

INDIANA MEADOWS PARK RACE COURSE

An Architectural Thesis  
College of Architecture and Planning  
Ball State University  
May 18, 1984

Michael E. Brannan



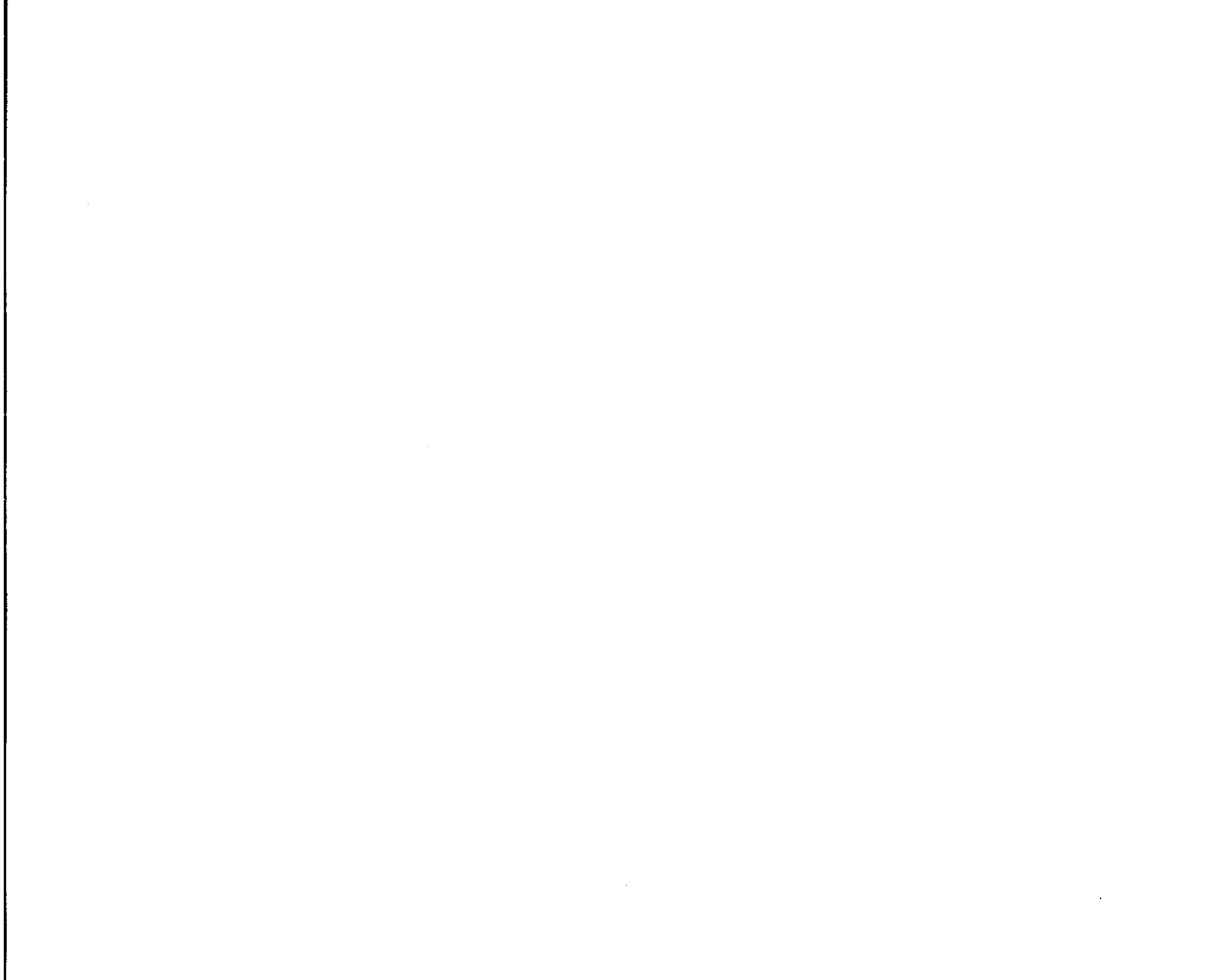


#### ACKNOWLEDGEMENTS

It is common to honor, thank, or in some way credit one's parents for their love and patience for all the past years. Thanks, folks.

Like most of the things I try to do, I did this project by myself as much as possible, except in the instances when I didn't have the slightest clue what was going on. The help solicited in those instances came from all sides, and those persons solicited surely know who they are. Enough of that.

This book is dedicated to me.



NOTA BENE

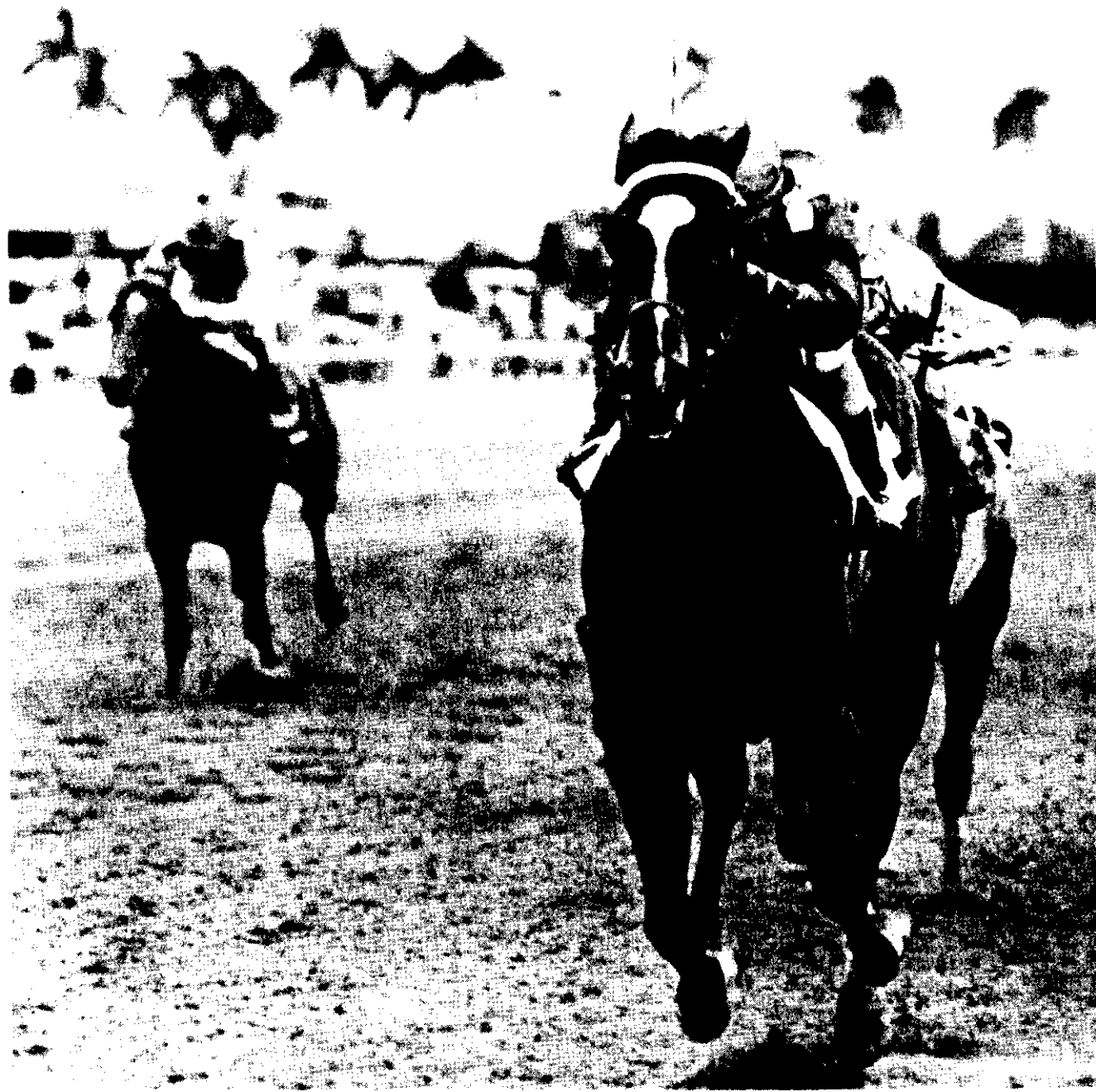
This thesis was generated as a result of many years of familiarity with the relaxing effect of a day at the track on my dad. It was first proposed as a result of a conversation held while traveling to Washington, D.C. on November 18, 1982.



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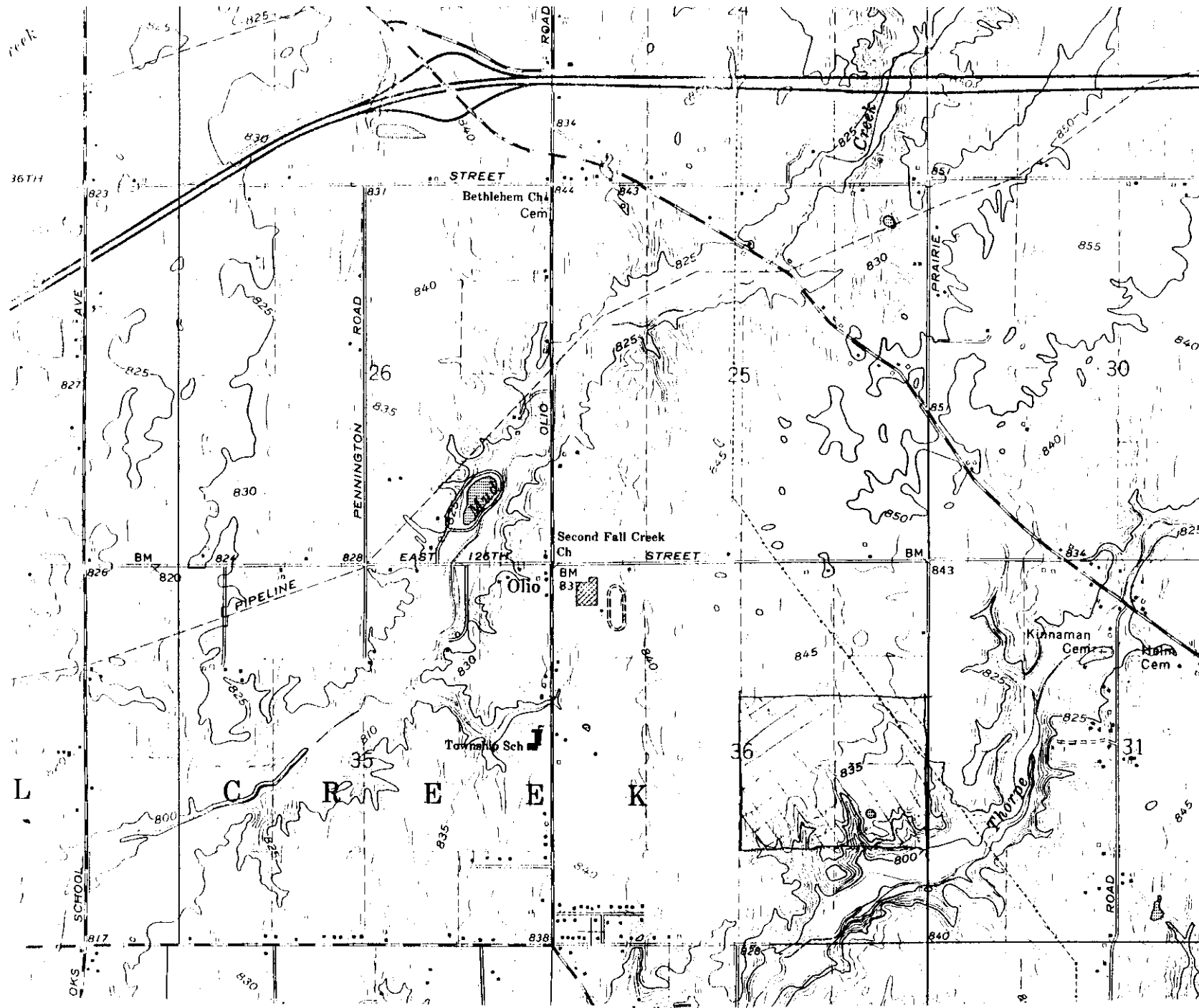
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## INTRODUCTION

The project is a one mile thoroughbred race track. It is fully adaptable for any length horse race from three quarters of a mile up to one and one-half miles. The stands have a seating capacity of 9,660 patrons, with total accommodations for 15,000. The stables can accommodate 800 horses. Parking is provided for up to 5,000 automobiles.

