



# County of Santa Cruz

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## REDEVELOPMENT AGENCY

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701 OCEAN STREET, ROOM 510, SANTA CRUZ, CA 95060-4000

(831) 454-2280 FAX: (831) 454-3420 TDD: (831) 454-2123

TOM BURNS, AGENCY ADMINISTRATOR

February 25, 2000

Agenda: March 7, 2000

Board of Directors  
County of Santa Cruz Redevelopment Agency  
701 Ocean Street  
Santa Cruz, CA 95060

### **Consideration of Synthetic Turf at Anna Jean Cummings Park**

Dear Members of the Board:

On February 8 your Board considered a report regarding the status of the Anna Jean Cummings Park, proposed for construction this coming summer. The Board approved the schedule for proceeding with construction of the project as well as supplemental financing to reflect up-to-date construction cost estimates. In addition, staff offered for Board consideration a recommendation focused on conserving water and expanding the playing seasons on the property to year-round, through the installation of synthetic turf on the uppermost two soccer fields. After lengthy Board discussion, further consideration of synthetic turf was deferred to this agenda to allow staff to develop additional information in response to specific questions raised by Board members. As requested, this report also provides the Board with a better understanding of the financial basis for the initial staff recommendation to proceed with synthetic turf on the site. The response is organized in the following subject areas: the need for year-round recreational opportunities; the cost-benefits of synthetic turf; safety concerns; environmental issues; and community input.

### **Value of Year-Round Recreation**

Expanded recreational facilities create opportunities for all segments of the community. Whether it be informal play in playgrounds for young children, unique spots for children's birthday parties, opportunities for informal pick-up sports games, a place to take a walk or read a book on a bench in open space, somewhere for skateboarders to refine their skills, community garden space, or organized sports activities, our network of County parks provides a wide range of activities for all ages. When taking into account the quickly disappearing vacant properties in the community, the value of these open spaces is even more critical.

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The Board, in the course of its business, regularly focuses on the need to provide support for various special needs populations in the community. At-risk youth are one group that has received particular attention. It is well-accepted that intervention at the right time and fashion for an at-risk teenager can make a significant difference in the direction of his/her life. In addition to the benefits to the individuals involved, the cost to society as a whole for dealing with one person long-term through the criminal justice system is estimated as high as \$2.0 million. Therefore, the creation of facilities which provide the opportunity for intervention programs can have significant financial benefits.

The options provided through local recreation programs are often a key ingredient in that process — particularly the chance to participate in organized sports. By way of example, the Grow Program, a joint venture between Probation and Mental Health that includes counseling, education and vocational services, incorporates soccer teamwork as a key component of the year-round program. Currently, the Probation Department's Grow Program utilizes Soccer Central, in Watsonville, for winter play. This model program has resulted in reduced recidivism and significant cost savings to the County.

Of course, recreation facilities serve more than at-risk teenagers. Over 6,800 kids are involved in the various organized soccer clubs in the County each year, and over 1,500 adults participate annually in adult leagues. Clearly, the demand for expanding the opportunities for year-round soccer facilities is high, with the only current year-round facility, Soccer Central in Watsonville, serving over 400 players each winter weekend from throughout the County. Additionally, there is currently a demand for field space during the weekdays for High School play. Clearly, if synthetic turf fields are installed, they could get significant winter season use.

### **Cost-Benefit Discussion**

While the concept of installing synthetic turf at the Anna Jean Cummings Park was initially considered in the context of water conservation, as it was further evaluated, it became clear that it could also serve as a cost-effective way to expand recreational opportunities on the property. In evaluating the cost effectiveness of installing synthetic turf fields, it is important to look at three key areas: ongoing operational and maintenance costs; capital costs; and potential additional revenue generation. When these issues are carefully evaluated, it is apparent that replacing natural with synthetic turf on a portion of the Anna Jean Cummings Park would be cost-effective. Since the last Board discussion we had the opportunity to refine more closely the projected net cost for substituting turf products on these two fields. The current estimate, now projected at \$850,000, is used in this analysis.

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### Operational and Maintenance Costs

It is important to understand the cost-effectiveness of alternative turf fields solely from the perspective of ongoing operational and maintenance costs. For the purpose of this analysis, it is conservatively assumed that the life cycle for both turfs is 20 years, with the turf being entirely replaced at the end of the life cycle. Table 1 summarizes the costs of each approach.

<b>Table 1: Comparison of Maintenance Costs</b>		
	Natural Turf	Synthetic Turf
<b>Annual Maintenance Costs</b>	\$32,000	\$5,000
Materials Costs	\$3,000	\$0
Water Costs	\$8,300	\$0
Subtotal - Annual Cost	\$43,300	\$5,000
<b>20 Year Life Cycle Costs</b>	<b>\$866,000</b>	<b>\$100,000</b>

From these numbers it can be concluded that, even with a conservative assumption that the turf needs to be replaced every 20 years and only looking at maintenance costs, it would be near to break-even to install synthetic turf fields at the Anna Jean Cummings Park.

### Capital Costs

While a less straightforward analysis, it is important to get an understanding of the cost of installing synthetic turf as compared to the value added to the park in terms of additional playing time. In order to provide that comparison, this analysis focuses on the cost of acquiring land and developing a park for natural turf fields, evaluates those costs in terms of available playing time, and then compares those unit costs to the costs and benefits of installing synthetic turf in place of natural turf. Table 2 summarizes a key component of the analysis -- the County's current costs for providing typical play fields. For this discussion, it is assumed that the County would be developing a new park roughly equivalent to the area under consideration for synthetic turf (the upper two soccer fields), which is four acres, including support facilities (bathroom, parking, etc.).

