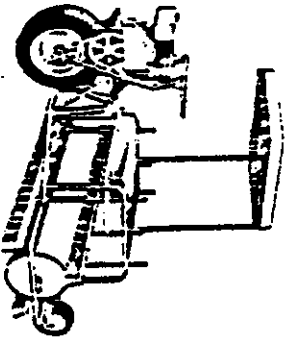
SURFACE MATERIAL

The surface course should be 1/2 inches thick before compaction. Since 100 pounds of fastdry surface material is needed to produce one square yard of surface 1/2 inches thick, one full size court (60' X 12' or 800 sq. yds.) requires 40 tons of fastdry surface material.

The combination of experimentation and experience with surface material since 1930 has contributed to the establishment of a precise gradation (mixture) of the different size fastdry particles, each occupying a certain percentage to the whole.

Note: The closer the fastdry mixture comes to the established gradation mixture, the more stable the surface. The more stable the surface, the better the quality of the mixture. The less stable the surface, the higher the erosion factor. The higher the erosion factor, the greater the MAINTENANCE COSTS.

FASIDRY MAINTENANCE



Though not as complicated as, for example, golf course maintenance, the process of fastdry court maintenance needs to be learned and experienced.

Few have taken the time or gone through the trouble of learning about fastdry court maintenance. Perhaps the problem lies in its relative simplicity. The very fact that it is not complicated seems to have diminished in the minds of many the importance of proper court maintenance.

Certainly fastdry courts do not need a golf course type of supervisor. The Golf Course Superintendent is highly trained expert in area of soils, grasses, trees, related chemicals, equipment, etc. and is highly paid. However fastdry courts do need a "permanent" type of person, trained in the proper process of fastdry court maintenance.

While the tennis pro might seem to be the logical person to assume these maintenance duties, he, like the golf pro, has a variety of other responsibilities which keep him busy six or seven days each week... teaching, merchandising, administering.

This is not to say that some tennis pros are not only knowledgeable about fastdry court maintenance but welcome its responsibility. The club with a tennis pro so inclined is most fortunate. Give that pro a gold star!

The point here is that someone must be in charge. Someone who is likely to have a long term relationship with the club... the tennis pro... the club manager... the golf course superintendent... or possibly a member/dayer who has a special talent or interest in court maintenance.

In order to provide a comprehensive picture of essential upkeep, maintenance can be divided into four categories: (1) DAILY MAINTENANCE, (2) "AS HELDED" MAINTENANCE, (3) ANNUAL OR BI-ANNUAL MAINTENANCE, and (4) SPECIAL MAINTENANCE.

If you skipped through the first few pages where subsoil, slope, base and surface material were discussed, now would be a good time for you to reread this section. Understanding court maintenance is much easier once a knowledge of the basic aspects of construction is grasped.

DAILY MAINTENANCE

Daily maintenance includes watering, brushing and rolling the surface, sweeping the lines (sweep) and polishing the court area. Once daily is normally sufficient. However... and depending upon climatic conditions, the length of the playing day, the amount of play and the efficiency of the sprinkler system... the courts may need to be watered, brushed and rolled additionally at midday.

WATER

An efficient sprinkler system includes: (1) proper design; (2) adequate water pressure; (3) adequate water supply; (4) proper size and type of pipe, sprinkler heads and nozzles; and (5) proper solenoid valves and controller.

An efficient sprinkler system is the single most critical factor in the proper maintenance of the fastdry court. Fastdry thrives on water... lots of it... DAILY.

The watering cycle should begin as soon as feasible after play ends for the day. Watering as early as possible allows maximum time for the surface water to disperse before the courts are worked in the early morning.

Fastdry courts need as much water as it takes to "flood" the courts daily. Flooding means having water stand on the entire court area. Water from the areas that receive the most water from the sprinkler heads must flood into areas that receive less water until the whole area is covered or flooded. Water needs to drain through the fastdry surface and penetrate the base which stores water until needed to resupply the surface with moisture as surface water evaporates during the day.

BRUSH/ROLL

Brushing levels and smooths the surface. Rolling keeps the surface packed tight. Brushing and rolling can be performed separately, or simultaneously... manually or mechanically with a combination roller/brush unit.

The optimum time to brush and roll the surface is in the morning, shortly after dawn, after the surface water has been assimilated.

NOTE: There is some merit to the opinion of some experts that brushing should also precede watering.