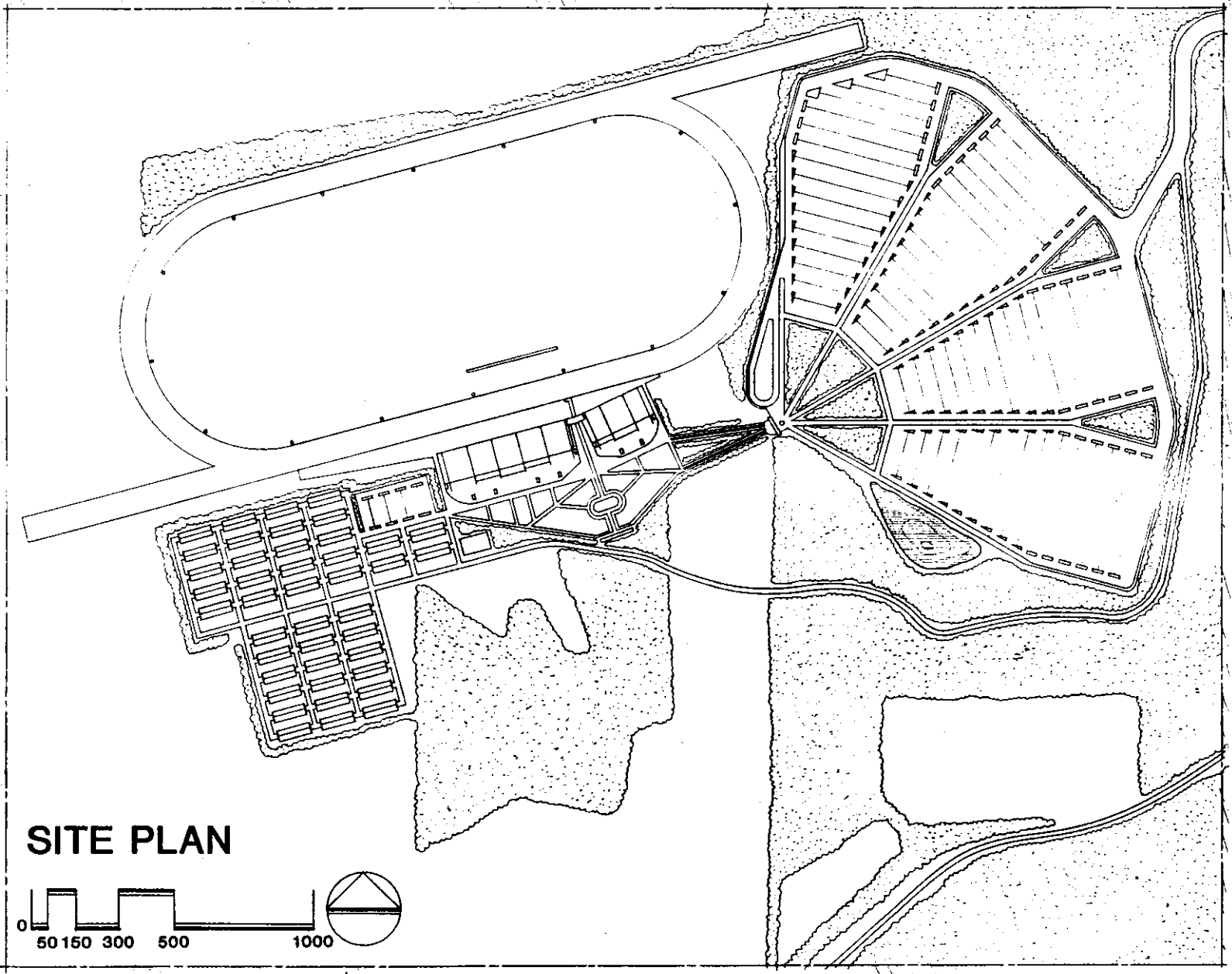
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#### CONTEXT

Located in Fall Creek Township in southeastern Hamilton County, Indiana, the track is approximately one-half mile north of the Geist Reservoir. Downtown Indianapolis is about 23 miles to the southwest, and the interchange of interstate highway 69 and state road 238 is about 2 miles to the north.

The site itself is generally level and partially wooded, with the majority of the woods sloping down to Thorpe Creek, a tributary of the Geist Reservoir. To the immediate southwest there is a small housing development, as well as a scattering of homes to the north and west. There are two schools nearby, one of them Hamilton Southeastern High School, but their proximity did not preclude this development of the site.



**SITE PLAN**



## GENERAL DESCRIPTION

The track itself is a one-mile dirt oval, with extensions, known as chutes, to allow for the different race lengths. There is the possibility of the addition of a seven furlong (seven-eighths of a mile) turf oval within the main track, but this was not included in the design as a turf surface requires a great deal more maintenance. Additionally, turf races are more infrequent and as a result there are less horses bred specifically for these contests.

The grandstand and the clubhouse are separated at the finish line and were considered as two distinct yet related entities. There is a consensus that there is no really "perfect" seat at the track, and this predicated the division. Between the two buildings lies the path which leads from the paddock to the track. The paddock is centered in a landscaped garden in full view of the balconies of the grandstand and clubhouse.

Within the stands are two seating tiers and two main circulation levels, the latter of which contains all requisite services for the patrons. The track offices are located on the ground level under the main stands, with service, stores, kitchens, and employee areas located in the basement level.

Parking for patrons is situated to the immediate northeast of the track. This landscaped facility is connected to the entry garden by axial paths which converge upon the main pedestrian gate and then extend radially into the garden.

## ON RACING

Horse racing in America has a long and colorful history. Referred to as "The Sport of Kings", it enjoys wide popularity across the nation, especially in those states where it is legal. Most of the tracks in the U.S. are operating with large crowds, fast horses, and a happy state treasurer.

A basic generator of both the support and opposition of racing is the pari-mutuel wagering on the outcomes of the races. The name comes from an americanization of the word Paris. The first application of the mutuel pool system for horse race wagering was in Paris in the 1800's. The system is based on dividing the amount of money wagered on all the horses by the amount wagered on each individual horse. This determines the odds on each horse, as well as the eventual payoff to the winners. The total amount bet on all the horses in all the day's races is called the handle. Depending on the day and the track, the handle can range anywhere from \$150,000 on up.

The benefit of the daily handle to the state is that it realizes a 12 to 14% "take" on that money. A daily profit of 12% on over \$150,000, collected during a typical race meeting of several weeks duration, is of no little importance.

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Another typical fear of race tracks by the unfamiliar is that the races may be fixed. It is all too true that in the past fixed races were somewhat common. Drugs, electric devices, and bribery were employed on the horses and jockeys to influence the outcomes of races. Nowadays, however, most all major tracks are free of this taint, thanks to the good works of the Thoroughbred Racing Association, and The Horsemen's Benevolent and Protective Association, as well as the owners and trainers themselves. Horses undergo frequent scrutiny by track veterinarians, and jockeys who consort with undesirables find it difficult to ply their craft for very long.

Many tracks are referred to as "plants", or "betting factories". My contention is that this should not be so. Racing is a colorful and exciting sport that in the proper environment can be enjoyed by the entire family.

## THE TRACK

Races are held in all weather at all times of the year and at almost all times of the day. The newer tracks are engineering marvels, able to drain off excess water and remain smooth and relatively clean, a feature not enjoyed by older ovals. In some instances tracks have been known to go from sloppy, the condition present in or right after a heavy rain, to fast, the best condition, in the course of single afternoon.

The terms by which the condition of the track are indicated are fast, the best condition, smooth and dry; good, clean and relatively fast but not perfect; slow, getting heavier and more difficult to race in, generally because of rain; muddy, self-explanatory; sloppy, worse than muddy; and heavy, truly wretched. The soil used for the track surface is of a sandy loam composition. This provides the drainage capability while maintaining an even, cushioned surface.

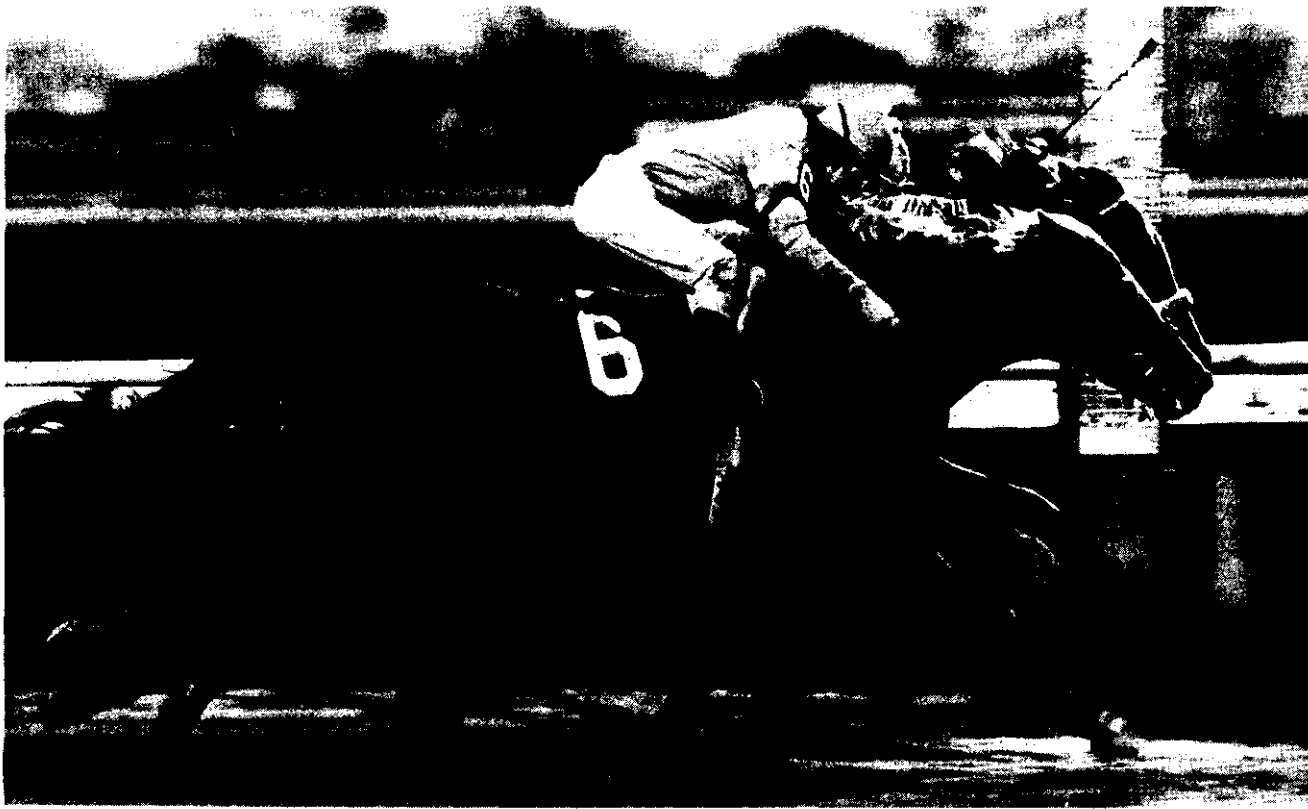
if the track is a one mile oval such as this, as are the majority of the tracks across the nation, certain characteristics will be noticed, all steeped in the history and tradition of the sport. The finish line is never an actual line, but an overhead wire strung across two poles. On the inside pole is a mirror which trips a camera mounted on the outside pole as the horses cross under the wire. This accounts for the old saying "in under the wire". Along the inside perimeter of the track are the distance poles, which refer to the distance between that pole and the finish.