<b>Table 2: Cost Effectiveness of Natural Turf Park</b>	
	Natural Turf Field
Land Cost	\$1,500,000
Improvement Costs (Parking, bathrooms, misc. landscaping)	\$1 ,000,000
Turf Installation Costs	<b>\$65,000</b>
<b>Subtotal Costs</b>	<b>\$2,565,000</b>
Average Annual Months Available for Playing	8 (fields generally not available during winter)
Capital Cost per Playing Month Available	<b>\$320,000</b>

What this analysis indicates is that the County, under its current approach to park development and funding, would spend approximately \$2.5 million for a park this size. In terms of playing time from those hypothetical natural turf fields, they would cost approximately \$320,000 per month of annual playing time (typically eight months per year). Given that same financial cost-benefit reasoning, it would therefore be cost-effective to spend almost \$1.3 m. for replacing the natural turf with a synthetic turf in terms of the additional four months of playing time made available. The estimated cost for replacing these fields at the Anna Jean Cummings Park -- currently estimated at \$850,000 -- is significantly below that level, and therefore, could be considered quite cost-effective. This same reasoning has been applied in other communities with similar wet winters and high field demand as a basis for installing synthetic turf fields.

#### Revenues

In addition to the factors discussed above, providing two year-round fields at the Anna Jean Cummings would provide the County with the opportunity for additional revenues from park user fees. While one would be speculating on the amount of revenue increases, it is obvious that over time organized leagues would form to take advantage of the winter playing season.

#### Summary of Financial Issues

Substituting synthetic turf for natural turf for two soccer fields at the Anna Jean Cummings Park is a cost-effective, both from an operational and maintenance cost and capital cost-benefit perspective. Clearly, when considered together, and in addition to enhanced site revenues, it would be a recommended financial investment for the County.

## **Safety Concerns**

Because of the notoriety of "AstroTurf", most people have preconceived negative reactions when the use of artificial turf is suggested. Sports injuries and abrasions are well-known features of earlier generations of artificial turf products. The new synthetic turf products have been carefully developed to address those historic issues. With a rubberized matrix within the grass blades, the impact injuries have been brought to a level comparable or superior to natural turf. As well, the new products have been designed to provide strong side lateral support without the cleat "grabbing" characteristics of earlier products. Attachment 1 provides a review of a study evaluating injuries on natural grass in comparison to the new synthetic turf product being considered (Fieldturf) and "AstroTurf", as well as testimonials from college sports directors on the advantages of these new products from a sports injury perspective.

Additionally, questions were raised regarding the abrasiveness of synthetic as compared to natural turf. Again, we have been told by users of these fields that, while abrasions can occur, their incidence or severity is no different than what takes place on natural turf fields.

It is important to understand that these comparisons are being made to natural turf fields in optimal conditions. While our Parks Department does an outstanding job of maintaining our parks and playing fields, with the degree of playing time and inclement weather, it is impossible to keep the County's fields in prime condition at all times. As a result, players on natural turf fields frequently encounter less-than-optimal conditions, making the synthetic turf field product even more appealing from an injury and safety perspective.

## **Environmental Issues**

Two main issues were raised at the previous Board discussion regarding environmental concerns — use of pesticides and fertilizers and the ability to recycle the product at the end of its life cycle.

Natural turf fields, in addition to their high level of maintenance, require substantial applications of pesticides and fertilizers over time. Synthetic turf requires no application of these products. It is estimated that the two soccer fields alone would require the application of approximately 40,000 pounds of fertilizers and six gallons of pesticides annually. Over the conservative life-cycle of the product, estimated at 20 years, installation of synthetic turf at this site would result in reduced application of 800,000 pounds of fertilizers and 120 gallons of pesticides. Clearly, from this perspective, synthetic turf has a significant advantage over natural turf.

At this time, the type of plastic used in this product is not recyclable. However, the rubber/sand matrix can be reused if repairs are necessary. As well, the rubber crumb is produced from recycled tires.

### Community Input

As requested by the Board, the topic of synthetic turf was discussed at a recent community meeting on the Anna Jean Cummings Park. Attendees at the meeting included adjacent neighbors, interested community members and representatives of organized soccer organizations. As was expected, the input from those in attendance was mixed. Equal numbers of people were philosophically opposed to the use of "plastic" fields as were supportive of the idea of trying synthetic fields here as a demonstration project — because of their expanded playing potential, enhanced safety, and water conserving aspect. Representatives of the soccer clubs were mostly supportive of getting additional fields — whether natural or synthetic turf — but saw the potential safety and expanded playing opportunities as positive.

The immediate neighbors generally perceived the expanded playing opportunities created by synthetic turf as a negative in terms of noise and activity impacts. There was some discussion of whether playing time restrictions could be placed on the park as a means of limiting activity times, but these were not fully explored. The Board should be aware, however, that, as required by the EIR for the project, we are currently working with the neighbors on noise mitigation measures, whether the turf is natural or synthetic.

We have conferred with the Parks Director on the potential for limiting use hours for organized teams on these fields. His sense was that reasonable limits could be established, but that these would need to be carefully developed so as to not eliminate the positive benefits of expanded playing times provided by the synthetic fields.

Ultimately, this issue is one that the Board will need to weigh. In order to fully appreciate the benefits of synthetic turf, the affected two soccer fields would clearly receive more playing time than comparable natural turf fields. The issue is whether the financial and larger community benefits outweigh the concerns of the adjacent neighbors, and whether there are the means (through further noise mitigation or limiting playing times) to mitigate those concerns to a reasonable level.