SWEEP, LINES

The brushing and rolling process leaves fastdry particles on the lines. Although an ordinary house broom is adequate for cleaning the lines, a special line sweeper (with rotary brush) cleans faster, easier and with less effort. Lines should be swept as soon as rolling and brushing have been completed.

"AS-NEEDED" MAINTENANCE

"As needed" maintenance includes scraping, patching, plugging and the use of calcium chloride. As suggested by the title, this maintenance work is best performed when needed instead of on a schedule, since precise timing for this work is difficult at best.

SCRAPING

Frequent comments heard from players about fastdry courts are, "They're too dry" or "They're not getting enough water." In some instances this may be true, but usually the courts have plenty of water . . . they just have plenty of loose, or "dead," material, also . . . enough to give the dry and dusty appearance.

This so-called dead material consists of fastdry particles which are either too large or too round to bind (fit in the matrix) with the other particles. Removal of small amounts of these dead particles is a normal, routine maintenance function of the fastdry tennis court and should not suggest any lack of quality of the fastdry material.

The only sure way to distinguish between good material and dead material is to check the court surface on a relatively warm day a couple of hours after the courts have been watered, brushed, and rolled. The heavy concentration (pile) of greyish green "fluff" are dead particles which should be removed with a straight edge.

Care should be taken not to remove the light film of particles which is not only normal but desirable on the court surface. These minute, light bearing like particles allow the player to slide easily, safely with a minimum of effort.

NOTE: It would be best not to use a stiff broom, brush, blower or vacuum for all of these would remove healthy material as well as dead material.

PATCHING

When a hole, a depression, or a blemish in the surface occurs, the low place needs to be filled with new surface material until the surface is level again.

Patching is best done on a relatively dry surface which allows the spreading and expanding of new surface material to a level surface plane. If the surface is wet or even damp, the new material (which contains pyrrusium binder) will pull moisture from the surface and "set up" . . . which creates a difficult smoothing, leveling problem.

The following steps will assure that the patch will do what all good patches are supposed to do . . . which is to stabilize and disappear in a few days.

- 1 After the low end of the court is free of surface water, identify the extent of the low area to be patched by marking around the area that holds water.
- 2 Estimate the amount of new surface material needed and drop it into the middle of the deepest part of the hole.
- 3 Use a court scraper to move this material into place, "leathering" the material to the line previously marked around the hole.
- 4 Pull the drag brush up and down, across and around the patch area to level and smooth the new material.
Note: Walking on the new material helps to compact it and reduce settlement.
- 5 Water the patch lightly with a hoespray nozzle - letting the spray cascade down on it rather than allowing the full force of the spray to hit the new material directly.
- 6 Roll with a 300- to 400-pound hand roller.
- 7 Sprinkle a thin coat of calcium chloride over the patch.
- 8 Water again in more depth.
- 9 Wait for ten to fifteen minutes before rolling the patch again.
- 10 Let play resume. (Be careful to replace divots as needed after play, before watering.)

PLUGGING

When and for whatever reason the base material intermixes with the surface material and the surface becomes "unstable" (i.e., breaks up easily or won't compact), then that area needs to be plugged.

Plugging differs from patching in that plugging involves cutting out a section of the court surface down to the base (or below minimum depth of 1"), disposing of this material and pulling new material in the hole.

Note: Be even more careful than in patching to compact the new material by "walking it down."

To say that Calcium Chloride is merely beneficial to the fast-dry court would be an understatement of the first magnitude. Calcium Chloride is virtually indispensable to the fastdry court. It should be clear by now that the fastdry court thrives on water . . . plenty of it. Calcium chloride, a chemical compound, is a salt with the characteristic of absorbing water out of the air and dissolving into the court. Used regularly (as needed), calcium chloride helps the surface retain moisture longer, thus keeping the court in better playing condition longer throughout the day. Calcium chloride helps the fastdry court stay firmer during heavy tournament play and also aids in the reconditioning process of bonding the new surface material to the existing surface. Recent tests throughout the Southeast show that properly used Calcium Chloride will in most cases reduce the temperature at which the fastdry court will freeze from 32° to under 20° . . . which should eliminate 90% of the freeze/thaw problems associated with fastdry courts.

At least one bag of calcium chloride per court per month throughout the year should be used. Adjustments to this general schedule will depend upon factors such as wind, rain, relative humidity and condense in a given area.