Going counterclockwise around the track, following the course of the race, are the fifteen-sixteenths pole; the seven-eighths pole; the six-and-a-half furlong pole (a furlong being an eighth of a mile); the three-quarter pole; the five-and-a-half furlong pole; the five furlong pole; four-and-a-half furlong pole; the half-mile pole; the three-and-a-half furlong pole; the three-eighths pole; the five-sixteenths pole; the quarter pole; the three sixteenths

pole; the eighth pole; and the sixteenth pole. It would be a show of ignorance to refer to the poles by anything but this arcane nomenclature. At the corners, if you will, of the track are chutes, extensions of the track from which different length races are run.

In the infield directly ahead of the stands is the "tote" board, so named for the Totalisator equipment used to determine the mutuel odds. On the tote are the time of day, time of the next race, odds on the upcoming race, results of the previous race, condition of the track, and often other useful data such as shoe information. Auxiliary totes are placed in the grandstand and clubhouse as well.

Located behind the stands in most tracks is the paddock. Here is where the horses are saddled, the jockeys are weighed, and whence the post parade begins. At many tracks the paddock is an area of tense excitement, as well as being one of the few places where the spectator can be close enough to the actually see the horse and rider. If the paddock is the route by which the horses return to the barns, it is gives an opportunity to see them after the contest and get a feel for how hard the animals and their riders actually do work. The winners circle is often seen directly in front of the stands. Here the winner of the race is photographed with rider, groom, trainer and owner. It provides another opportunity to get a close glimpse of the athletes.



## BENEFITS

The benefits of a thoroughbred race track to the community are varied. There is of course the obligatory mention of new jobs, as well as the various tax dividends to the state and local community. These taxes can be quite a boost to the state coffers, considering how many Indiana betting dollars are being spent at tracks in Ohio and Kentucky.

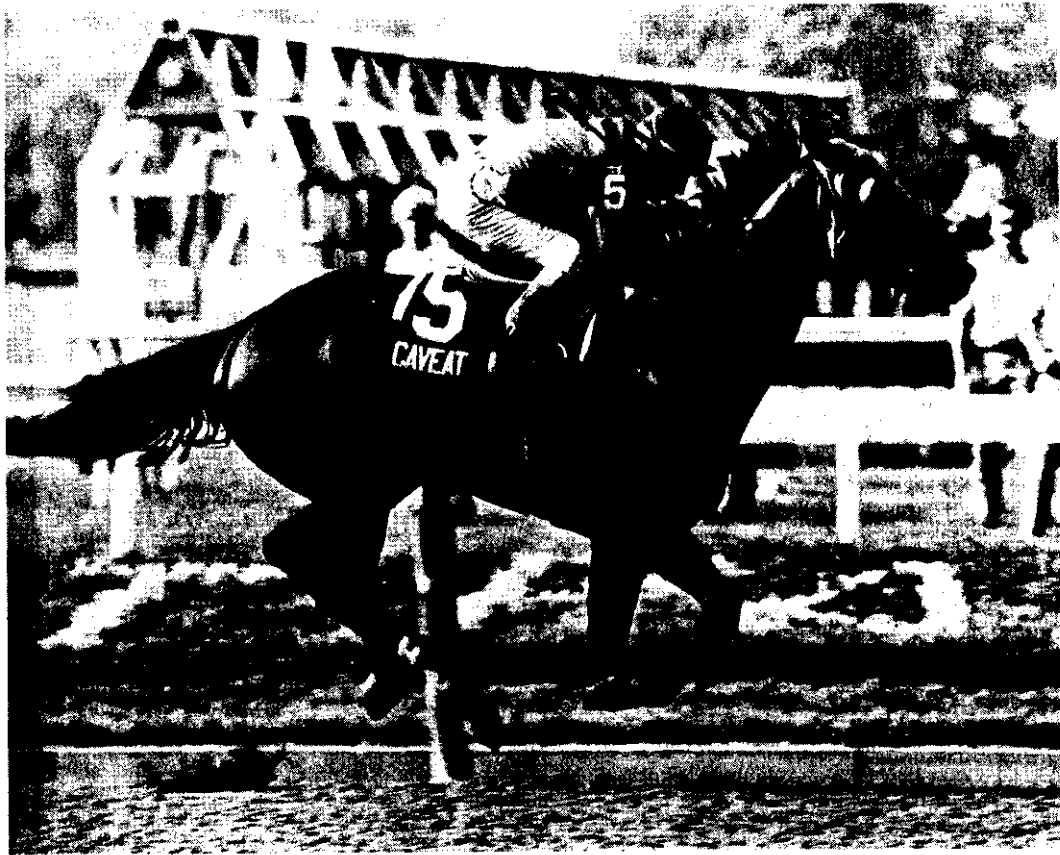
Of less tangible stuff is the notion of racing as a spectator sport on the same level of sophistication and appeal as baseball or basketball. The jockeys and horses are trained professionals, the facilities are clean and comfortable, and the spectator attends a meeting on race day to relax and enjoy himself. Indeed he may even participate himself through the pari-mutuels.



#### DESIGN ASSUMPTIONS

Some assumptions had to be made to justify the designing of a horse racing track for Indiana. The biggest was the forthcoming legalization of pari-mutuel betting. Despite frequent legislative action by a few far-seeing state representatives, the state still has a constitutional ban on legal gambling of any kind. Some day the prevailing attitudes may change, and for my purposes I just assumed they already had.

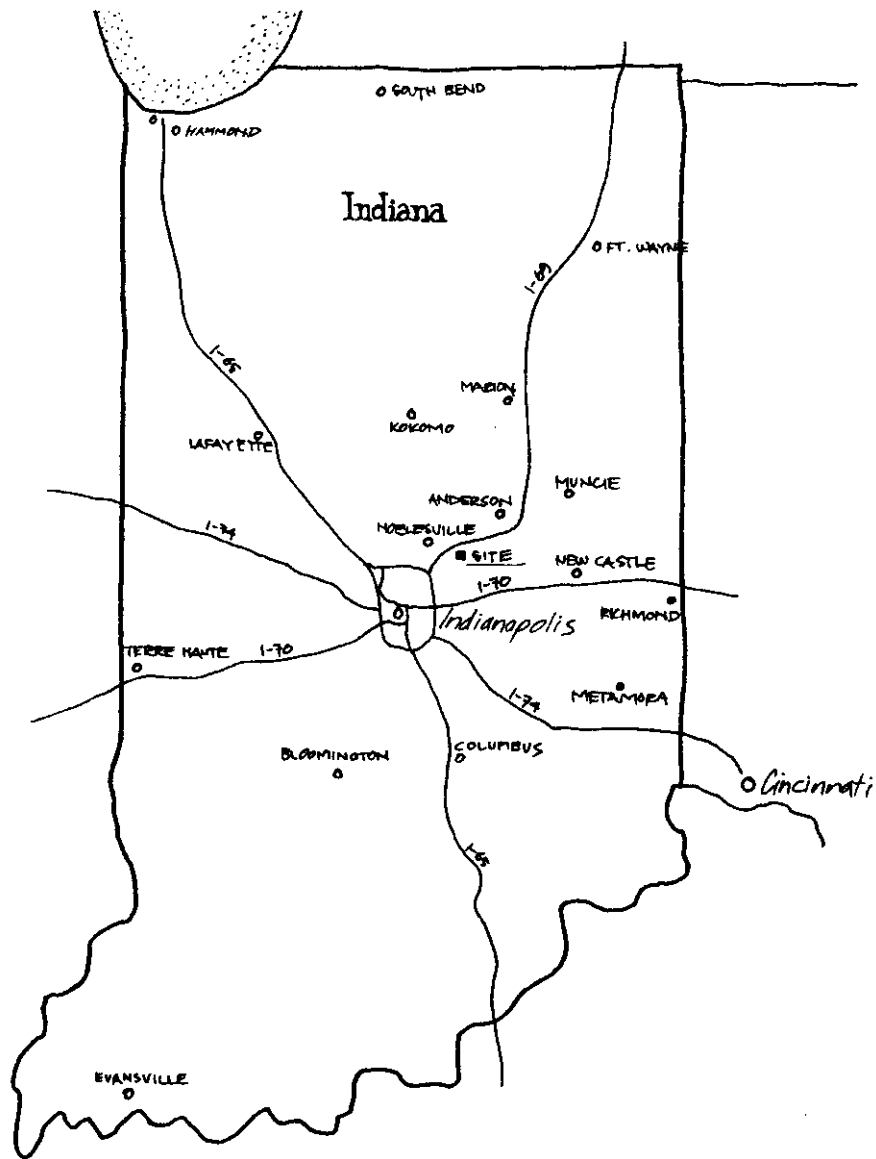
Less phenomenal assumptions were more pedestrian than changing the state constitution. These were the availability of the land, that there would be no vehement objection from the neighbors. In addition, state road 238 would need to be upgraded from two to six lanes leading from the interstate to the site, and of course the land would need to be rezoned.



## GOALS

The goals of this thesis were to design the best racetrack possible. Along with that primary goal were the notions of integrating the facility with the site, providing opportunities for off-season use, creating a pleasant outdoor recreation area, and generally making a total environment wherein betting would be a secondary or tertiary concern to allowing people to enjoy themselves.

A racetrack was chosen for several reasons, among the most significant in my mind the notion of designing a a facility of such magnitude that there would always be plenty of work to keep me busy. I had never designed so great a project. I also wished to work with a relatively unusual building type. Mostly it was chosen because it sounded like it would be a lot of fun. It was.



