

**RECREATIONAL TRAILS
MASTER PLAN
LINKING
TUMON, TAMUNING AND AGANA**

Prepared For

Lt. Governor Madeleine Bordallo

Prepared By

JFP International, Inc.
Architects and Planners

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Cost Consultants

Masoud & Company
Civil/Traffic Engineering.

January 1995

RECREATIONAL TRAILS MASTER PLAN

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Bureau of Planning

RECREATIONAL TRAILS MASTER PLAN

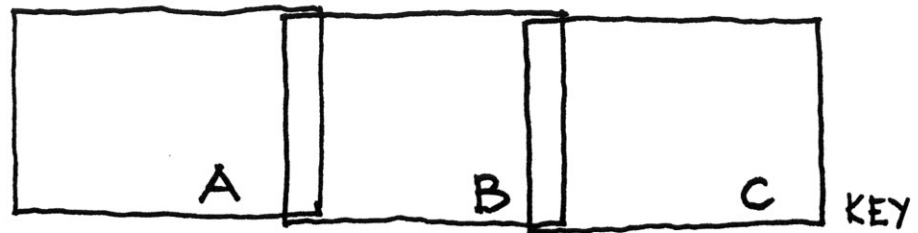
JFP International, Inc., Architects and Planners have conducted a preliminary Schematic Study of potential bikeways and running trails between Tumon and Agana, as means to contribute to the tourist infrastructure as well as to the recreational resources available to the residents of Guam.

These plans are coordinated with established and proposed attractions for visitors to the island, as well as routes commonly used for amateur running competitions.

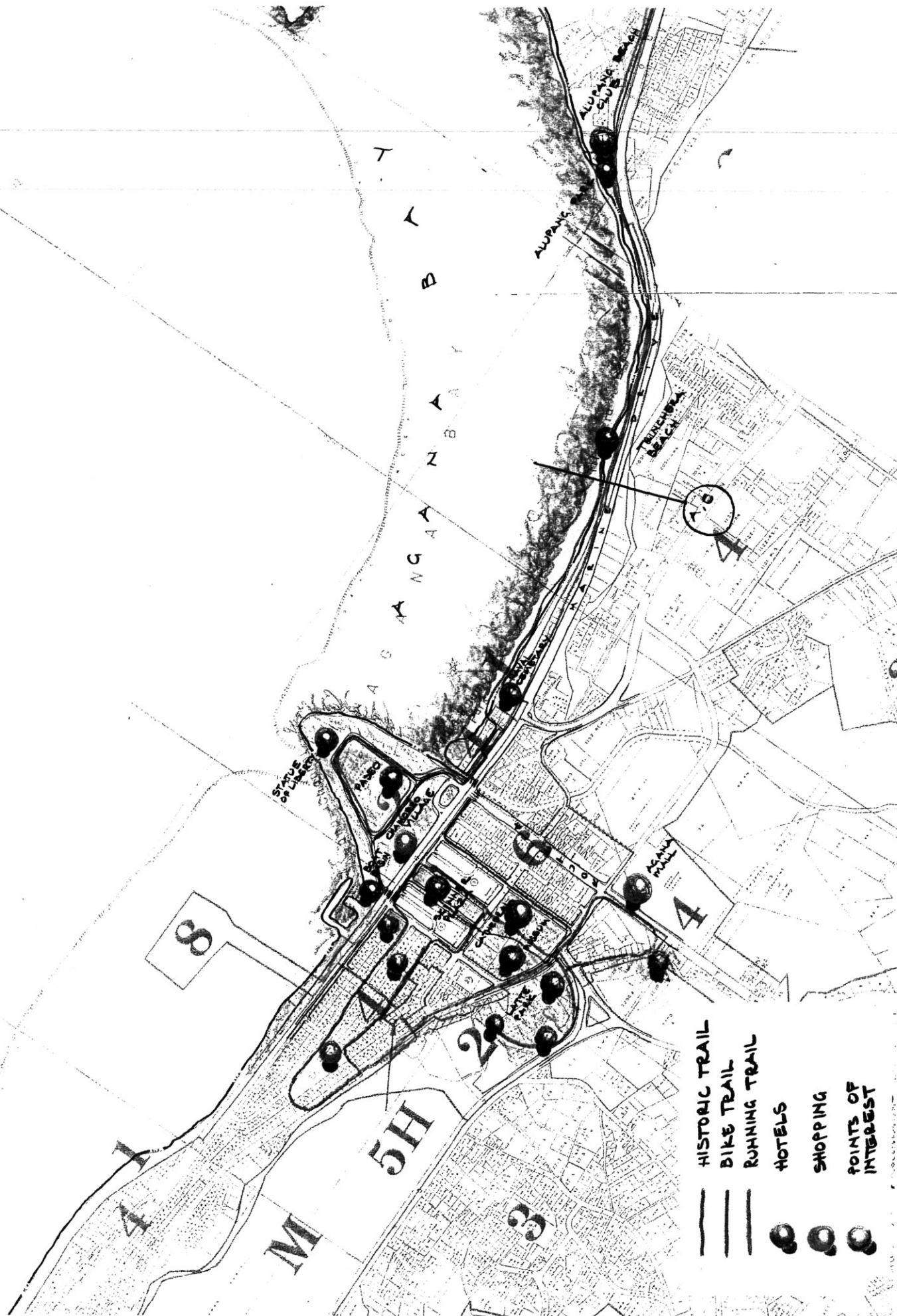
Where possible, we recommend the separation of bikeway and running trails from roads in order to minimize risk of collision and maximize opportunities for recreational pleasure and sightseeing.

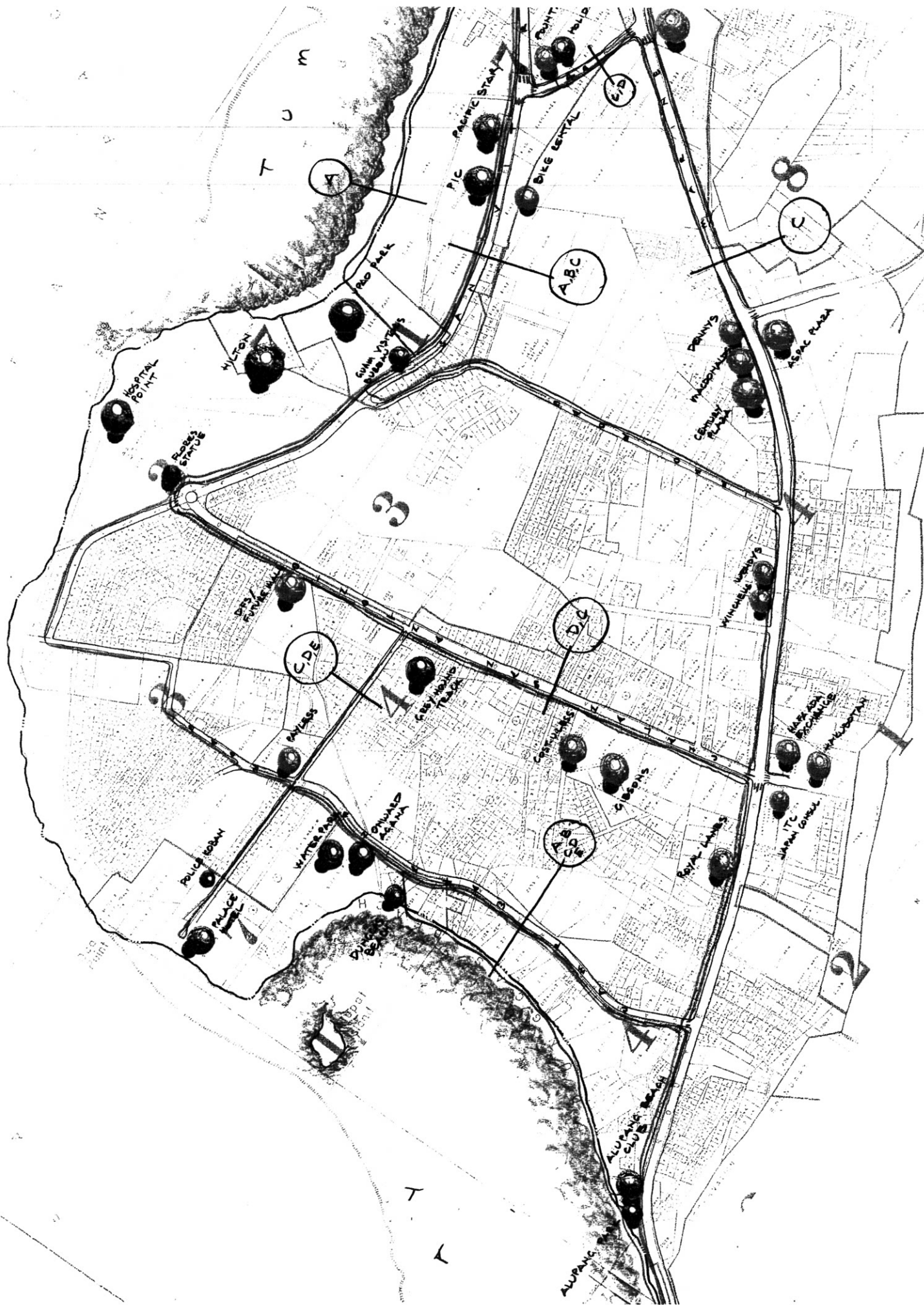
This proposal assumes ongoing cooperation between Government Agencies and private landowners, especially the hotels and commercial establishments which line the projected routes. An implementation strategy is not part of this study's scope, but must be developed as the next step in this necessarily complex project.