### Project Schedule

At the time of the Board's February 8 discussion, staff raised concerns regarding whether substituting field types at this late date could negatively impact the overall permit and construction schedule for the project. We have been assured by the contract designer that changes to the plans to accommodate synthetic turf could be made rapidly, well within time for beginning the bidding process. It is possible, however, that while adequate details for public understanding of the associated plan changes could be in place in time for the Planning Commission hearing, all of the detailed plan changes may not be finalized. We have discussed this issue with the Planning Director and he has indicated that in the event that occurs that, with proper authorization of your Board, the Department could process

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those minor plan amendments as an administrative level minor variation. This would keep the project on schedule for construction this summer.

### **Conclusion/Recommendations**

While the issue before the Board at this time is whether to install synthetic turf on the new fields to be built this summer/fall at the Anna Jean Cummings Park, the larger issue is whether the County sees it as a good investment to provide wider opportunities for year-round organized youth league play at County Park facilities. We believe that the numbers from Soccer Central in Watsonville clearly support the conclusion that there is a strong demand for year round soccer facilities. We also know that the year-round availability of that facility has facilitated the provision of unique youth-oriented programs that have demonstrated positive benefits for at-risk youth.

As to the specifics of the proposal before you at this time — whether to approve the installation of synthetic turf fields at the Anna Jean Cummings Park — we believe that there are strong arguments to support that proposal. From a financial perspective, both in terms on ongoing operational costs and the enhanced value to the park of an extended playing season, the use of synthetic turf would be a wise investment for the County. From a safety perspective, it is clear that these fields most likely be safer in the long term than natural turf fields. From an environmental perspective, installation of these fields would have tremendous benefits in terms of reducing the application of pesticides and fertilizers on the site, notwithstanding issues associated with the use of non-recyclable synthetic products.

The two potential negative issues that have been identified are the concern by some of the use of “plastic” fields and the potential impacts for adjacent neighbors from an extended playing season. Regarding the neighborhood concerns, we believe that there are ways to reduce their level of concern through ongoing noise mitigation efforts and reasonable restrictions on playing times for organized sports teams. Ultimately, the Board needs to balance these concerns and our ability to mitigate them against the financial and community benefits of this new field product.

Because of the strong opinions expressed during the Board's last discussion of this topic, staff is providing your Board with two approaches for addressing the question before you. Both assume that the Board supports the concept of expanded year-round organized sports activities. The first set of recommendations support the use of funds at the Anna Jean Cummings Park to install synthetic turf. The second support the concept of expanded year-round activities, but at an alternative location. If the second alternative is selected, staff will review future park acquisition/development projects for the potential of incorporating year-round recreational opportunities. Of course, any future project would be subject to approval by the Board.

Board of Directors  
February 25, 2000  
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It is therefore RECOMMENDED that your Board, as the Board of Directors for the Redevelopment Agency, take one of the following two actions:

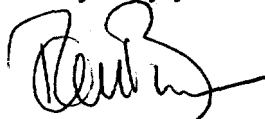
1. Approve the use of synthetic turf at the Anna Jean Cummings Park, including:

- a. Allocating an additional \$865,000 of funding for the project through approval of the **attached** AUD 60 (Attachment 2);
- b. Approving the attached contract amendment with Bellinger, Foster, Steinmetz for design changes required to accommodate the synthetic turf (Attachment 3); and
- c. Authorizing the Planning Director to consider plan amendments to accommodate synthetic turf changes in the Anna Jean Cummings Park plans subsequent to the Planning Commission hearing as minor variations, if necessary.

OR

2. Approve the concept of developing expanded year-round recreational facilities at County Park facilities, but not synthetic turf at the Anna Jean Cummings Park, and direct the RDA Administrator, working with the Parks Director, to explore options for expanded year-round recreational opportunities as part of future park acquisition/development projects within the Agency's jurisdiction.

Very truly yours,



**Tom Burns**  
Redevelopment Agency Administrator

RECOMMENDED:



**Susan A. Mauriello**  
Redevelopment Agency Director

Attachments:

1. Injury related study and letters
2. AUD 60
3. Contract Amendment

cc. RDA  
Parks Department  
Planning Department  
Auditor-Controller  
Bellinger, Foster, Steinmetz

# PORTLAND STATE UNIVERSITY

September 20, 1999

Mr. Jim Mendenhall  
President, **SporTech**, Inc.  
155 B Avenue, Suite 200  
Lake Oswego, OR 97034

Dear Jim

Just a note to give you an update on the progress of our field and usage. As you are aware, we have used it through Spring practice and now Fall practice with our women's soccer team and men's football team.

We are extremely pleased with the lack of injuries **and** the quality of the surface for our practices and scrimmages. The **turf has** proved, as I had thought, to be extremely favorable to knees ankles, other injuries normally associated with artificial surfaces. It performs as close to a natural surface as anyone could imagine, only without the mud and up keep. In fact, the pro football scouts that have come through and timed our athletes have classified it as "fast grass" as opposed to an artificial surface.

Hope all is well. I know you are going to sell a lot of these because it is the best stuff I've seen.

Sincerely,



James M. Sterk  
Director of Athletics

ATHLETIC DEPARTMENT

# ALL **SPORT** INSURANCE MARKETING LTD.

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Ford-Dunn Insurance Brokers Inc.

155 James St. South, 9th Floor  
Hamilton, Ontario L8P 3A4  
Phone. (905) 522-6871  
Fax (905) 522-7005  
Toll Free 1-800-461-5087  
E-Mail [fordunn@icom.ca](mailto:fordunn@icom.ca)

Ancaster indoor Sports Centre  
P O Box 81231  
Fiddlers Green P O  
Ancaster On L9g 4x2

June 20, 1997

Gentlemen:

I would like to take this opportunity to offer my congratulations on another claim free year of operation of the **Ancaster** Indoor Sport Centre.