## SITE REQUIREMENTS & SELECTION

The site requirements determined by the preliminary research indicated a need for at least two hundred acres of partially wooded land, with some gradual elevation changes, within three miles of an interstate highway, and with a suitable buffer between itself and any neighbors who might object to so large a facility in their midst.

Quite a bit of time was spent selecting a site once the criteria for selection had been determined. By consulting a recent atlas and tallying the populations of major Indiana cities, a pattern was noted. The bulk of the cities of over 20,000 residents lie to the north and west of Indianapolis, the largest metropolis in the state. It had been decided earlier to situate the track near Indianapolis to take advantage of that urban concentration. Subsequently it was determined that to take the fullest advantage of the other major cities, a site northeast of Indianapolis should be chosen.

The outlying fringes of Marion County are pretty well built up. Thus Hamilton County, directly north of Marion County, was inspected for possible sites. After a few near misses, a site was found that possessed the best opportunities for the development of a track. The site chosen filled all the requirements made of it to near perfection, including the amenity of the nearby Geist Reservoir, which of late has become a recreational haven. There were some hidden entanglements included in the bargain, most notably the schools and some rather deep ravines to the southeast, but all came out well in the end..

## COMPARATIVE ANALYSES

The following comparative analyses were culled from research of the various aspects of race tracks and their facilities. The information was used to help determine criteria for site selection and building design.

### ACREAGE OF SELECTED TRACKS - APPROXIMATE

<u>Name of Track</u>	<u>Acreage</u>
Aqueduct	229 acres
Arlington Park	344
Belmont Park	430
Bowie	172
Churchill Downs	172
Hollywood Park	413
Latonia	114
Laurel	229
Meadowlands	275
Monmouth Park	172
Pimlico	92
average	240
(note -- a one-mile oval encircles approximately 80 acres)	
Indiana Meadows	413

RACE DATES OF SELECTED NEARBY TRACKS - 1983 (typical)

<u>Name of Track</u>	<u>Racing Dates</u>
Arlington Park, IL	May 22-July 29 July 30-September 25
Churchill Downs, KY	April 30-September 5 October 31-November 26
Keeneland, KY	April 8-August 29 October 8-29
Latonia, KY	January 1-April 7 May 12-August 13 September 8-October 6 November 27-December 31

DISTANCES OF SELECTED ONE-MILE TRACKS

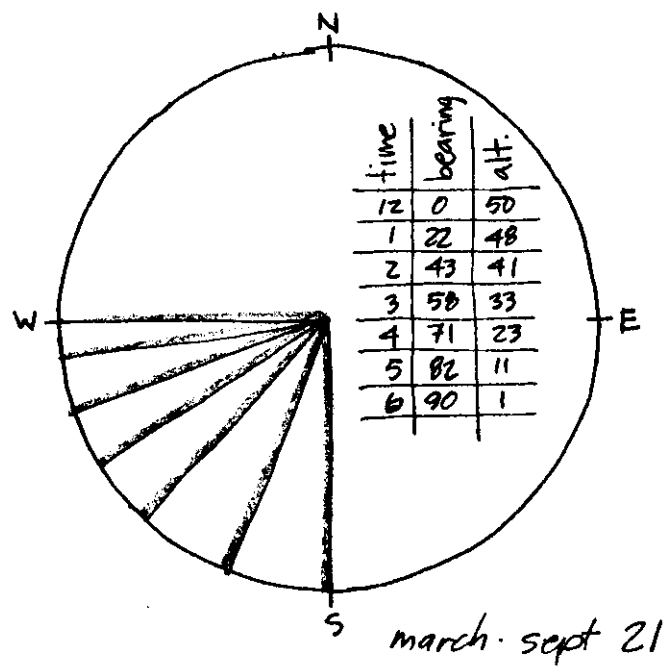
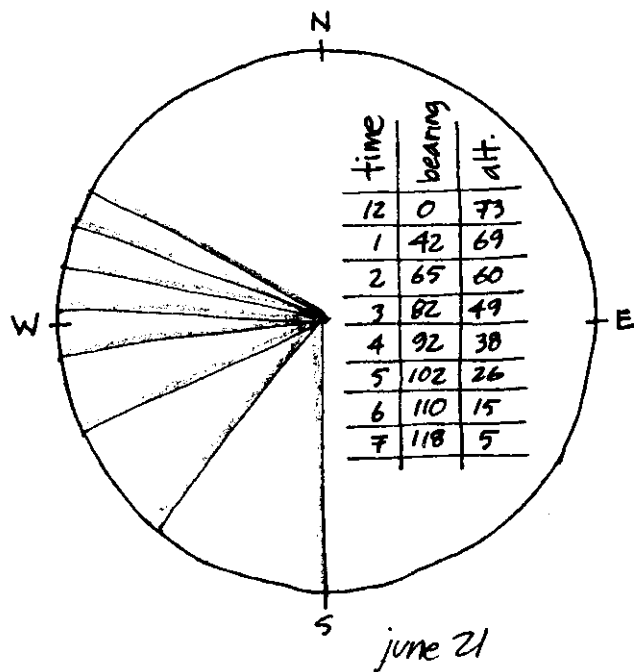
<u>Name of Track</u>	<u>Distance to First Turn</u>	<u>Length of Stretch</u>
Bowie	300 feet	1150 feet
Churchill Downs	444 *	1235
Delaware Park	535	995
Delmar	488	832
Garden State	330	960
Golden Gate Fields	383	1000
Gulfstream Park	315	952
Hawthorne	514 *	1290
Hollywood Park	330	988
Monmouth Park	440	985
Pimlico	492 *	1152
Santa Anita Park	330	990
average	377	1017
(* denotes 1-1/16 mile oval)		
Indiana Meadows	330	990

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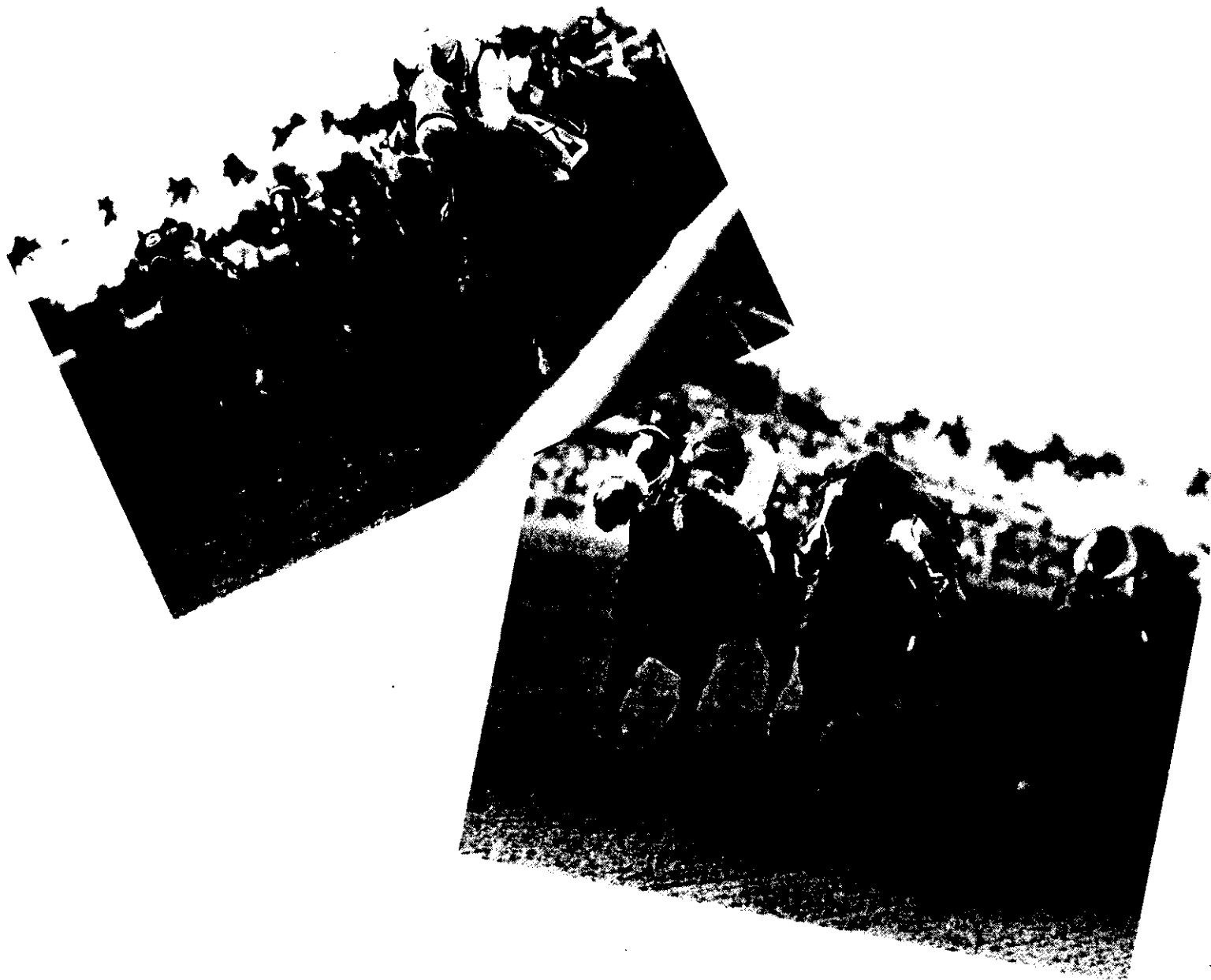
DISTANCE FROM TRACK TO STANDS - APPROXIMATE

<u>Name of Track</u>	<u>Distance</u>
Aqueduct	90 feet
Arlington Park	25
Bowie	20-90
Chuchill Downs	20-40
Hollywood Park	60
Latonia	80
Laurel	90
Meadowlands	50
Monmouth Park	90
Pimlico	60
average	66
Indiana Meadows	75



WIND AND TEMPERATURE DATA FOR INDIANAPOLIS, INDIANA

<u>Month</u>	<u>Avg. Temperature</u>	<u>Avg. Wind Speed and Direction</u>
January	30 F	12 mph, NW
February	30	12, W
March	40	13, NW
April	50	13, SW
May	63	11, SW
June	73	9, SW
July	75	8, SW
August	75	8, SW
September	67	9, SW
October	55	10, SW
November	43	12, SW
December	33	11, SW