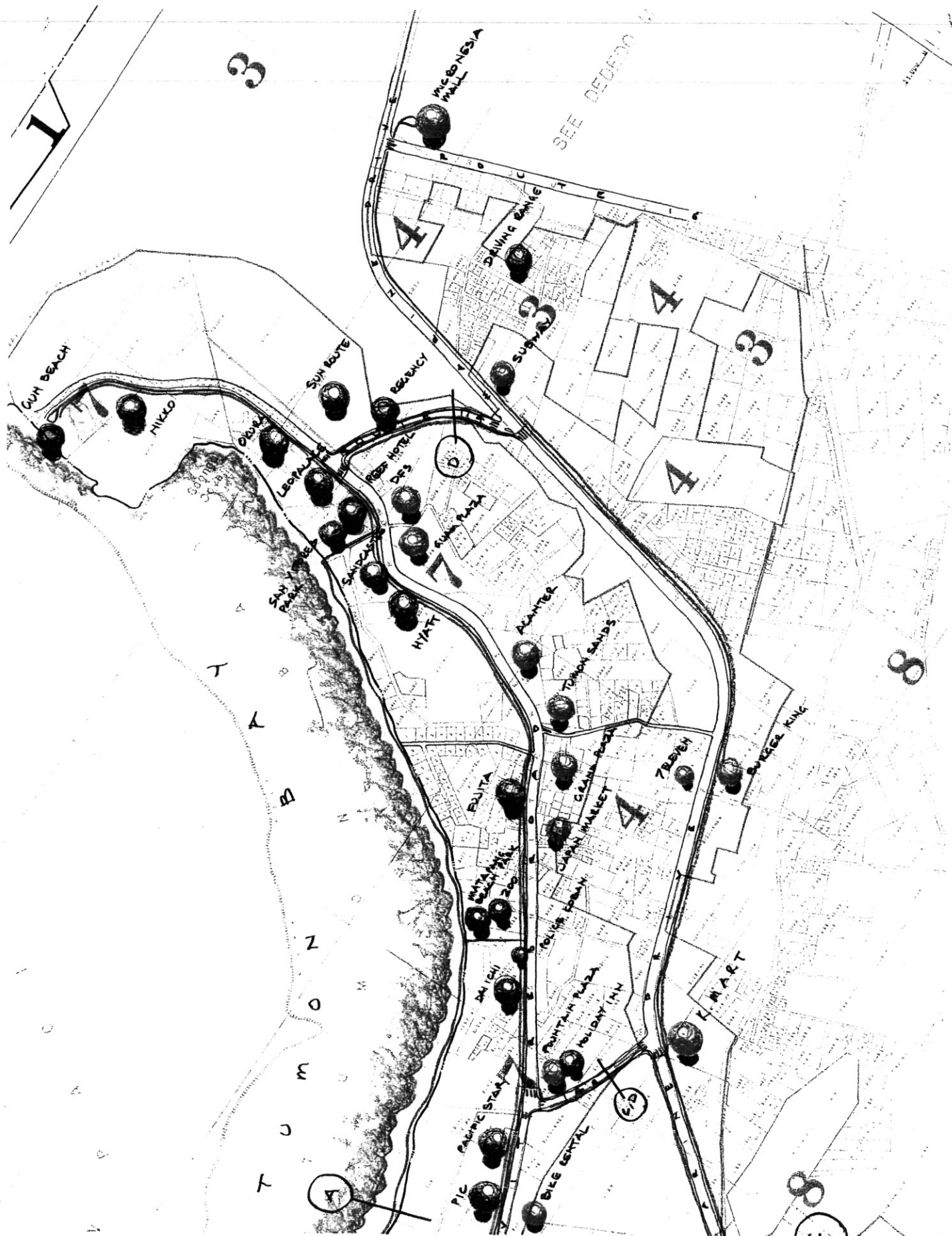
I. Introduction



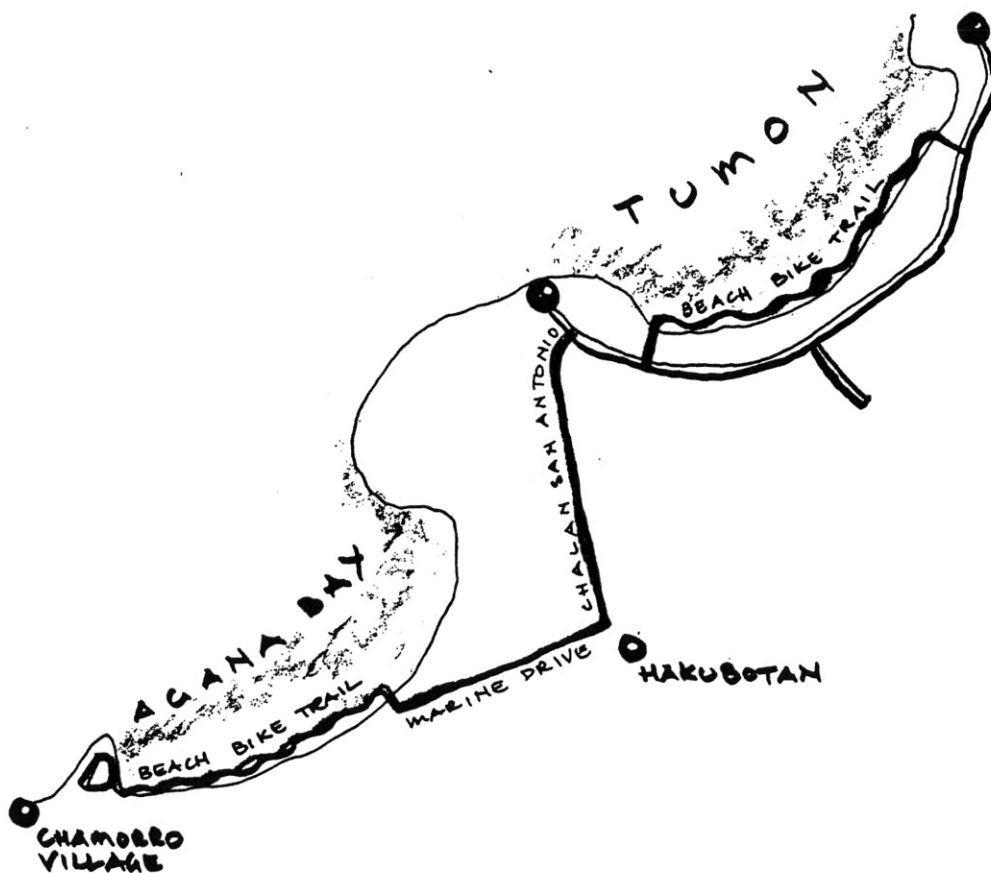
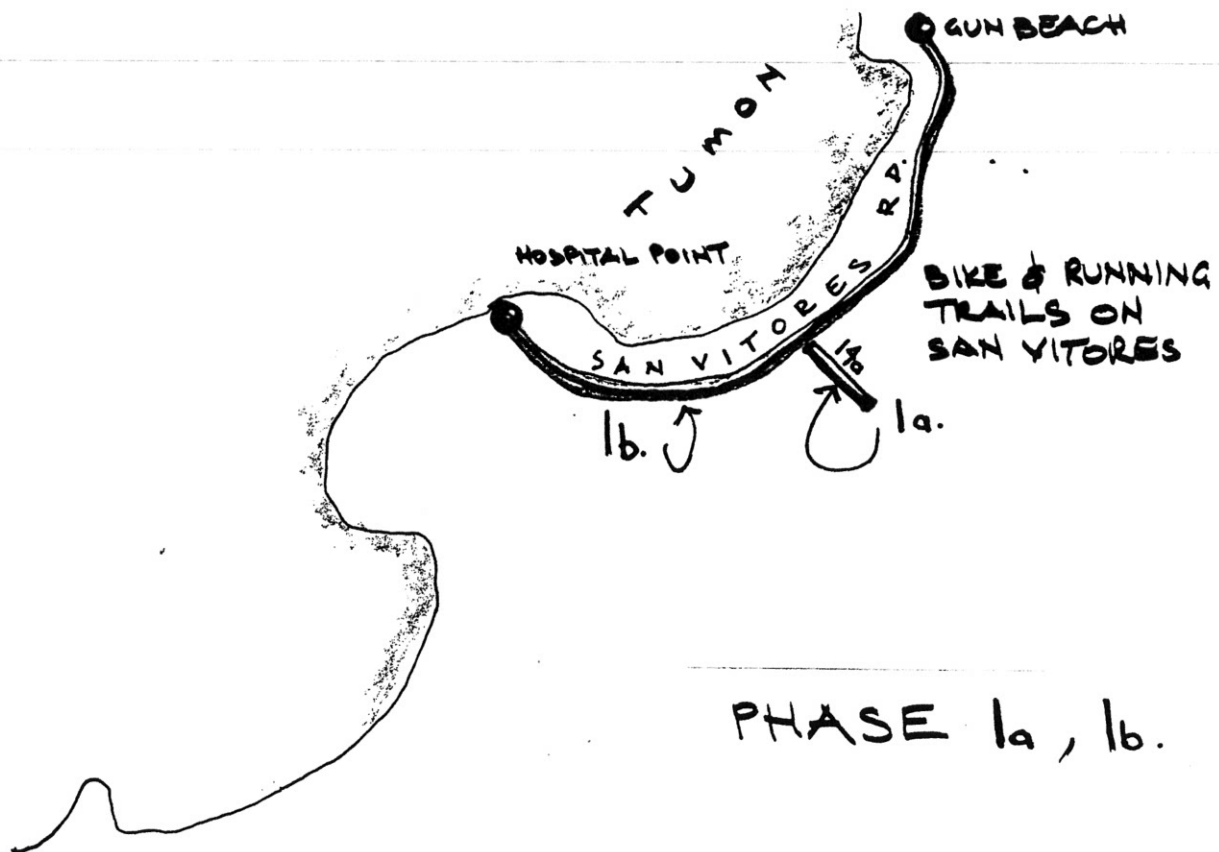
II. Proposed Plan