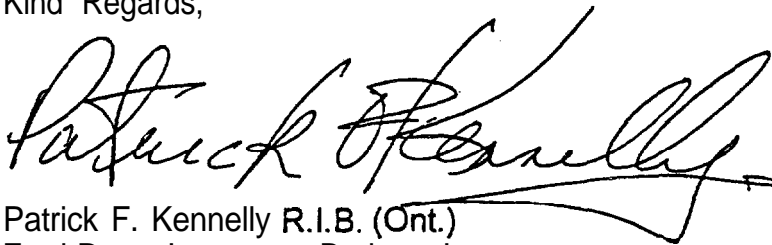
Since the installation of the **Fieldturf** surface in 1994, there has not been a single report of injury or claim.

As a major insurer in the sports liability insurance field, All Sport Insurance Marketing has **always** maintained that insurance costs could be better controlled by a focus on injury prevention and loss control. The results of this **surface** as a loss control component of your program is obvious.

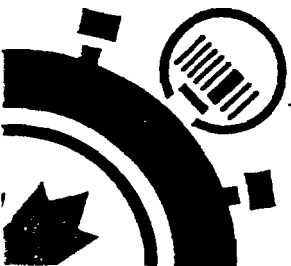
With the give in the **surface** (the' feet do not **stick**), the low impact on joints and the non- abrasive - no bum **surface**, it is not **surprising** that there has **been** a total absence of claims.

Keep up the good work. Positive results like this will continue to give you a competitive edge in maintaining and reducing your insurance costs.

Kind Regards,



Patrick F. Kennelly R.I.B. (Ont.)  
Ford-Dunn Insurance Brokers Inc  
Representing All Sport Insurance Marketing



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**Bill Scott Barnhill, M.D., LLP.**

Orthopedic Surgery  
Sports Medicine



**PANHANDLE  
SPORTS MEDICINE**  
I • N • S • T • I • T • U • T • E

**Robert W. Higgins, M.D.; LLP.**

Orthopedic Surgery  
Sports Medicine



Tex **Nolen**  
Athletic Director  
Amarillo Independent School District  
7200 I-40 West  
Amarillo, Texas 79106

Dear Mr. **Nolen**,

Thank you for allowing my participation in analyzing the **Field-Turf**, potentially to be utilized at Dick Bivins Stadium.

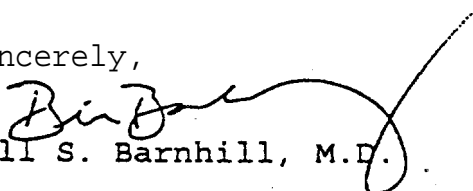
In 1996 I published "**A Football Cleat Design and Its Effect on Anterior Cruciate Ligament Injuries**" in the American Journal of Sports Medicine. A biomechanical analysis was performed on different cleat designs comparing artificial turf (Astro-Turf) and natural turf. The analysis showed that Astro-Turf required significant increased torque with all cleat designs. It was our feeling that natural turf was preferable and would cause less injuries than the Astro-Turf.

Analysis of Field-Turf revealed almost identical torque releases compared to natural turf. It was also felt by Professor Rick **Lambson** that as the turf was utilized more and more the turf would become slightly less resistant and in the future would become less prone to injury than natural turf conditions.

One obvious problem with natural turf is the variability of the surface and with the Field-Turf this problem could be potentially eliminated.

I would highly suggest with our biomechanical analysis that this turf could significantly reduce injuries in football as well **as** all sports requiring cutting and-pivoting.

Sincerely,

  
Bill S. Barnhill, M.D.

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Bill Scott Barnhill, M.D., LLP.  
Orthopedic Surgery  
Sports Medicine



Robert W. Higgins, M.D., LLP.  
Orthopedic Surgery  
Sports Medicine



January 18, 1999

### Game Related Injuries and Playing Surface Analysis

Injuries were reviewed on different playing surfaces for 4 Amarillo Texas varsity football teams during the 1998 season. They were grouped into body categories and severity categories; minor (0-7 days lost), moderate (8-21 days lost), and major (greater than 21 days lost). A total of 43 games were analyzed with 157 injuries during 19 games played on natural grass, 82 injuries during 22 games played on Fieldturf, and 26 injuries during 2 games played on Astro turf

#### RESULTS A

(Average # of injuries per game)

Total Injuries Grass (19 games)	157	8.26
Total Injuries Fieldturf (22 games)	82	3.73
Total Injuries Astro turf (2 games)	26	13.

#### RESULTS B.

Injury Severity	Minor (0-7 days)	Moderate (8-21 days)	Major (greater than 21 days)
Grass	111 - 71%	14 - 9%	32 - 20%
Fieldturf	76 - 93%	2 - 2%	4 - 5%
Astro turf	22 - 85%		4 - 15%

#### RESULTS C.

Body Categories --	Grass (19 games)	Fieldturf (22 games)	Astro turf (2 games)
Head/neck	35 - 22%	12 - 15%	
Shoulder	14 - 9%	10 - 12%	4 - 15%
Hand/forearm	22 - 14%	8 - 10%	
Trunk	18 - 11%	2 - 2%	
Hip/thigh/leg	12 - 8%	28 - 34%	10 - 39%
Knee	34 - 22%	14 - 17%	
Ankle/foot	22 - 14%	8 - 10%	12 - 46%

**Bill Scott Barnhill, M.D., LLP.**  
Orthopedic Surgery  
Sports Medicine



Robert W. Higgins, M.D., LLP.  
Orthopedic Surgery  
Sports Medicine



Summary: :

**Fieldturf** demonstrates a **lower** injury rate (less than 50%) than games played on grass. More significant is the paucity of severe injuries sustained on **Fieldturf** (8 x the rate of severe injuries occurred on grass). Specifically, there were no ACL tears sustained on **Fieldturf**, compared to 2 ACL tears on **Astroturf** and 1 ACL tear on natural grass.