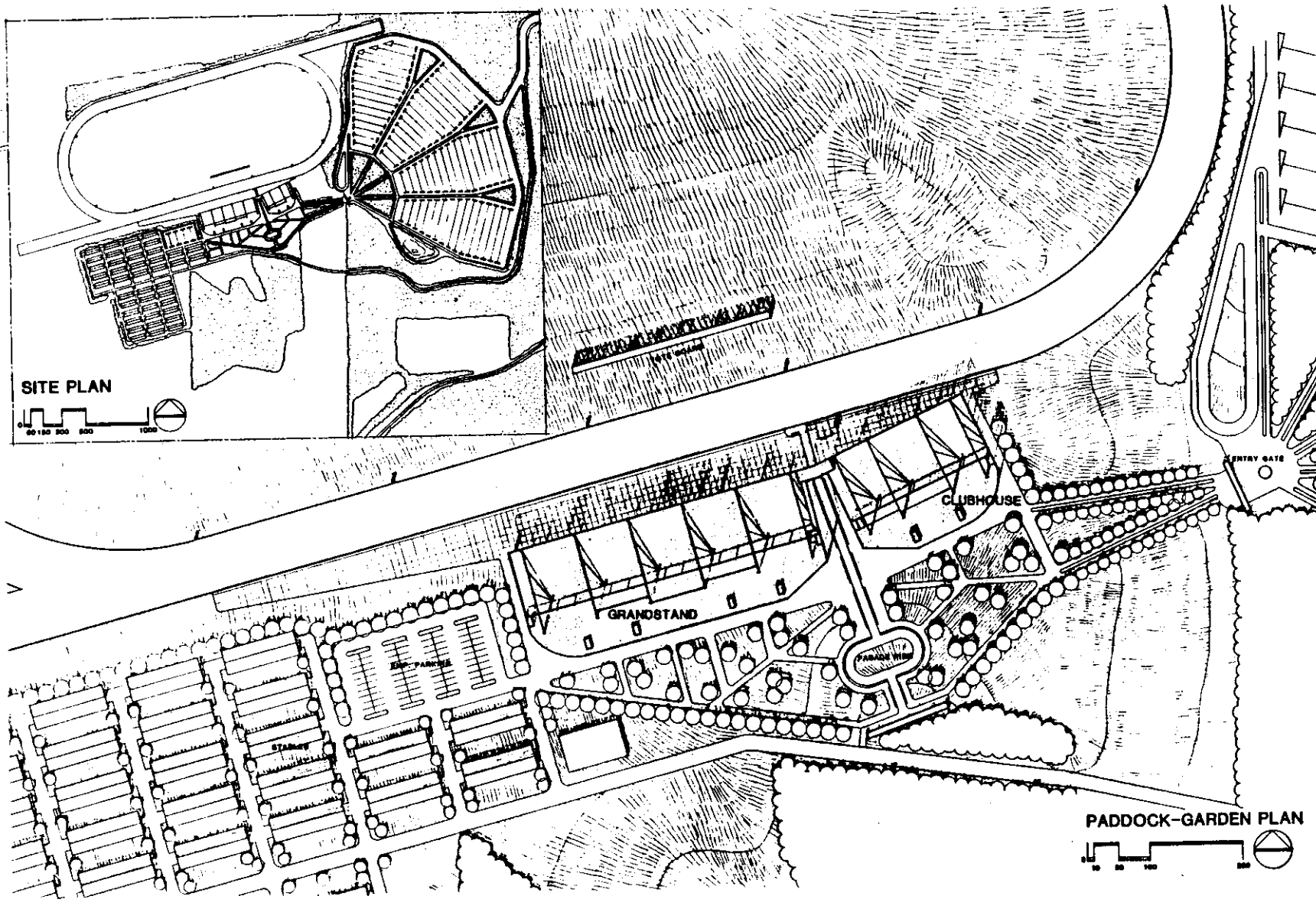


#### ACCORDING TO AINSLIE

Tom Ainslie is a racing aficionado and expert handicapper. Some of the points of contention he has with certain race tracks across the U.S. were brought up in his book The Complete Guide to Thoroughbred Racing . He claims that for the benefit of professional handicappers and casual racegoers alike, the following should be available:

- \*The paddock and parade ring should be accessible and visible from the stands
- \*Tote boards should be provided as to be visible from about everywhere
- \*Shoe boards, which indicate the particular racing shoes the horses will be wearing, should be included at the main infield tote
- \*There should be access to the rail at the final turn
- \*Access to the Racing Secretary should be available to patrons whenever the track is open
- \*The distance from the paddock to the stands to the rail should be reasonable and their relationship should be clear at a glance

These criteria, says Ainslie, save the spectators time and steps while they pursue their last minute evaluations of the field for each race.



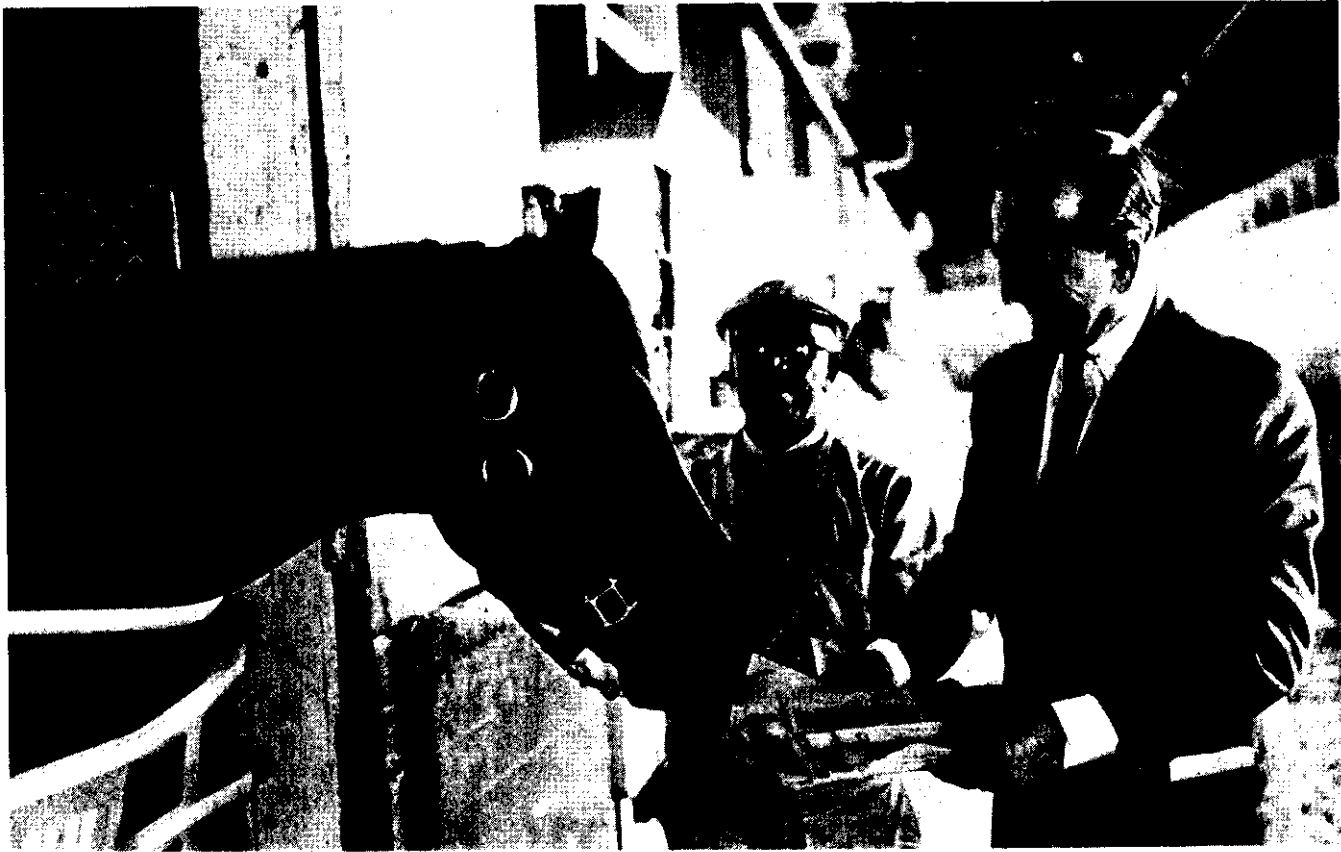
### PRE-RACE SEQUENCE

As post time draws near, the horses and jockeys ready for the race. The horses are being brushed down and their gear is being checked over once again. In the jockey room the riders make their last minute preparations.

Grooms and trainers lead the horses to the paddock saddling stalls. The jockeys, carrying with them their racing saddles, are weighed and checked over just once more. After weighing, they stroll out to the paddock and the horses are saddled. As the trainer, jockey, and perhaps the owner discuss strategy, the horses are walked around the parade ring by a groomer. This may have a calming effect on a skittish animal, or perhaps is just a way to let the horse know what is to come.

At the call of "Riders up!" from a steward, the jockeys mount and take their horses for another lap or two around the ring. They then proceed to the track. When on the track, the horses are paraded in front of the stands for the benefit of those who were unable or chose not to go to the paddock for one last look.

The starting gate is wheeled onto the track, and the contestants are led into the gates. The track is cleared, the starter verifies that all is as it should be, and the bell rings. They're off!



SPACE REQUIREMENTS

Area	Grandstand	Clubhouse
Offices	7630 sq.ft.	2590 sq.ft.
Concessions	1800	540
Restrooms	4500	2050
Mutuels	6300	2625
Restaurants	7820	19697
Circulation	78738	30092
Seating	48500	20300
Support	26400	11880
Totals	181688	89774
Circulation	43%	33%

## DESIGN METHODOLOGY

Whenever I started on a design problem in the past there was always a certain amount of hesitancy in my mind because I never knew exactly how I might approach the problem. My best solutions have always seemed to come about by accident. My worst seemed to have a more easily recognizable cause.

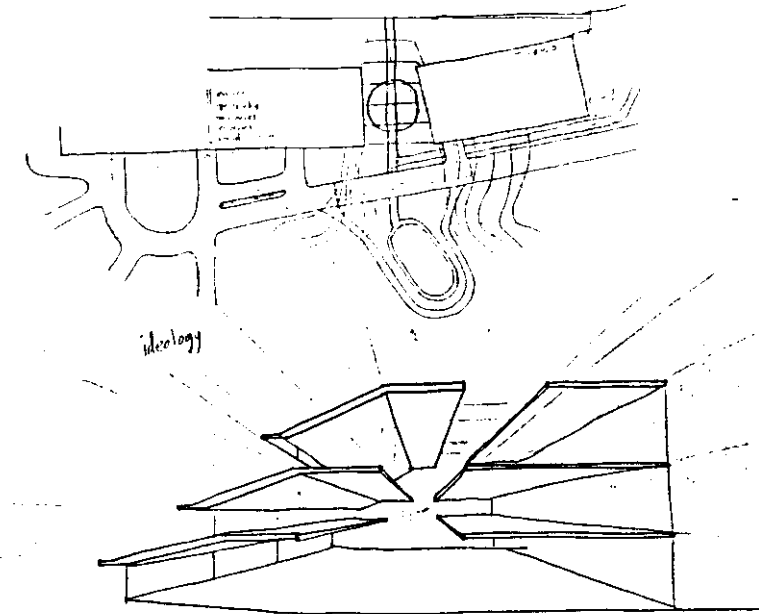
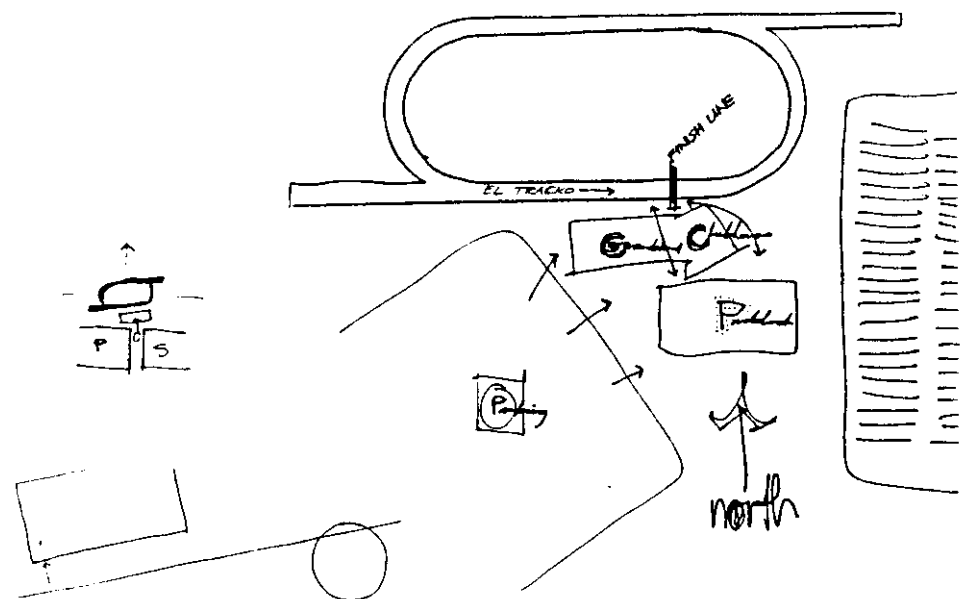
That cause was simply the lack of a coherent approach. After preliminary investigations and research had been completed, I would kind of sketch and scribble a bit and hope that a clue would be found. If there were anyone who was moving ahead of the majority of the studio on their own project, this would simply serve to make my own project pale in comparison. This would of course cause me to tense up and work even less efficiently.