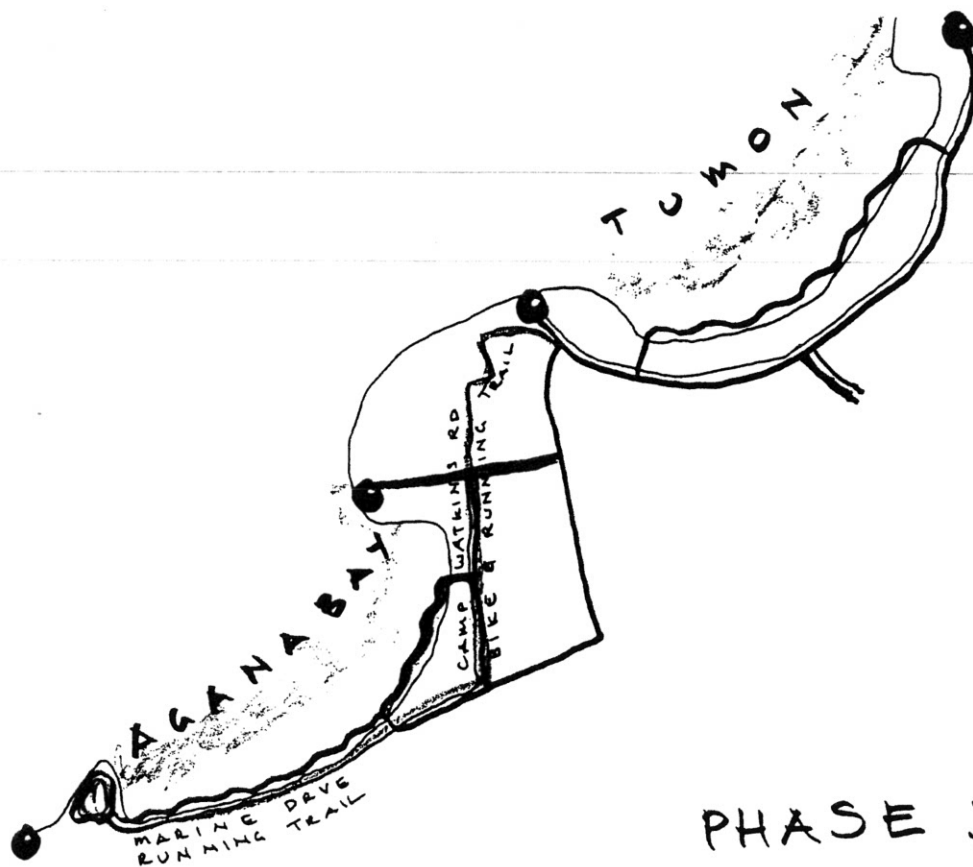




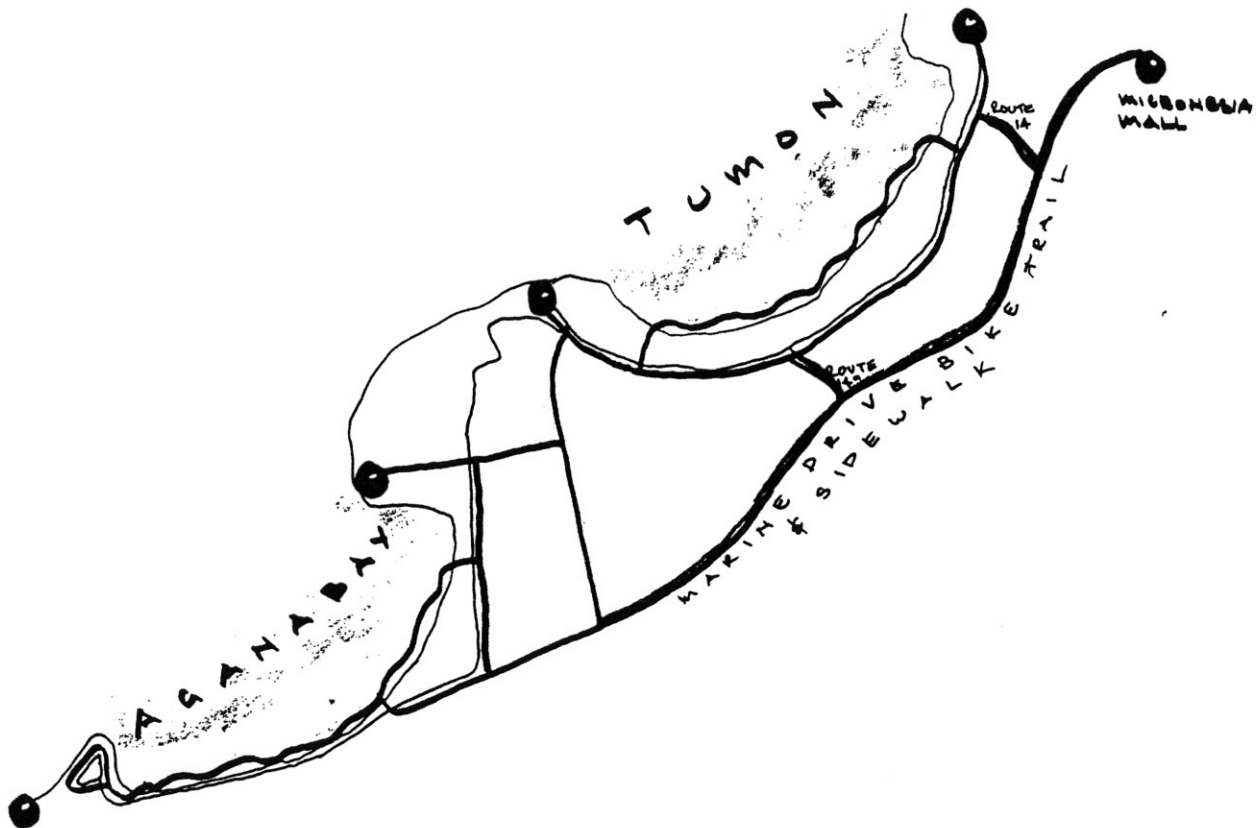
III. Proposed Phasing



PHASE 2

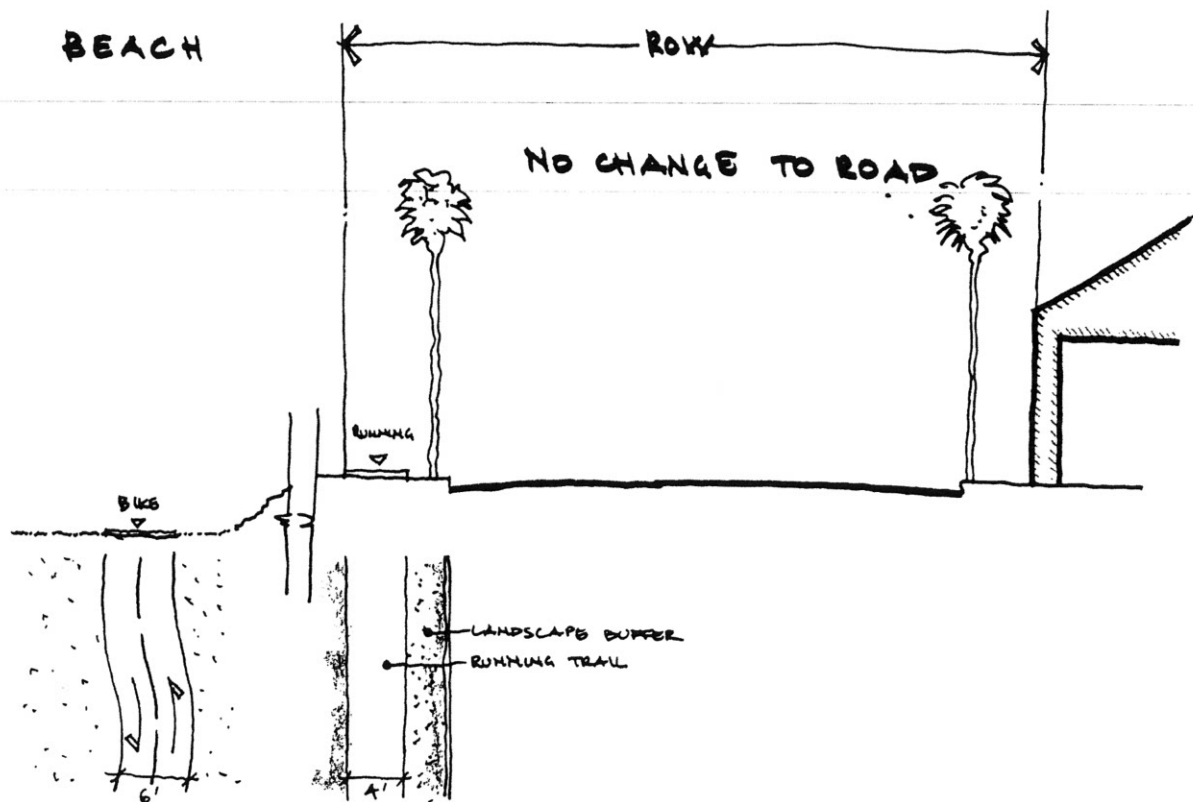