Personal Note:

After seeing multiple games played on **Fieldturf** and under different weather conditions, I am convinced this playing surface is far superior to **natural grass** and **Astroturf** from a safety perspective. This evaluation is based on **Biomechanical** testing of shoe-surface release **coefficients** and this clinical based study.

I believe Fieldturf is a safer playing surface based on different characteristics:

1. Safe release **coefficients** (shoe surface interface)
2. Consistent release coefficients with varying weather conditions (temperature and moisture)
3. Impact absorption characteristics of the turf
4. Total consistency of the field with increased usage (unlike natural grass)

Bill S. Bamhill, M.D.

"Throughout my coaching career I've had the opportunity to evaluate several different artificial turf fields and FieldTurf has impressed me more than any other synthetic surface I have seen. I believe FieldTurf has a great future... combining the durable features of artificial turf with the safety and playability benefits of natural grass."

- Dr. Tom Osborne, Former Head **Football** Coach, Nebraska Cornhuskers

"If I had played on this surface in my NFL career I might still be playing... I'd be like Warren Moon".

- Neil Lomax, All Pro Quarterback, Phoenix Cardinals

"This surface offers the greatest opportunity for the players and athletes alike to accelerate their skill levels. It has proven to be extremely safe to play on. Simply put, this is the best investment we could make in our athletes and our players."

- John Huard, Former Captain of the Denver Broncos, Head Coach, Acadia University

"When the NFL came here to time our receivers and potential pro prospects they classified it as a fast grass. Something that is a fast grass that can stay a fast grass for a heck of a long time is something worth looking at."

- Jim Sterk, Port/and State University Athletic Director

"Unlike grass, FieldTurf provides consistency throughout the year. It will end up being safer than a natural grass field in the long run. Grass wears down, loses its softness and therefore increases the potential for 'foot lock' or other injuries, as the field develops inconsistencies."

- Dr. Bill S. Barnhill, M.D.; Orthopedic Surgeon, US Ski Team physician

"Having a turf of this quality is unbelievable. I think the amount of injuries we're going to save from not having to practice, on Astro-turf is going to be a great asset to our players. The cushion and the cutting surface has been unbelievable for our players as well."

-Tim Walsh, Head Football Coach, Portland State University

"In my nearly 50 years in Football, at all plateaus, High School, Junior College, University and Pro, in the US and Canada, I've never seen a field that provides such safety and all-weather serviceability as FieldTurf... it's the field of the future."

- J. I. Albrecht, Former NFL Executive, University Athletic Director, GM of the Montreal Alouettes

"I never in my lifetime thought I would hear myself say this, but in many ways, it's better than grass. It most closely resembles a natural surface as anything we've ever seen... and not only that, it never wears out."

- Kevin Pipe, C.O.O., Canadian Soccer Association

"I think this surface is great. I have been to see both the field at Soccer Magic 1 in Kingston, Ontario, and Ringgold High School in Pennsylvania. I stood on it and also ran on it and played on it. It is truly the greatest stuff. If teams were smart they would all be playing in this surface."

- Dave Ritchie, Head Coach and GM, Winnipeg Blue Bombers

"The field felt cushioned and played true. It was the finest synthetic field we have played on in over 25 years of pro soccer. The surface was a revelation to our staff and Olympic players. It was exquisite, superior to any field that we have played on."

- Leslie Wilson, Mgr., Canadian National Team Programs; Bruce Twamley, Canadian Olympic Soccer Team Coach

"I am extremely happy with our field. It has done more for our athletic programs at Ringgold than I could have imagined. I believe we have as fine a field as there is in the United States. We are in the process of hosting some very big soccer and football games, and the reaction from these people has been tremendous."

- Chuck Colborn, Athletic Director, Head Football Coach, Ringgold High School

"In mid-July you installed your FieldTurf at our Dick Bivins Stadium in Amarillo, TX. Since that installation, the reports from the players and coaches have been unbelievable. Players have used all types of shoes, and all have been completely satisfied with the traction. Up until the present, we have not had one serious injury sustained on the surface. Maintenance has been zero. We have gone from a philosophy of keeping people off our field, to save the grass, to a philosophy of putting everything on the field that we can. The product seems to get better the more you use it."

- Tex Nolan, Athletic Director, Amarillo Independent School District

"I truly believe in and endorse FieldTurf. Its unique grass-like qualities give you perfect playing conditions all year long."

- John McGrane, Former Olympian, Professional Soccer Player and Coach

"I always put safety and playability at the top of my priority list when evaluating field surfaces. Fieldturf has excellent traction in both wet and dry conditions. In one test, wearing only a t-shirt, I ran at full speed and dove stomach first on the surface and did not receive any abrasions or 'rug burn.' Fieldturf is even better than a well manicured grass field."

- Tim Downing, Former NFL player, 1990 Super Bowl Champion New York Giants

"We have played over 6,000 games on your FieldTurf surface, with not one surface related injury occurring. All of the players were playing as though they were on real grass. The field allows the players to slide tackle without fear of injuries or abrasions. We are very pleased with the results and feel this will really be a benefit to the game of soccer."

- Eddie Firmani, Former Professional Soccer Coach

"From a perspective of preventing injuries, FieldTurf is a good alternative to natural grass."

- Dr. Rick Lambson, West Texas A&M University, Department of Sports and Exercise Sciences

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BEFORE THE BOARD OF DIRECTORS OF THE REDEVELOPMENT AGENCY  
OF THE COUNTY OF SANTA CRUZ, STATE OF CALIFORNIA

RESOLUTION NO. \_\_\_\_\_

On the motion of Supervisor \_\_\_\_\_  
duly seconded by Supervisor \_\_\_\_\_  
the following resolution is adopted.