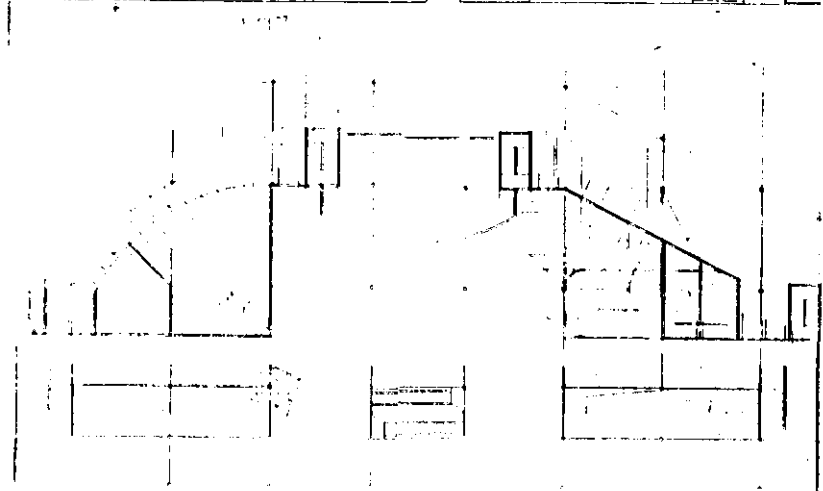
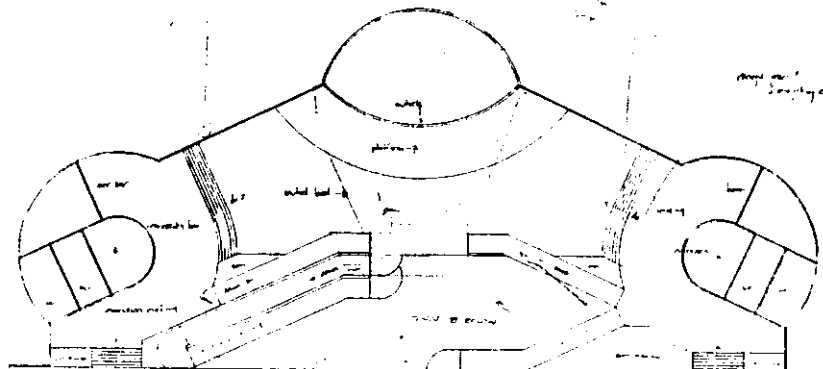
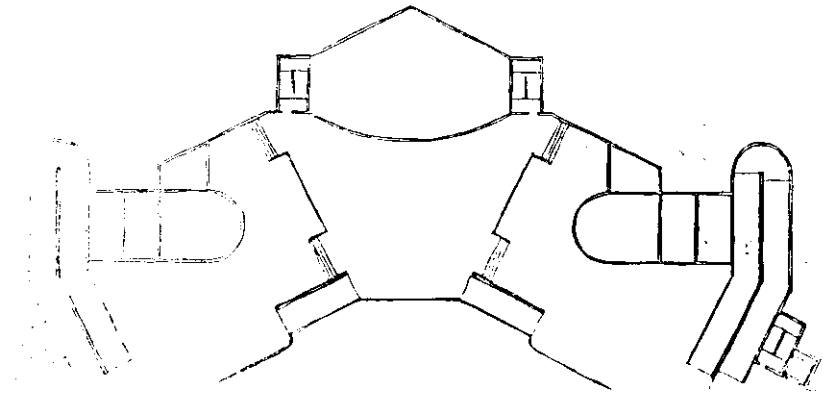
Thesis is a bit different both in scale and level of involvement. The most difficult thing to reconcile is the fact that after the quarter presentations are over, the problem is not finished and done with.

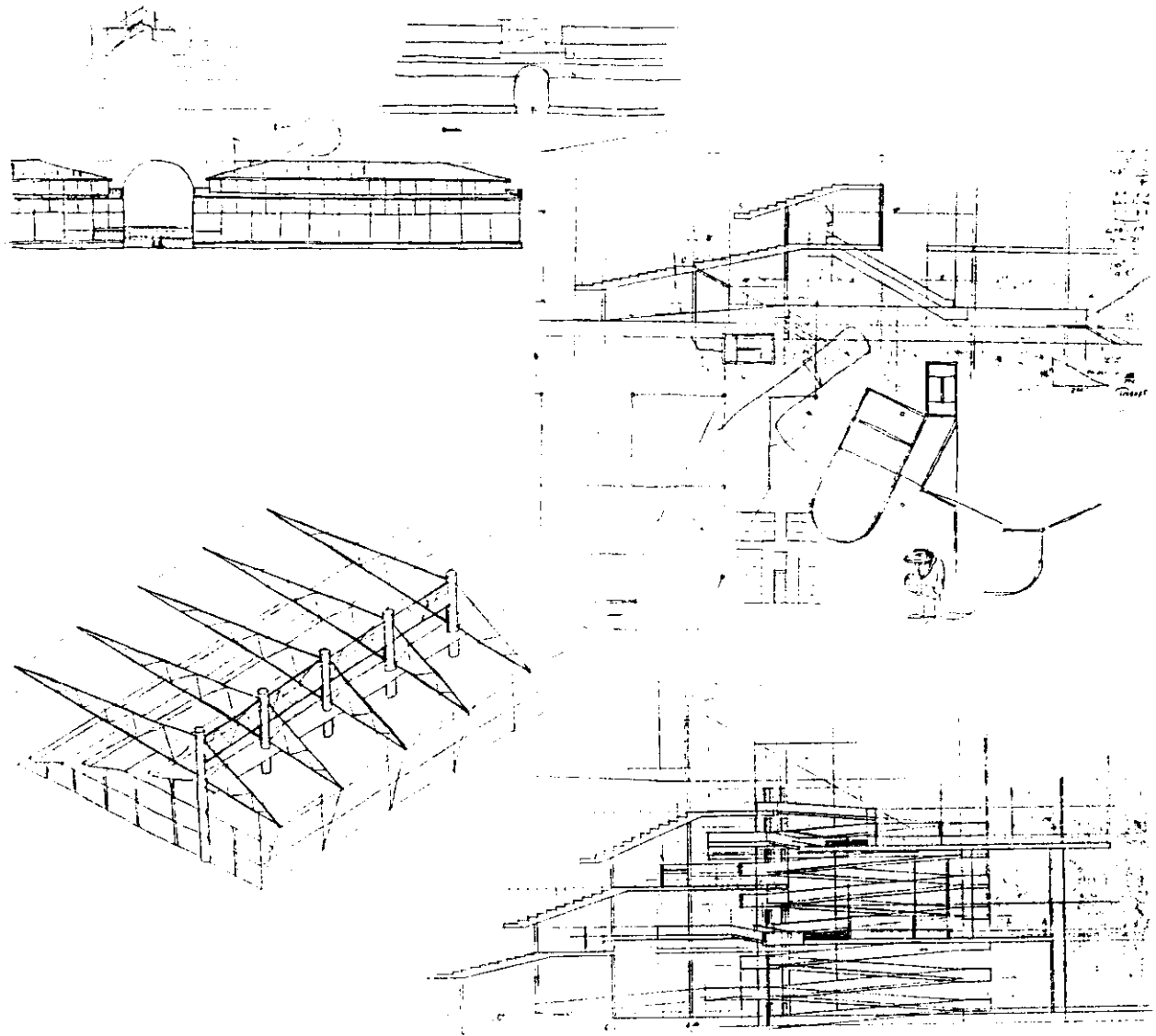
Early in the fall I attended a lecture which explained to a degree some of the problems which I had been experiencing. I discovered that the approach to design that I had been employing was for the most part the cause. Contingent design, it is called, and I had been attempting to use that method with only an intermediate level of success.

So I began to go through the motions of considering my building design in an organic, unitary way. Take the building as a whole, keep the whole picture in mind but with a clear notion of how it might come out, and just do it.

The discovery of what had been going so roughly in the past and how easily it could be done in the future dovetailed nicely with my general attitude towards most everything else. All the worry and anguish over a small technique problem was gone. Everything has been going along swimmingly ever since.