PHASE 3

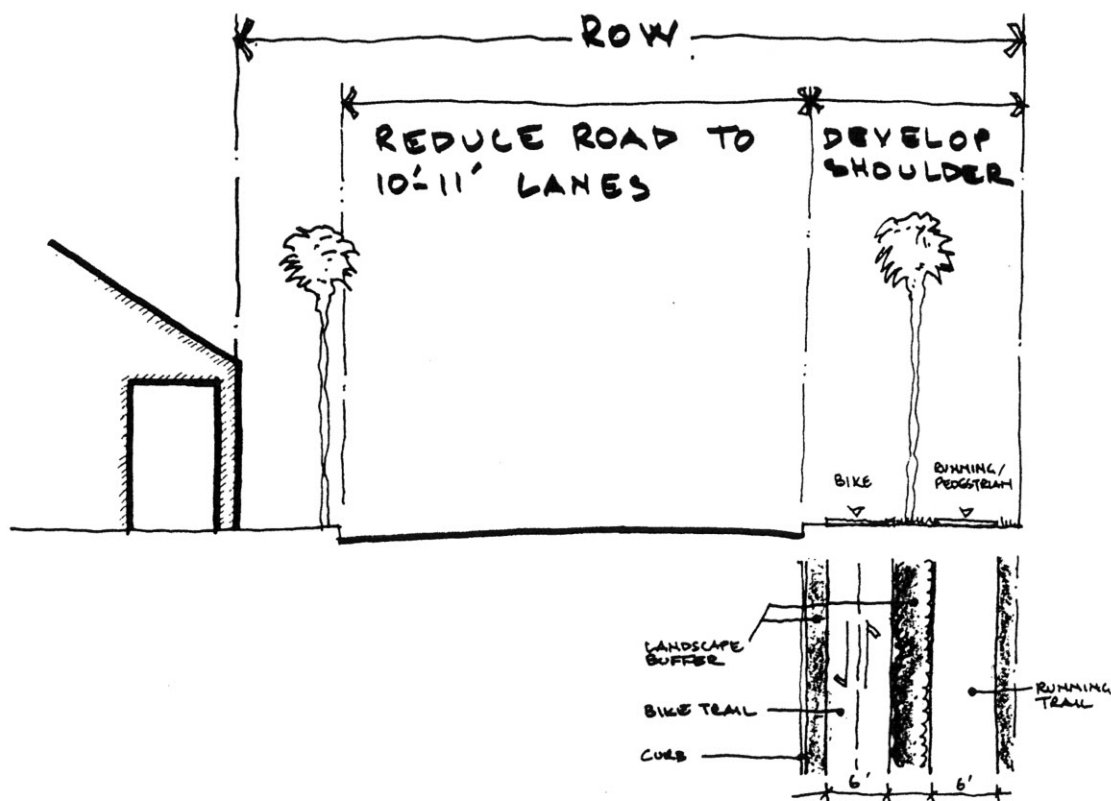


PHASE 4

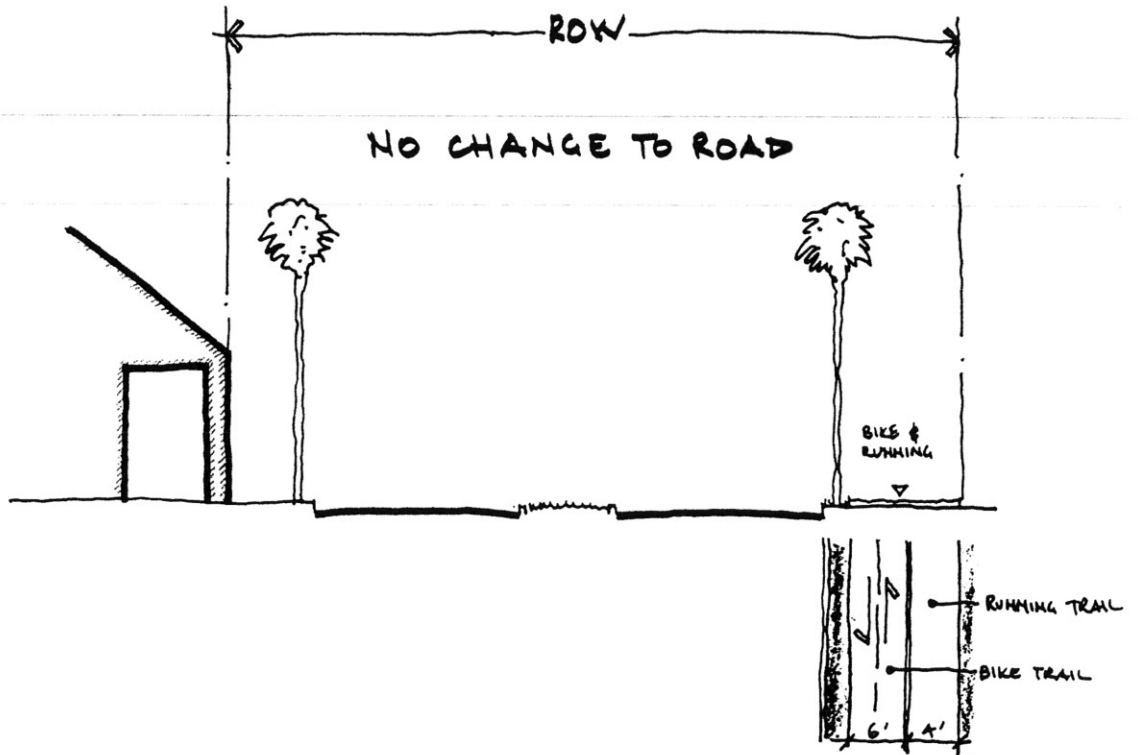
IV. Conceptual Road Sections