RESOLUTION ACCEPTING UNANTICIPATED REVENUE

WHEREAS, the County of Santa Cruz is a recipient of funds from Capital Projects Bond Proceeds for the Development of the O'Neill Ranch Property, now known as the Anna Jean Cummings Park project; and

WHEREAS, the County is a recipient of funds in the amount of \$865,000 which are either in excess of those anticipated or are not specifically set forth in the current fiscal year budget of the County; and

WHEREAS, pursuant to Government Code Section 29 130(c)/29064(b), such funds may be made available for specific appropriation by a four-fifths vote of the Board of Supervisors;

NOW, THEREFORE, BE IT RESOLVED AND ORDERED that the Santa Cruz County Auditor-Controller accept funds in the amount of \$865,000 into:

Department: Redevelopment Agency

	Index	Revenue		
		Subobject		
<u>T/C</u>	<u>Number</u>	<u>Number</u>	<u>Account Name</u>	<u>Amount</u>
011	611100	2500	RDA Capital Projects	\$865,000

and that such funds be and are hereby appropriated as follows:

	Index	Expenditure		
		Subobject		
<u>T/C</u>	<u>Number</u>	<u>Number</u>	<u>Account Name</u>	<u>Amount</u>
021	611136	9842	O'Neill/Cummings Park	\$865,000

DEPARTMENT HEAD: I hereby certify that the fiscal provisions have been researched and that the Revenue(s) (has been) (will be) received within the current fiscal year.

§

By [Signature]  
Department Head

Date 2/24/00

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COUNTY ADMINISTRATIVE OFFICER

\_\_\_\_\_ Recommended to Board

\_\_\_\_\_ Not Recommended to Board

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PASSED AND ADOPTED by the Board of Supervisors of the County of Santa Cruz, State of California, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ by the following vote (requires **four-fifths** vote for approval):

AYES: DIRECTORS

NOES: DIRECTORS

ABSENT: DIRECTORS

\_\_\_\_\_  
Chairperson of the Board

ATTEST:

\_\_\_\_\_  
Clerk of the Board

APPROVED AS TO FORM:

John M. Scott  
County Counsel

APPROVED AS TO ACCOUNTING DETAIL:

Linda Chou  
Auditor-Controller

Distribution:

Auditor-Controller  
County Counsel  
County Administrative Officer  
Redevelopment

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AMENDMENT TO AGREEMENT

The parties hereto agree to amend that certain Agreement dated May 18, 1999, by and between the COUNTY OF SANTA CRUZ REDEVELOPMENT AGENCY and BELLINGER FOSTER STEINMETZ, by:

1. Adding \$11,565, for a total contract amount of \$200,765, for additional services per attached;
2. Adding Exhibit C, "Scope of Additional Services", per attached;
3. Updating Page 2, "Standard Schedule of Compensation" of Exhibit B, "Compensation Schedule and Reimbursable Costs" per attached.

All other provisions of said Agreement shall remain the same.

COUNTY OF SANTA CRUZ  
REDEVELOPMENT AGENCY

Dated: \_\_\_\_\_

BY \_\_\_\_\_  
Agency Administrator

BELLINGER FOSTER STEINMETZ

Dated: 2/2/00

By Manuel Bellinger

Address: 229 Cannery Row  
Monterey, CA 93940  
Telephone: (83 1) 646-1383

Approved as to form:

Jac. M. Scott  
County Counsel

DISTRIBUTION: County Administrative Office  
Auditor-Controller  
County Counsel  
Redevelopment  
Risk Management  
Contractor

Bellinger Foster Steinmetz

Landscape Architecture

## EXHIBIT C

## Scope of Additional Services

Anna Jean Cummings Park

The following additional services will be provided in accordance with original agreement approved by Board of Supervisors 5/18/99, and considered an amendment thereto:

**5.1 SYNTHETIC TURF BID DOCUMENTS**

- 5.1.1 Meet with Santa Cruz County Redevelopment Agency to review park grading conform conditions, turf limits and transitions to planting and hardscape conditions. Evaluate synthetic turf products; prepare evaluation summary and product recommendation.
- 5.1.2 Prepare layout and grading study for synthetic turf at all upper fields. Calculate quantities of construction items and prepare preliminary estimates of probable construction.
- 5.1.3 Review layout and grading studies with RDA. Establish direction for single plan for synthetic turf.
- 5.1.4 Coordinate with synthetic turf manufacturer for site grading, drainage, and detail review. Coordinate with local contractors and suppliers for material specification and availability.
- 5.1.5 Prepare substitute bid documents for synthetic turf installation including:
  - Construction Plan (2 sheets)
  - Site Grading Drainage Plan and Site Sections (3 sheets)
  - Irrigation Plan (2 sheets)
  - Planting Plan (2 sheets)
  - Site Details, including edge detail sections and retaining wall
  - Specifications
- 5.1.6 Prepare revised drainage calculations, revised water calculations, earthwork quantity estimates and construction cost estimates.
- 5.1.7 Provide geotechnical review of project changes and letter for County Planning.
- 5.1.8 Provide presentation board of synthetic turf examples.