The best time to apply calcium chloride to the court surface is early in the morning when the surface is still damp from night watering. (Calcium chloride dissolves extremely slowly at midday when the sun is busy pulling moisture out of the surface - just the opposite of what calcium chloride does.)

Note: If rain is anticipated, the application of calcium chloride should be postponed, since rain will wash some away. For this reason, the sprayer system should not be used the first night after application.

To get the most value from calcium chloride, spread as thinly as necessary for one bag to cover one court.

Note: The most efficient way to spread calcium chloride is to use a large capacity sprayer with shutter controls that allow thin and even spreading.

Caution: Any sprayer should be emptied completely and washed thoroughly after use. Like any salt, calcium chloride will cause metal to rust and deteriorate in a very short time.

ANNUAL MAINTENANCE

It is extremely important that fastdry courts be checked for surface thickness every couple of years. The optimum thickness - one inch - is the same as the original surface thickness of the newly built court. One full inch guarantees stability!

RECONDITIONING

Surface material gradually but continually diminishes because of wind, wash and wear, and needs replacement to maintain a stable one-inch surface thickness. For many years most fastdry courts were reconditioned each spring, at which time new marking tapes were also installed (the old ones completely deteriorated). Because of the vastly improved quality of marking tapes during the last several years, tapes last a minimum of two years now. This suggests that the "annual" reconditioning could be performed every two years to coincide with replacement of marking tapes . . . without compromise to the quality of the surface.

Since reconditioning is disruptive, there is no need to add new surface annually if the court has been properly maintained "daily" and "as needed."

Except in southern Florida where the freeze/thaw problem barely exists, the best time to recondition is in the spring after the last freeze. It is unfortunate that the peak demand for courts occurs at the precise time the courts need reconditioning . . . which suggests the work be done in as little time as possible.

The fastest, most efficient and economical way to recondition the fastdry court employs the use of a large capacity sprayer which spreads the new surface material uniformly, accurately and rapidly. The combined need for applying surface material and calcium chloride make the sprayer an essential piece of equipment for proper maintenance of fastdry courts.

While the amount of fastdry loss to wind, wear and wash will vary, the annual erosion factor on fastdry courts averages four tons per court. This amount includes surface material used in patching, plugging and reconditioning for one year. If courts are reconditioned every two years, obviously, approximately twice that amount will be required - assuming that one to two tons were used in patching and plugging during the two-year period. Enough surface material should be used in reconditioning to re-establish a one-inch thickness.

Reconditioning can best be accomplished when the surface is relatively dry, and by following these steps: (1) remove marking tapes, (2) "foot patch and pack" divots caused by removal of tapes, (3) remove dirt material, (4) patch and/or plug as needed, (5) scarify lightly (optional), (6) resurface, (7) manually brush in both directions, (8) hand water lightly with fine spray nozzle letting water cascade down, (9) roll, (10) water three to five minutes with sprinkler system and allow to dry, (11) brush and roll, (12) apply one bag of calcium chloride per Court, (13) set sprinkler system to water for ten minutes or less at night.

All new surface material contains gypsum binder to help it set up until the natural particle interlocking occurs. This binder is sticky when wet which means that there will be a strong tendency for the new surface material to adhere to the roller. It is very important to prevent (by scraping the roller) any buildup of surface material on the rollers.

Newly reconditioned courts tend to break up slightly when play resumes. Each day after play and before watering, "foot patch and pack" the divots left by players. Also, it might help to encourage players to take it easy on the court - to move as flat-footed as possible - for a few days while the new surface sets up - a small price to pay for a fresh, new, smooth surface.

RE-LINING

New marking tapes should be installed immediately after the courts have been reconditioned, watered, and rolled. All dimensions should be accurate within a tolerance of plus-or-minus one-eighth of an inch. The tape manufacturer's directions should be followed carefully.

SPECIAL MAINTENANCE

NEW FASTIDY COURTS

The first three to six months of taking care of new fastidy courts can require the patience and understanding of both players and maintenance personnel.

Depending upon the amount of moisture in the new fastidy court, the surface may vary from damp and spongy . . . to soft and sticky . . . to hard and crusty . . . to dry and powdery - all within a 24 hour period.