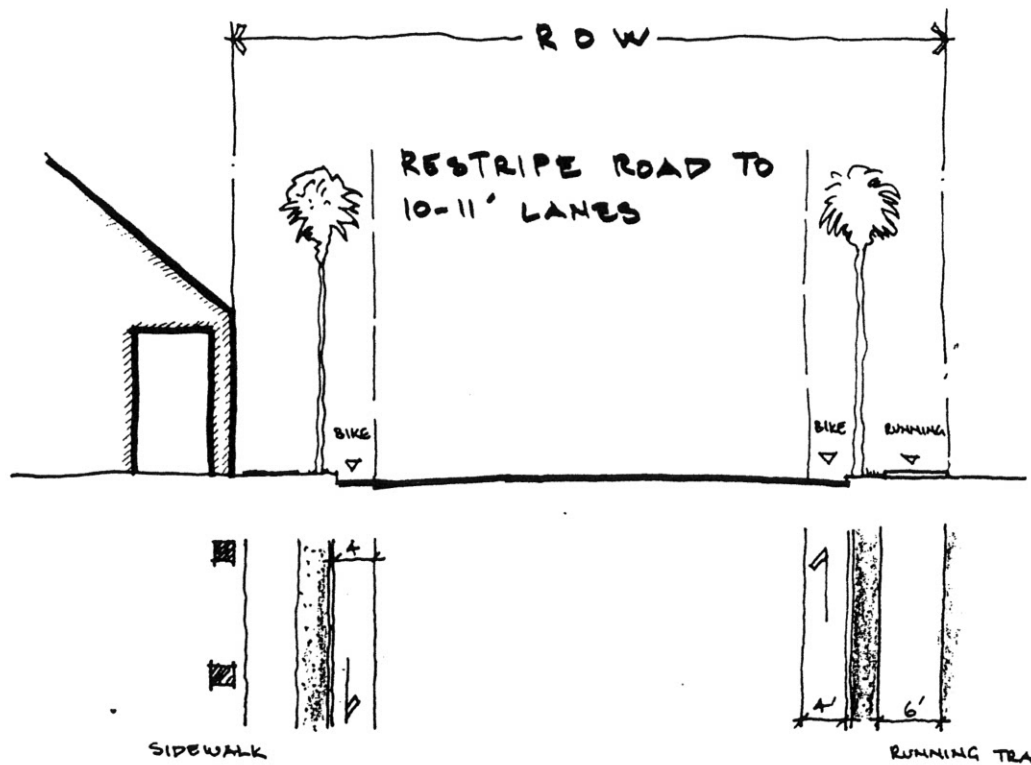
OPTION A



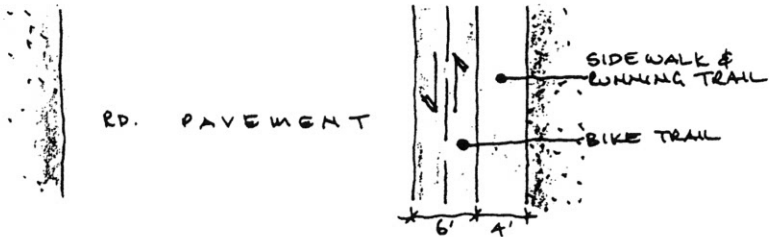
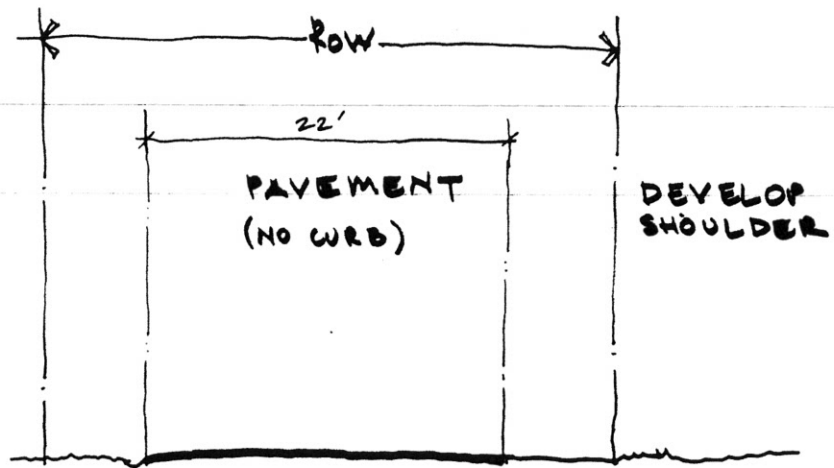
OPTION B