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SUBTOTAL FEE (Tasks 5.1.1–5.1.8)	@ Open Soccer Fields Area	\$11,440
REIMBURSABLE EXPENSES		\$125
<b>TOTAL FEE</b>	<b>\$11,565</b>	

**HOURLY RATES AND REIMBURSABLE EXPENSES:** See attached Standard Schedule of Compensation dated January 2000.

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## Standard Schedule of Compensation

*January 2000*

### GENERAL

The following list of fees and reimbursable expense items shall be used in providing services within our agreement and may be annually adjusted, upon issuance of an updated Standard Schedule of Compensation:

Principal	\$100/hour
Landscape Architect	\$75/hour
Assistant 1	\$65/hour
Assistant 2	\$55/hour
Word Processor/Clerical	\$55/hour

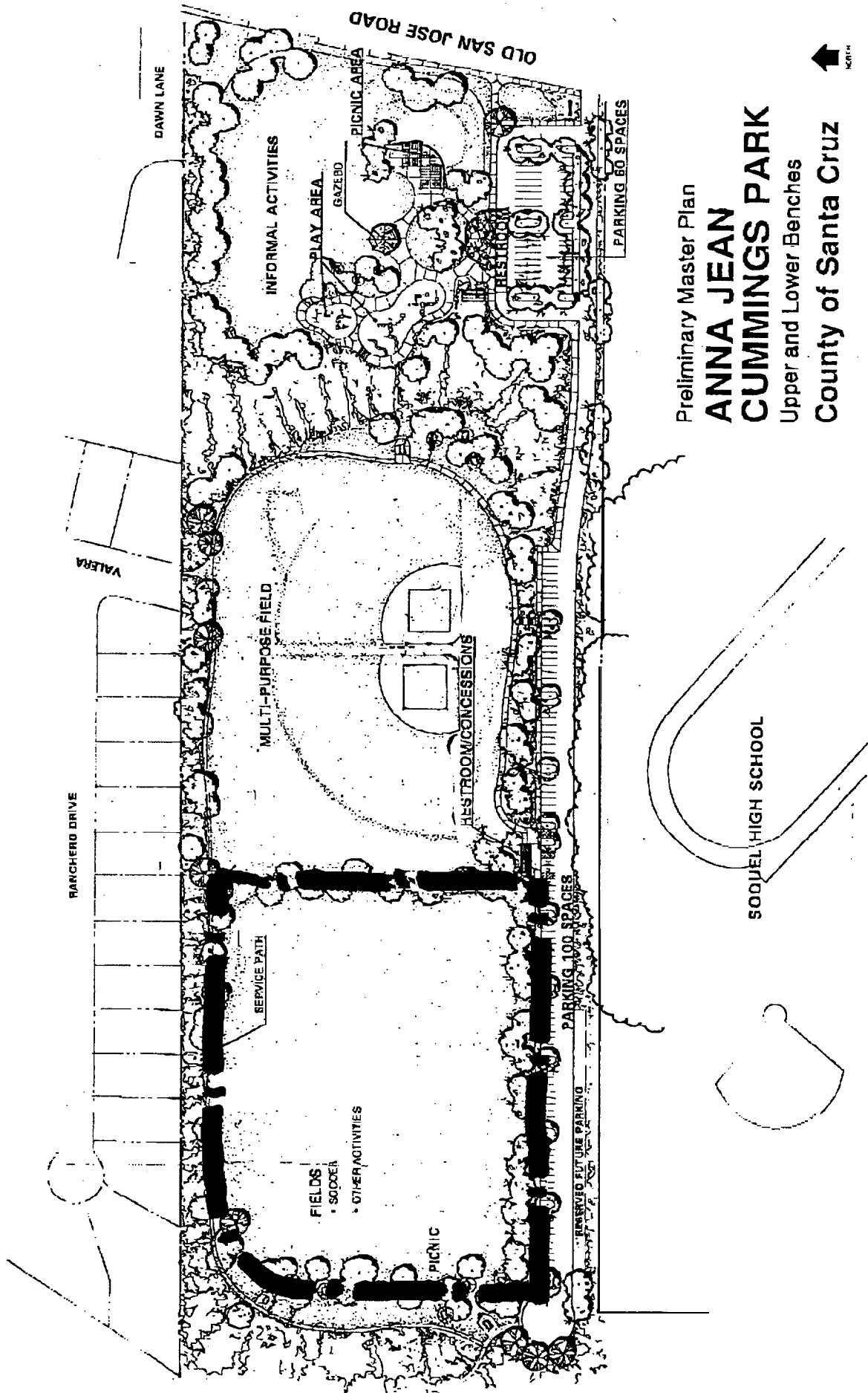
### ADDITIONAL SERVICES

Any additional presentations, drawings or documents not identified in the Scope of Services will be considered additional services. Additional services are provided only with prior authorization and on an hourly basis unless otherwise approved.

### REIMBURSABLE EXPENSES

All costs for photography, printing and plotting, special delivery, insurance certificate charges, local business licenses, sales tax, assessments, fees, mileage, CADD and visual simulation ancillary costs, such as data transfers, tapes and outside services, consultants, and all other costs directly related to the project will be accounted as a reimbursable expense at our cost plus a fifteen percent administration charge.

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Preliminary Master Plan  
**ANNA JEAN CUMMINGS PARK**  
Upper and Lower Benches  
County of Santa Cruz

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**COUNTY OF SANTA CRUZ**  
**REQUEST FOR APPROVAL OF AGREEMENT**

0395

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TO: Board of Supervisors  
County Administrative Officer  
County Counsel  
Auditor-Controller

FROM:

REDEVELOPMENT

(Signature)

1/26/00

(Dept.)

(Date)

The Board of Supervisors is hereby requested to approve the attached agreement and authorize the execution of the same.

1. Said agreement is between the SANTA CRUZ COUNTY REDEVELOPMENT AGENCY (Agency)  
and, BELLINGER FOSTER STEINMETZ, 229 Cannery Row, Monterey, CA 93940 (Name & Address)

2. The agreement will provide services to provide design of synthetic turf fields for  
Anna Jean Cummings Perk

3. The agreement is needed as staff in-house cannot prepare plans

4. Period of the agreement is from XXXXXX 3/7/00 to 12/31/00

5. Anticipated cost is \$ 11,565.00 ~~XXXXXX XXXX XXXX XXXX~~ Not to exceed

6. Remarks:

7. Appropriations are budgeted in 511135 (Index#) 9842 (Subobject)

NOTE: IF APPROPRIATIONS ARE INSUFFICIENT, ATTACH COMPLETED FORM AUD-74

Appropriations are available and have been encumbered.  
are not will be

No. 91329

Date 1/26/00

GARY A. KNUTSON, Auditor - Controller

By Ronald J. Aiken Deputy.