These extremes in the fastidy surface condition are explained as follows:

- 1 The surface becomes damp and spongy when there is excessive moisture deep down in the base material.
- 2 The surface becomes soft and sticky because the gypsum binder makes the new surface material sticky and gooey when wet.
- 3 The surface becomes hard and crusty when there is very little moisture in the surface and the gypsum binder has crystallized.
- 4 The surface becomes dry and powdery as a result of larger particles rising to the surface in the form of loose (dead) material. Note: A small percentage of all new material contains granules that are too rounded or too large to bind to the particles of the proper shape and size that make up the surface mass.

As the surface material "particle-interlock" progresses and as the cushion stone base becomes more compact, the extremes start to disappear and the fastidy court begins to mature.

Another problem peculiar to new courts is excessive puddling around sprinkler heads for the first few months. The puddling disappears as the base and surface become more compact.

On occasion, marking tapes, which were installed straight as an arrow, being to "wriggle" after a few days of brushing and rolling the surface. This occurs when the courts are just soft enough to allow the brush to move the tapes a tiny bit each time it crosses the tape.

Low places may occur from settlement in the sub-base or the base or the surface. Where a low place exists water will stand. On a new court this wet place will be relatively soft while the rest of the surface remains firm and hard. Always fill a low place with new surface material.

New courts can "break up" easily, particularly if played upon when they are relatively moist. Players need to be aware of the sensitivity of new courts and play carefully when the courts are damp or not play at all. Also, players should be encouraged to replace divots and "foot-patch-and-pack" them if breaks in the surface occur.

Don't worry, folks! There are normal problems for new fastidy courts during the first few months. They'll disappear . . . we promise it.

TOURNAMENT MAINTENANCE

Seven to ten days before a tournament, calcium chloride should be applied to the fastidy surface. It will not only pull needed

The large majority of problems associated with fastdry courts are due to either lack of information or mis-information, (and occasionally just simple neglect). When fastdry courts are given proper regular care (less than 15 minutes per court per day) the following problems just do not occur.

HANDY REFERENCE GUIDE

I. COURT SURFACE IS DRY, DUSTY, POWDERY, SLIPPERY, ETC.

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|--|---|
| POSSIBLE CAUSE
1. Excessive dead material on surface.
2. Inefficient or malfunctioning sprayer system.
3. Long, hot, dry spell or fast course too porous.
4. Back brush on roller brush dipping too deep into surface.
5. Excessive slope determined by taking elevations.
6. Improper gradation. | SOLUTION
1. Remove (scoop-up) dead material.
2. Repair, renovate or rebuild sprayer system.
3. Use more water (float) at night, water again at mid-day and use more calcium chloride.
4. Adjust brush so that it barely touches surface.
5. Contact a competent contractor for advice.
6. Have your roller run a slow steady (or gradual) on sample of material. |
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II. WATER STANDS IN PLACES AFTER THE MAIN PART OF THE COURT IS DRY.

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|---|--|
| POSSIBLE CAUSE
1. Low place (depression) in surface.
2. Build up of court material around curb creating a dam-like effect.
3. Curb too high at low end of court.
4. Not enough slope in the surface plane.
5. Base course becoming impervious.
6. Unstable subsoil.
7. Underground stream surfaces just beneath the base. | SOLUTION
1. Fill low place (patch) with new material.
2. Remove material from curb and taper back as far as necessary.
3. Remove and replace curb at lower elevation to correspond with surface elevation, or raise the surface to the level of the curb (if no more than one-half inch).
4-7. Contact a competent contractor for advice. |
|---|--|

2. Intermixture of base material with surface material.
3. Brushing loose material off with a heavy brush and too much pressure.
4. Unusually high erosion factor due to abnormal amount of wind/erosion.
5. Unusually high erosion factor due to low quality surface material mixture.
6. Excessive slope causing large amount of surface material to wash away.

IV. COURT SURFACE IS SOFT, SLOW, SPONGY, ETC.

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| POSSIBLE CAUSE
1. Roller is too light.
2. Not rolling often enough.
3. Water trapped in base or sub-base.
4. Unstable subsoil, gummy soil, 1st days.
5. New court is not having cured. | SOLUTION
1. Add weight to present roller or buy proper roller.
2. Roll DAILY with roller that exerts approx. 15 lbs pressure per square inch.
3. If small area involved, "plug" that area if large area, roll patiently for it to dry out.
4. Contact competent contractor for advice.
5. Be patient, and wait 30 days, then call your contractor if condition persists. |
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2. Identify extent of intermixing and "plug" that area.
3. Use screer (lightly) instead of brush.
4. Use more calcium chloride.
5. Have your supplier run a slow analysis (gradation) on a sample of surface material.
6. Contact a competent contractor for advice.