OPTION C

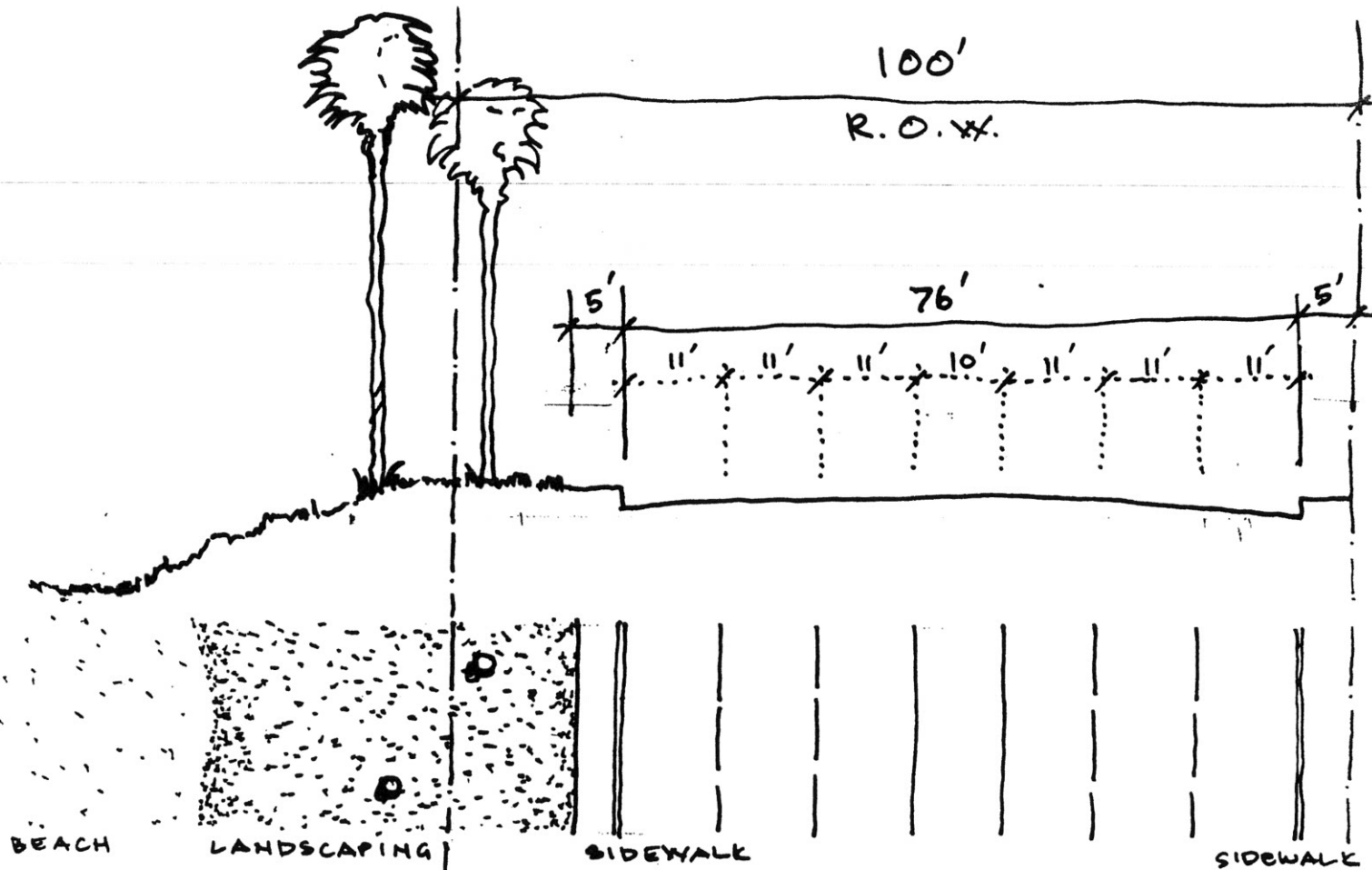


OPTION D

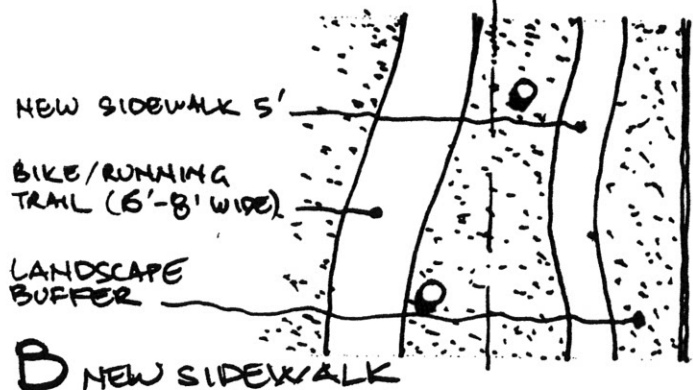
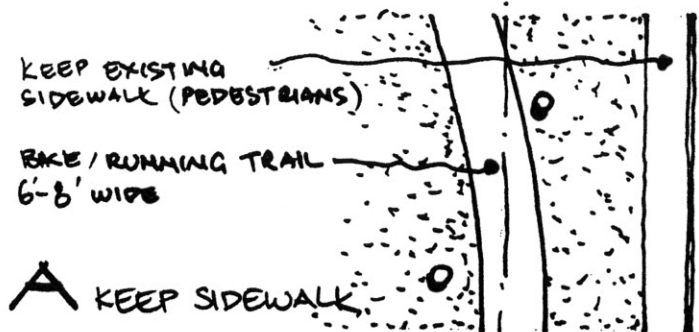


OPTION E

V. Existing Road Sections and Specific Improvement Proposals



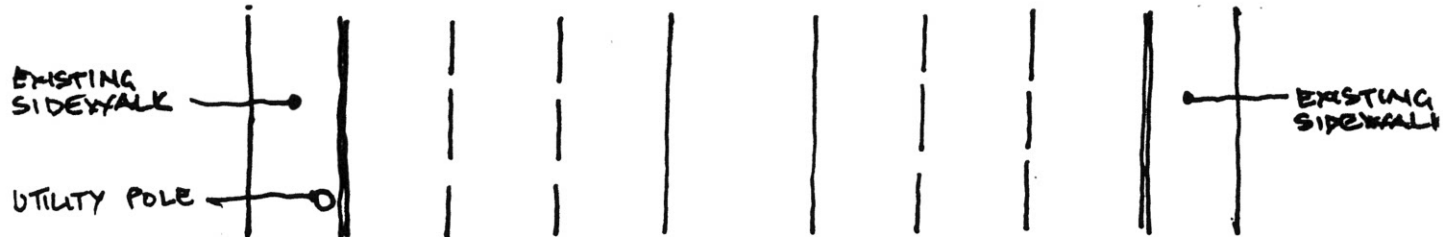
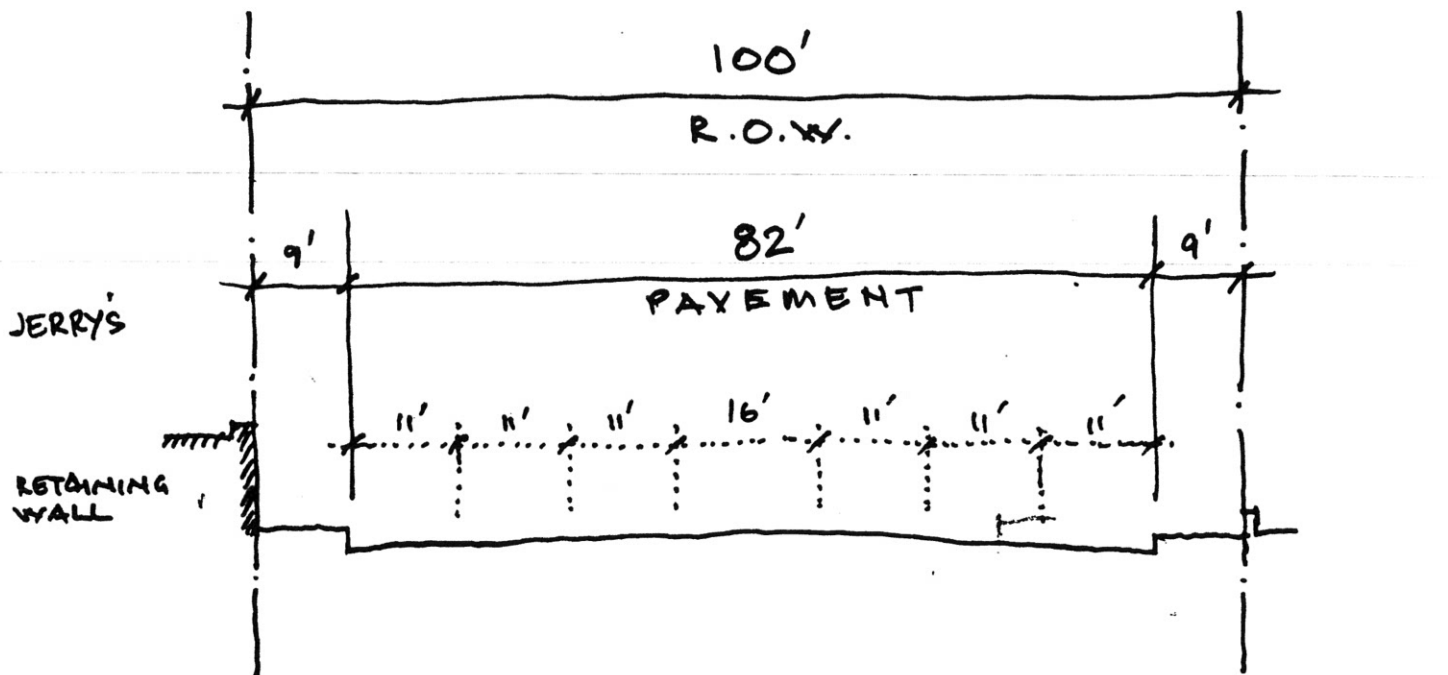
EXISTING CONDITION