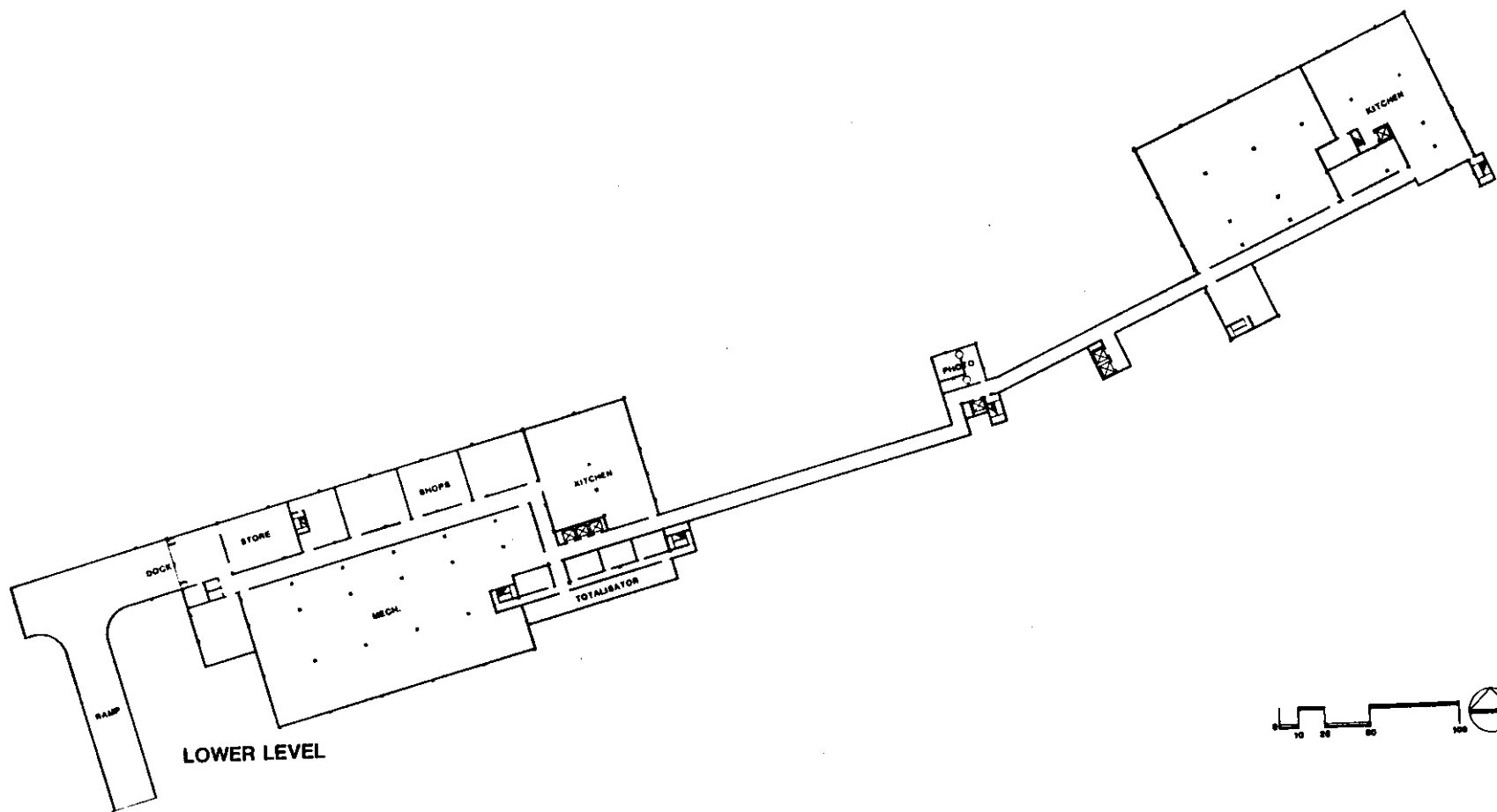


## FINAL DESIGN

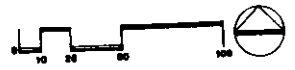
The following represents the culmination of an awful lot of drudgery and boredom coupled with some of the best fun I've had in years. The supporting narrative seeks only to help explain the drawings and perhaps point out those details which would not be apparent at a cursory glance.

## LOWER LEVEL

Kitchens, stores, shops, mechanical equipment, and miscellaneous support functions are located in the lower levels.

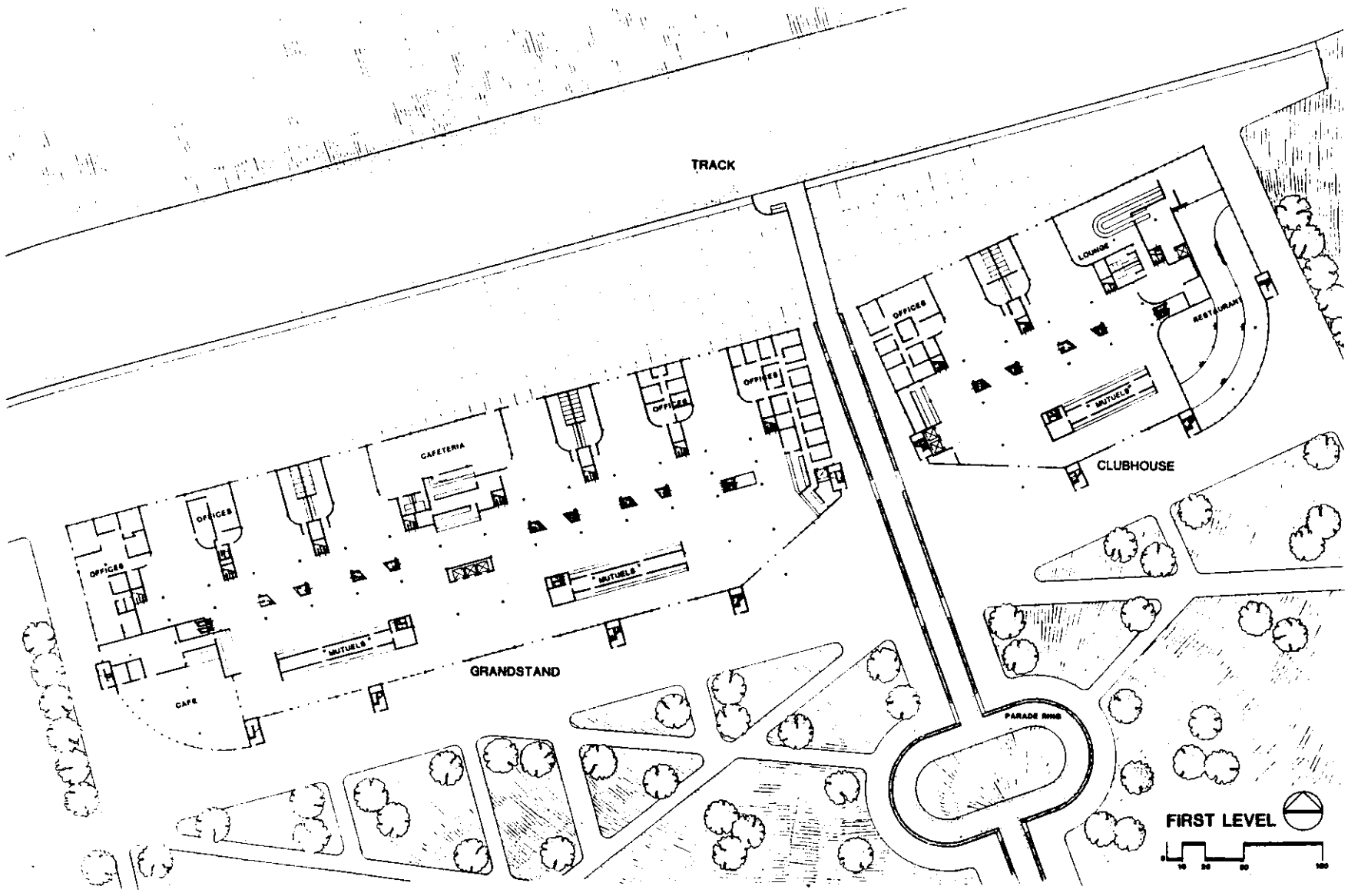


LOWER LEVEL



## FIRST LEVEL

The main entry level. This shows the two main buildings, the grandstand and the clubhouse, and their relation to each other and the paddock garden. The garden sides are enclosed with a curtain-wall of glass punctuated with frequent doorways for views and easy access. The two-sided banks of mutuel windows can accomodate thousands of bettors, and concessions and restaurant facilities are only steps away. Restrooms and offices occupy the areas under the stands to the trackside, with access at every interval between to the terrace. Stairways, escalators, and elevators make up a longitudinal circulation "spine" connecting upper levels.



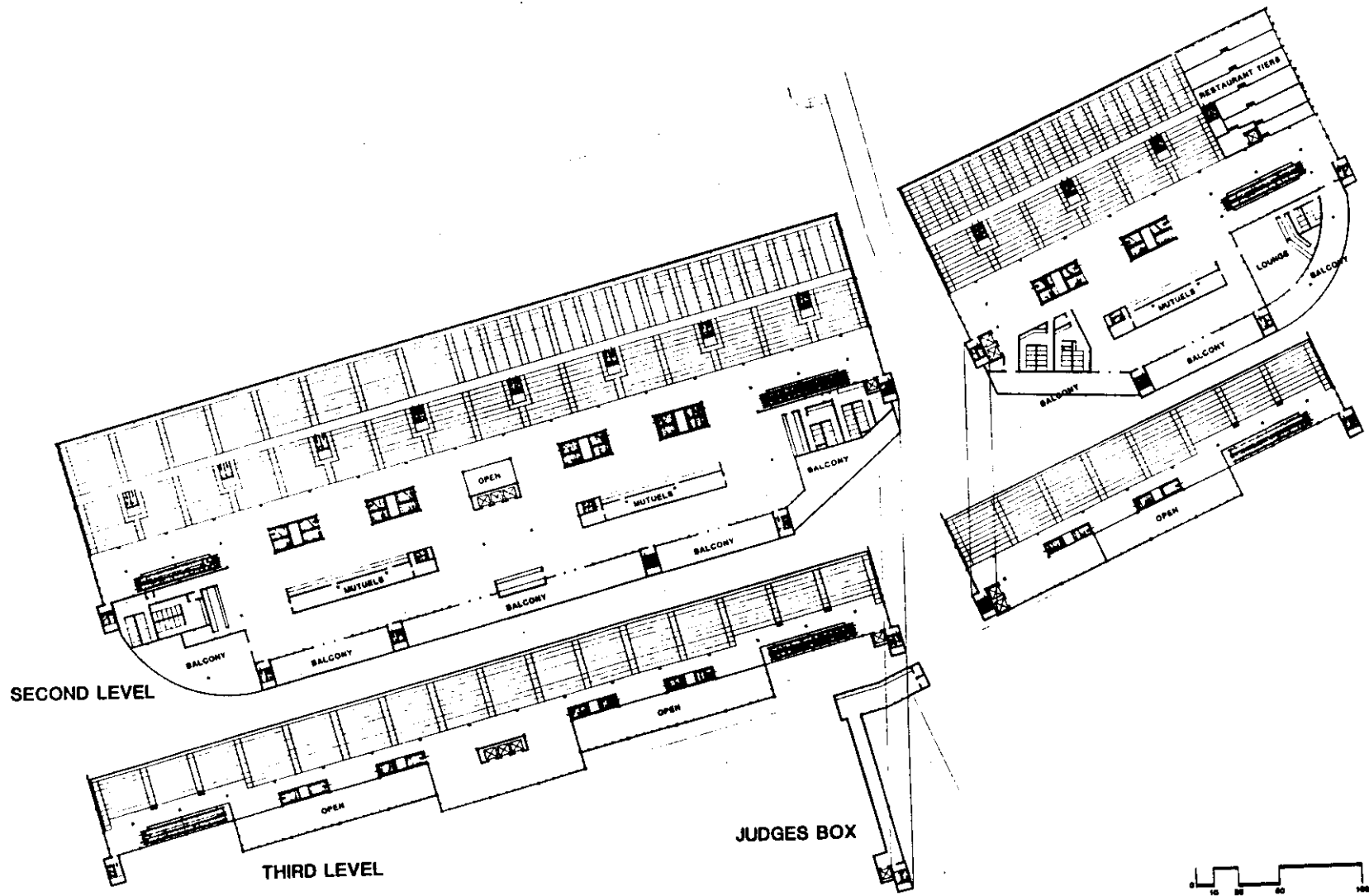
FIRST LEVEL

## SECOND AND THIRD LEVELS, JUDGES BOX

The second levels are largely the same as the first, save for the one-sided mutual windows and the perimeter balconies which overlook the paddock garden. Once again there is the circulation spine interconnecting the levels. From these levels there is direct access to the two lower seating tiers. The first rows of the clubhouse are private and reserve boxes, as are portions of those in the grandstand. Terraced dining levels have been provided in the clubhouse.