V. COURT SURFACE IS HARD, FAST, CRUSTY, ETC.

- | | |
|--|--|
| POSSIBLE CAUSE
1. Roller is too heavy.
2. Too much rolling.
3. Not enough moisture, or extended hot, dry spell.
4. New courts not having cured. | SOLUTION
1. Reduce roller weight if water ballast type.
2. Rolling once each day is enough rolling.
3. Use more water and more calcium chloride.
4. Be patient and wait for up to 90 days, then call your contractor if condition persists. |
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WINTERIZING

The majority of outdoor fastdry court installations above the 30th parallel (a line which runs through Louisville, Kentucky) are closed during the winter months. Efforts should be made to protect: (1) the court surface; (2) the marking tapes; (3) the sprinkler system pipes; and (4) the windscreens.

Unfortunately, there is no easy way to protect the court surface. Tarrs, polyethylene, hay, salt hay, . . . none of these do the job. The first protection for the fastdry surface is nature's own protection, an early snow, then a good freeze, and then more snow. This frozen layer of ice insulates and protects the fastdry surface from serious damage throughout the entire winter.

Tapes should be removed in the fall, stored and replaced in the spring.

Many clubs go to unusual lengths to avoid taking up their marking tapes for winter. Not only must labor and material cost factors be considered when the tapes are not removed, but it should be remembered that leaving the tapes down makes the spring maintenance work more difficult and time-consuming. It is extremely difficult to brush and roll and patch and scrape and resurface a court with the lines down.

Even though the pipes in the sprinkler system are installed below freeze lines, they should be blown out by an air compressor unless the system has a built-in method of clearing water out of the lines.

The best method of protecting windscreens during the winter involves detaching them at the top and sides and rolling them down to the bottom where they are battered down like a sail on a ship, using a synthetic cord to secure them. Then, in the spring, the windscreens are simply rolled back up the fence and secured as before. This method of storing eliminates the job of folding or rolling curtains, marking them and storing them in a place where they will not get walked on, thrown about, ceased or torn.

FROZEN COURTS

Generally, fastdry courts below the 30th parallel are kept open during the winter months, which, of course, subjects them to freezing

hard. Then, as the temperature rises above freezing, the courts begin to thaw. The thawing process brings melted moisture to the surface where the lake-like water either evaporates or drains back down into the court . . . leaving the surface soft and expanded (unstable).

During the freeze/thaw process the nails rise, lifting the marking tapes above the surface. These raised tapes need to be walked or rolled down as the first step in bringing the fastdry court back into playable condition.

Then the expanded court surface needs to be rolled . . . carefully . . . preferably with a roller whose weight is distributed over six feet. Roller turns should be made slowly, in a wide arc, to keep from "churning" the surface. Rolling will not only compact the surface but will squeeze water out of it. . . . "Overlapping" with the roller should be avoided as much as possible since a wet surface tends to stick to the roller.

At this point a light rain would help settle and compact the court and give it some much needed water. Running the sprinkler system for 5 to 10 minutes, letting the surface dry, then rolling again, is an alternative.

When play resumes, players should be encouraged to carefully replace and "foot-patch-and-pack" divots that result from their movement around the court. If the court tears up too badly, play should stop until repairs can be made and the surface compacted more.

It is strongly suggested that, as a preventive maintenance measure, frozen fastdry courts be rolled as soon as possible after thawing even though there will be no play that day . . . and even though the courts are expected to freeze that night. A single freeze is one thing . . . but a freeze on top of a freeze is another. Rolling in between freezes will greatly reduce any bad effects.

Repairing surface blemishes caused by freezes is a relatively simple, minor operation that should be performed in the spring. However, if the base is punctured as a result of over-enthusiastic (inconsiderate) players, the intermixture of base material and surface material will create more of a problem. Plugging (described in detail under "As Nextel" Maintenance) would be necessary to remove this unstable base/surface mixture.

A bright spot shines on the horizon, in case you're bogged down with freezing weather court problems. Nothing . . . repair, mending can happen to the fastdry court that can't be corrected and repaired, quickly and inexpensively.

When considered in the context of a whole year, the nuisance of freezing weather problems is little enough price to pay for having the finest surface in the world the rest of the year.