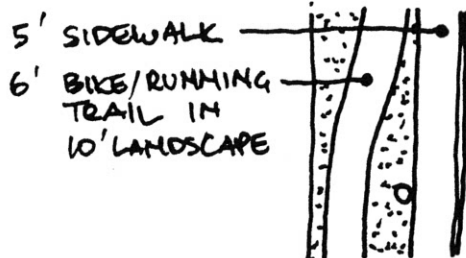
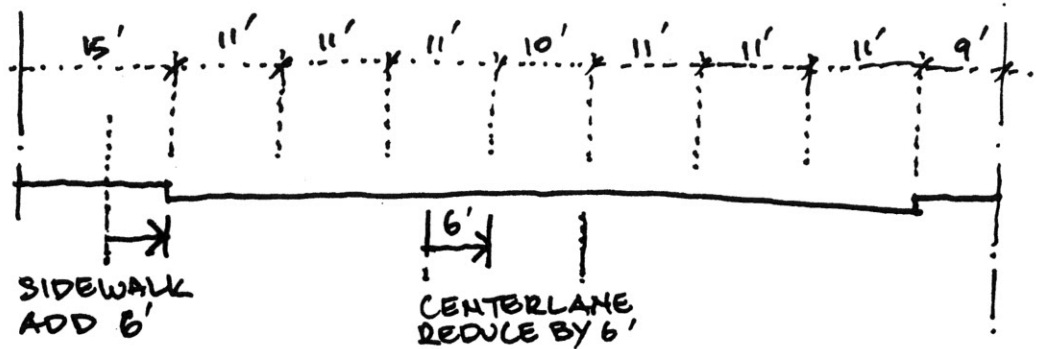
MARINE DRIVE

BY ALUPANG BEACH PARK

1:200



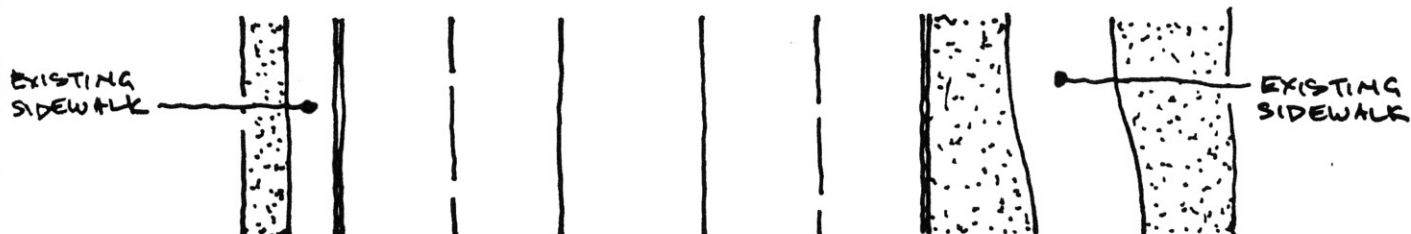
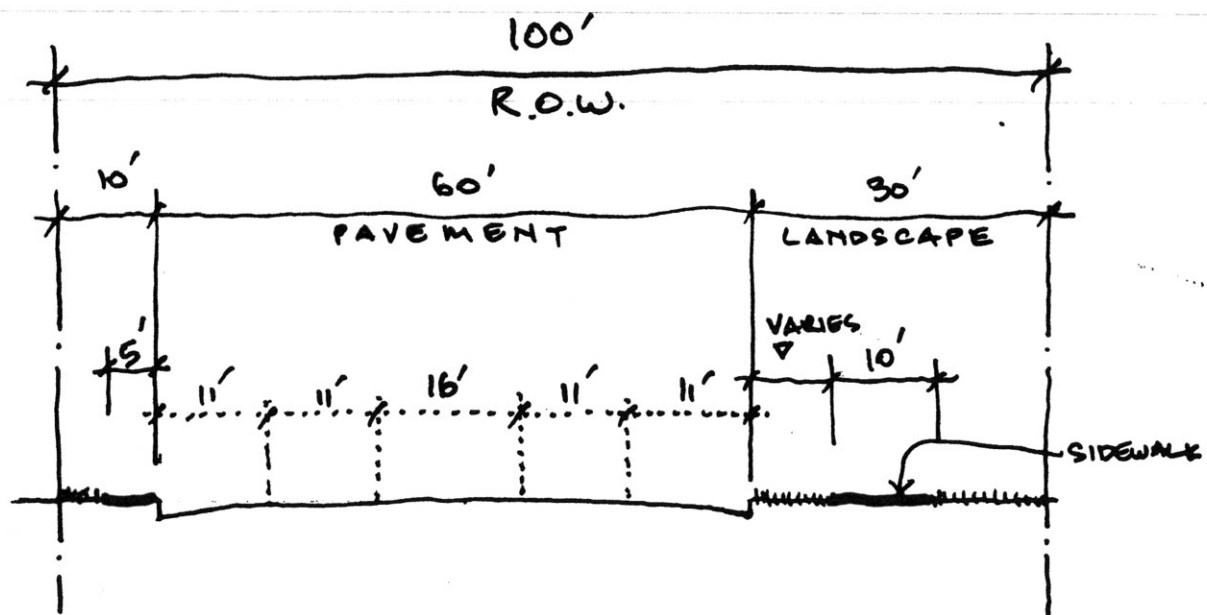
EXISTING CONDITION