Proposal reviewed and approved. It is recommended that the Board of Supervisors approve the agreement and authorize the  
Agency Administrator to execute the same on behalf of the County of Santa Cruz  
Redevelopment Agency (Agency).

Remarks: Amfr for T TORRES (Analyst)

By UAE County Administrative Officer Date 3/4/00

Agreement approved as to form. Date Jan 25, 2000

Distribution:  
Bd. of Supv. • White  
Auditor-Controller • Blue  
County Counsel • Green •  
Co. Admin. Officer • Canary  
Auditor-Controller • Pink  
Originating Dept. • Goldenrod

\*To Orig. Dept. if rejected.

State of California )  
County of Santa Cruz ) ss  
I \_\_\_\_\_ ex-officio Clerk of the Board of Supervisors of the County of Santa Cruz,  
State of California, do hereby certify that the foregoing request for approval of agreement was approved by  
said Board of Supervisors as recommended by the County Administrative Officer by an order duly entered  
in the minutes of said Board on \_\_\_\_\_  
County Administrative Officer  
By \_\_\_\_\_ 19 \_\_\_\_\_

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**Russell A. Beatty** **ASLA**  
10600 Empire Grade Santa Cruz, CA 95060

**Landscape Architect**  
tel & fax: (831) 458-4119  
e-mail: rbeatty@uclink4.berkeley.edu

February 9, 2000

Mardi Wormhoudt  
Supervisor, 3rd District  
Board of Supervisors Office  
county of Santa Cruz  
701 Ocean St.  
Santa Cruz, CA 95060

**Re: Synthetic Turf Playing Field at Anna Jean Cummings Park**

Dear Supervisor Wormhoudt:

The article in today's *Sentinel* reporting on the proposal by the Redevelopment Agency to install synthetic turf of the playing fields at Anna Jean Cummings Park is alarming. It sounds as though the Agency has not explored state of the art natural grass options. I offer my knowledge and experience to help you in your deliberations on this topic and urge that the Redevelopment Agency not act in haste on their apparent conclusion that synthetic turf is the best solution.

**Problems of Synthetic Sports Fields**

Sports complexes, both professional and amateur, all over the nation are currently removing synthetic turf surfaces and installing improved, sand-based natural turf fields. Artificial turf was removed from Memorial Stadium at UC Berkeley and from Candlestick Park. Virtually all new fields are now grass, even in some domed stadiums. The record of injuries on synthetic fields is well known, not to mention exorbitant maintenance and replacement costs.

Negative factors in addition to injuries include:

- installation cost  
According to sports field experts, the initial cost is at least three *times* that of the very best, state-of-the-art natural grass field
- maintenance  
Synthetic fields are not maintenance-free. They require periodic washing and grooming using both water and expensive, single purpose specialized equipment. Patching the surface as it wears and tears is extremely costly.
- replacement  
The average synthetic turf lasts seven years according to sports fields experts. (The *Sentinel* mentioned fifteen years, a figure that probably came from the manufacturer in an effort to sell the product.) Can a manufacturer guarantee it will be still in business in 5, 10 or 15 years? Grass seed is always available and turfgrass research is making advances to create better sports fields and grass types.

- extreme heat build-up on the surface in summer  
At UC Davis I observed an experiment where surface temperature was measured on a variety of groundcover materials in summer. The ambient air temperature was a 78° F at noon. The temperature on 2" natural grass was 79°F. but on synthetic turf it measured 125°F., 47" above air temperature!
- psychological effect for spectators  
Parents and friends come to watch kids playing and make an event of the occasion (bringing lawn chairs, picnics, etc.). Sitting on plastic turf certainly detracts from the atmosphere and environment for such spectators. Consider the heat factor alone not to mention the feel and appearance of a plastic rug.

### **Local Examples of Natural Grass Fields**

There are some excellent examples of durable, sports fields on natural grass that have been built in the SF Bay Area using the latest technology. This technology employs the removal of natural soil to about 12", the installation of a drainage matrix, the placement of specially formulated uniform-particle sand and the planting of tough, durable turf grass, usually tall fescue or hybrid Bermuda grass.

Following are the location of such fields with persons to contact.

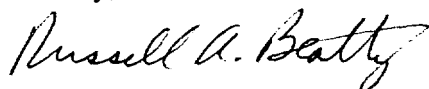
1. Kezar Stadium, San Francisco -Jim Delfino, maintenance supt. (415) 467-1994; (415) 666-7070; or (415) 467-2886
  - 10 years old
  - year-round play, day and night
  - hybrid Bermuda grass
2. Livermore Area Recreation District – Jim Brandenburg (925) 373-5747
  - sand-based state-of-the-art fields
  - 15 years experience with these fields
  - fescue/ryegrass mix
3. Piedmont High School (don't have a contact name)
  - renovated all sports facilities 3 years ago
  - state-of-the-art sand-based systems; showcase fields
  - hybrid Bermuda grass

An example of an excellent heavily used sports field on natural soil is in the City of Newark. This field is used for soccer year-round plus an annual carnival. Contact Rich Langevin at (510) 794-2373.

Certainly natural grass fields require skilled maintenance, but that should not be a deterrent. I think the water issue can be addressed in a creative way by exploring the use of recycled water. Many city park departments are irrigating their lawns and fields with recycled water.

I hope this information is helpful. If I can be of further assistance, please call me.

Sincerely,



Russell A. Beatty, ASLA  
Landscape Architect