The third level consists of circulation access to the upper seating tier, with balconies to provide a visual connection to the lower activity level.

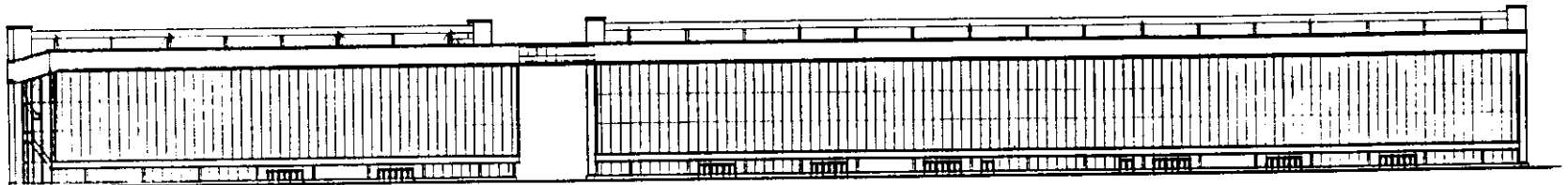
Straddling the division between the two buildings, commanding a view of the entire track, is the judges box. Here the judges oversee the races along with members of the press and the track photographers.



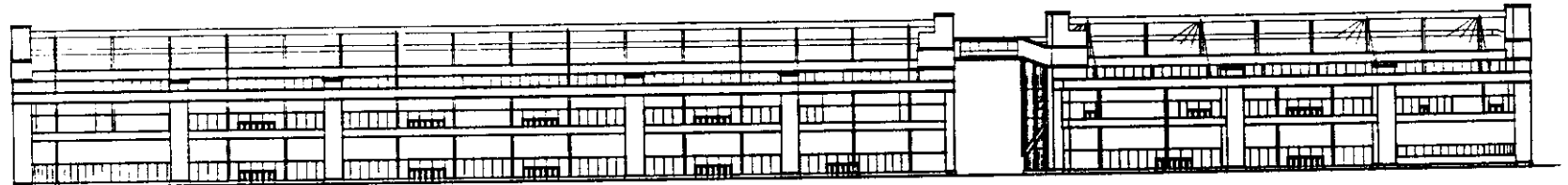
## ELEVATIONS AND SECTION

Enclosing the stands in glass allows year-round comfort to the patrons of the track, and gives a cool, smooth appearance to the trackside elevation. The gardenside elevation is broken up by the balconies and stair towers to create a less intimidating presence. The end elevations show the vertical stair towers which balance the two major rooflines.

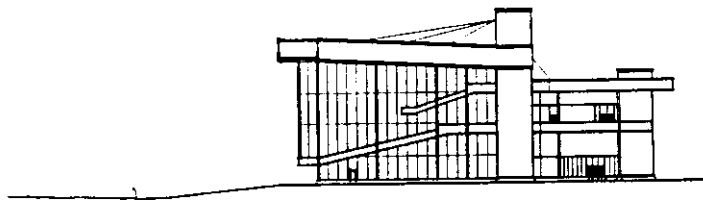
In section, the structural system is seen, with the cable suspended main roof acting as a canopy over the stands. The open web trusses inside the front windows support the glass while allowing maximum views in this column-free space. Floors, stands, and the rear roof are structured with conventional concrete columns on a 30' square grid.



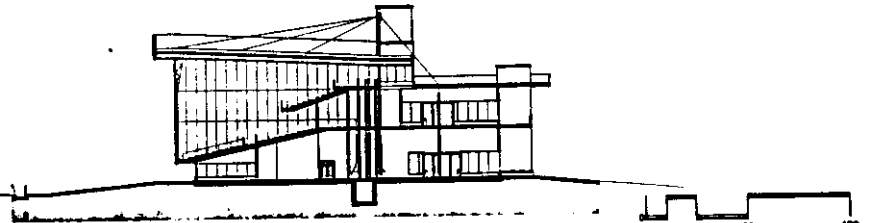
TRACKSIDE ELEVATION



GARDENSIDE ELEVATION



END ELEVATION



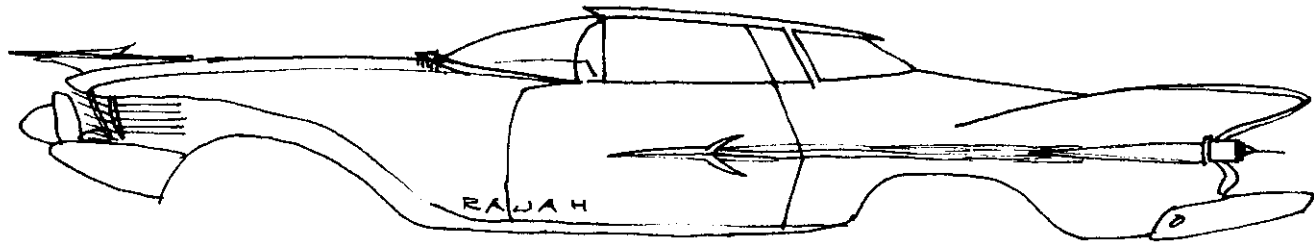
SECTION A-A



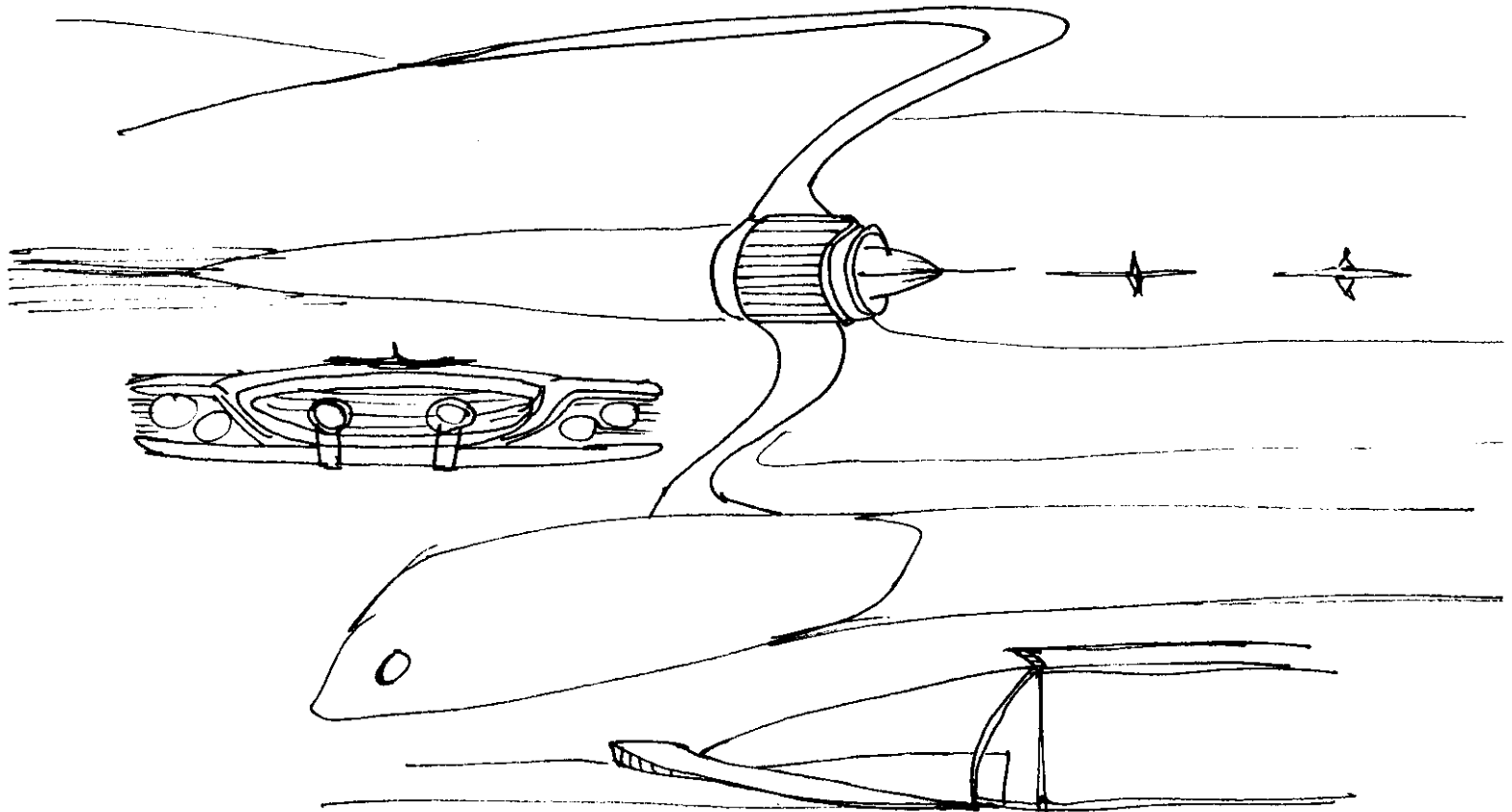
#### PHILOSOPHY

If I have a philosophy about architecture, it might be summarized by a paraphrase of the old cliché- "I don't know much about architecture, but I know what I like".

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*Rajah for 1959!*



#### IN CLOSING

I really like cars. Ever since I was old enough to climb up and look out the back window of the old '63 Chevy, the chrome and the color and the forms intrigued me. I imagine the reason that the tailfinned beauties of the late '50s are my favorites is that they were all still on the road and in original form when I was peering out the rearview window. When I daydream at a lecture or in class I sketch fantastic finned behemoths, resplendent in their ostentatious glory. The voluptuous rise of that great swath of useless metal soaring towards the sky, finished with sharp ribbed taillights. The jutting prow of the grille with its twin chromed mammalian bumper extensions flanking a wide expanse of sensuously articulated metal bars. The great hooded headlamps with the trailing edge of their shiny recess leading into the rocket-like indicator lamps.

Everyone always says to me, "Hey, Mike, why didn't you go into automotive design?", and I don't have an answer. Perhaps if I went into that field I might loll away idle moments sketching houses and offices. Don't bet on it. I have learned to appreciate the finer creations of all designers, be they automotive, industrial, or architectural. I truly feel the years I have spent in the pursuit of architectural education have been more than worthwhile.



CREDITS

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Ainslie, Tom Complete Guide to Thoroughbred Racing  
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Photo Credits

file photos, Turf and Sport Digest  
v.59, #6, November/December 1982  
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v.60, #4, July/August 1983

Personal Visits

Bowie Race Course; Bowie, MD  
Charles Town Race Course; Charlestown, WV  
Hialeah Park Race Course; Hialeah, FL  
Pimlico Race Course; Baltimore, MD