MARINE DRIVE

BY JERRY'S, TAMUNING

1:200

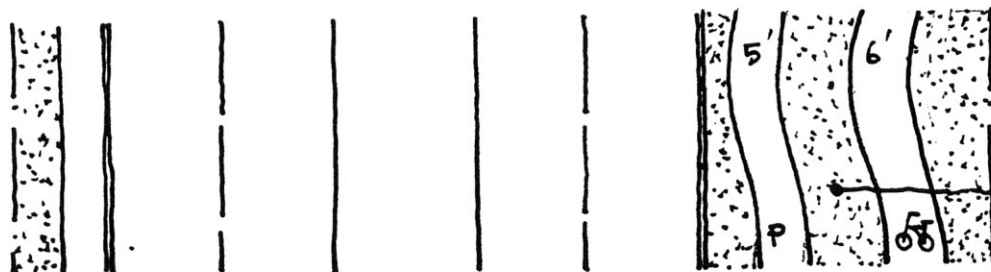


EXISTING CONDITION



A

STRIPE SIDEWALK
FOR PED. & BIKE/RV
TRAILS



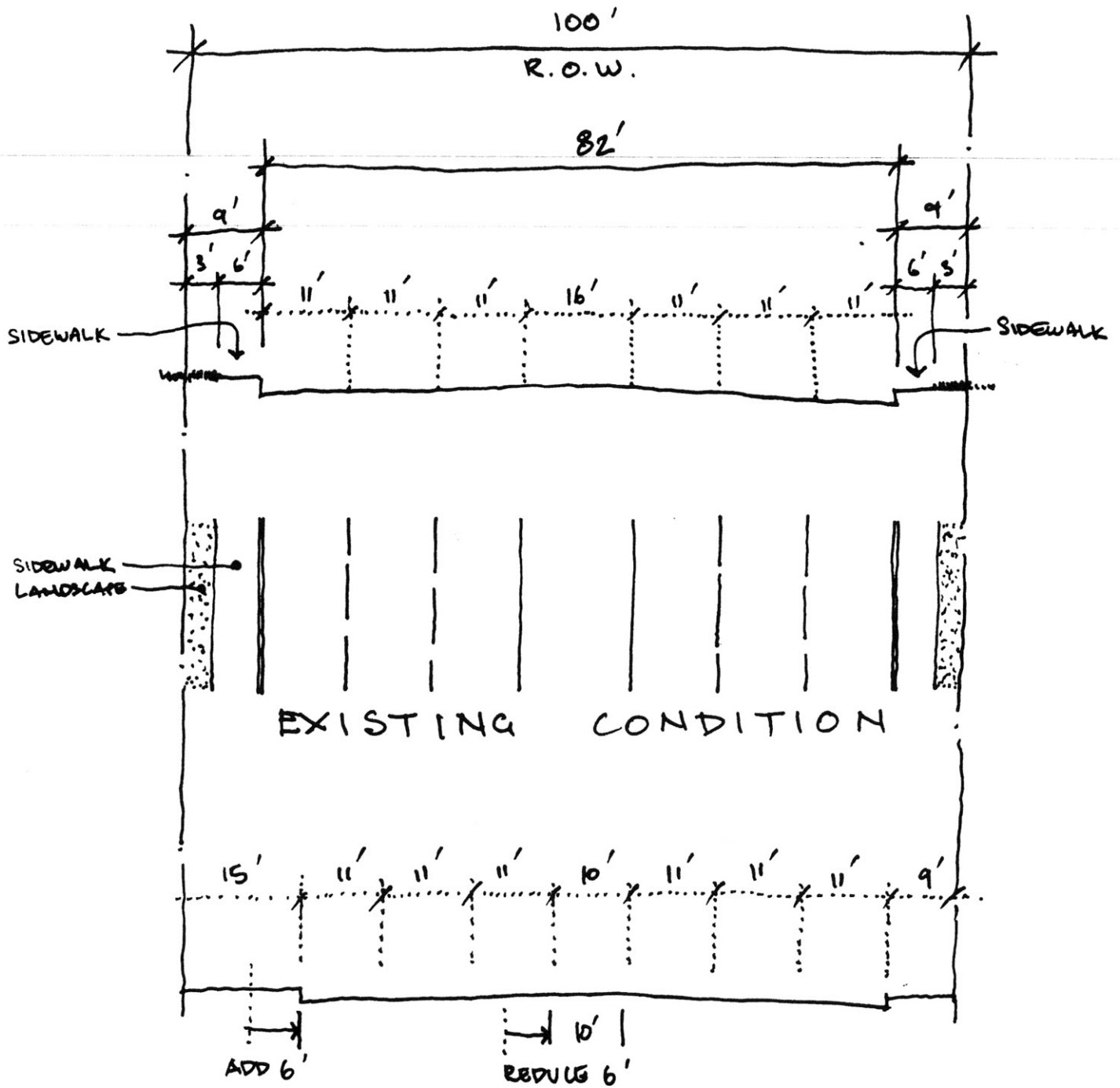
B

NEW SIDEWALK
LANDSCAPE BUFFER

SAN YITORES ROAD

AT SANDCASTLE

1:200



EXISTING SIDEWALK
BECOMES BIKE/RUN
TRAIL (6' WIDE)

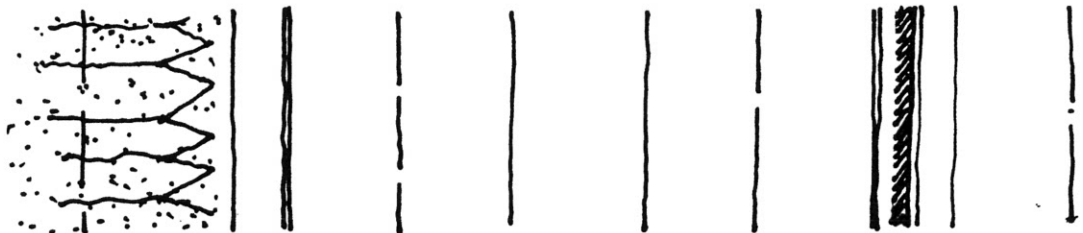
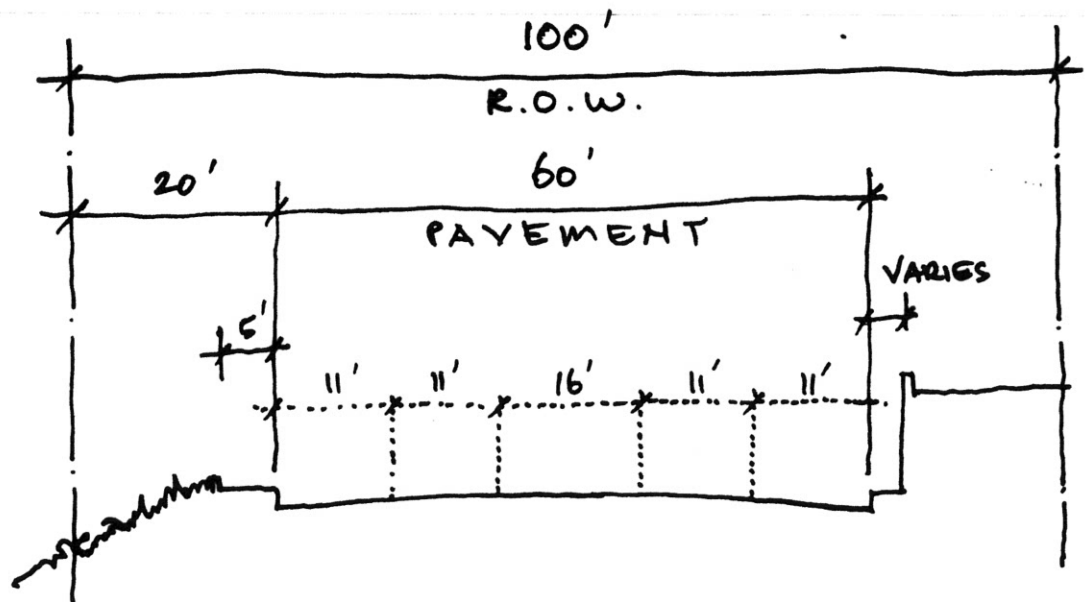
BUFFER 1-2'
NEW PBD SIDEWALK
4'-5'

6' RUN/BIKE TRAIL
5' SIDEWALK

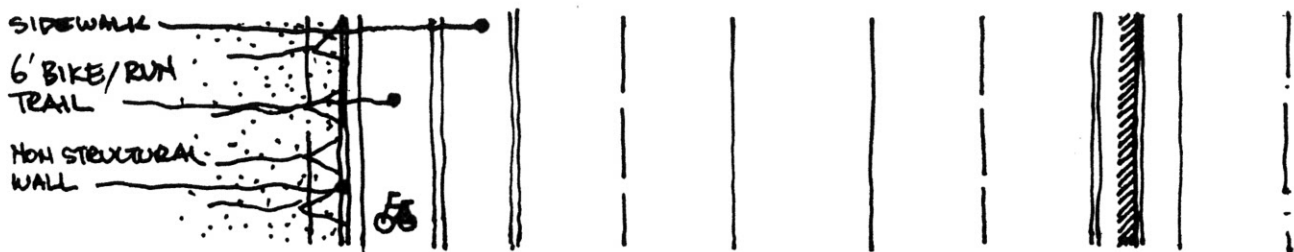
A
CONVERT
SIDEWALK

B
NEW
SIDEWALK

CHALAN SAN ANTONIO
1:200



EXISTING CONDITION

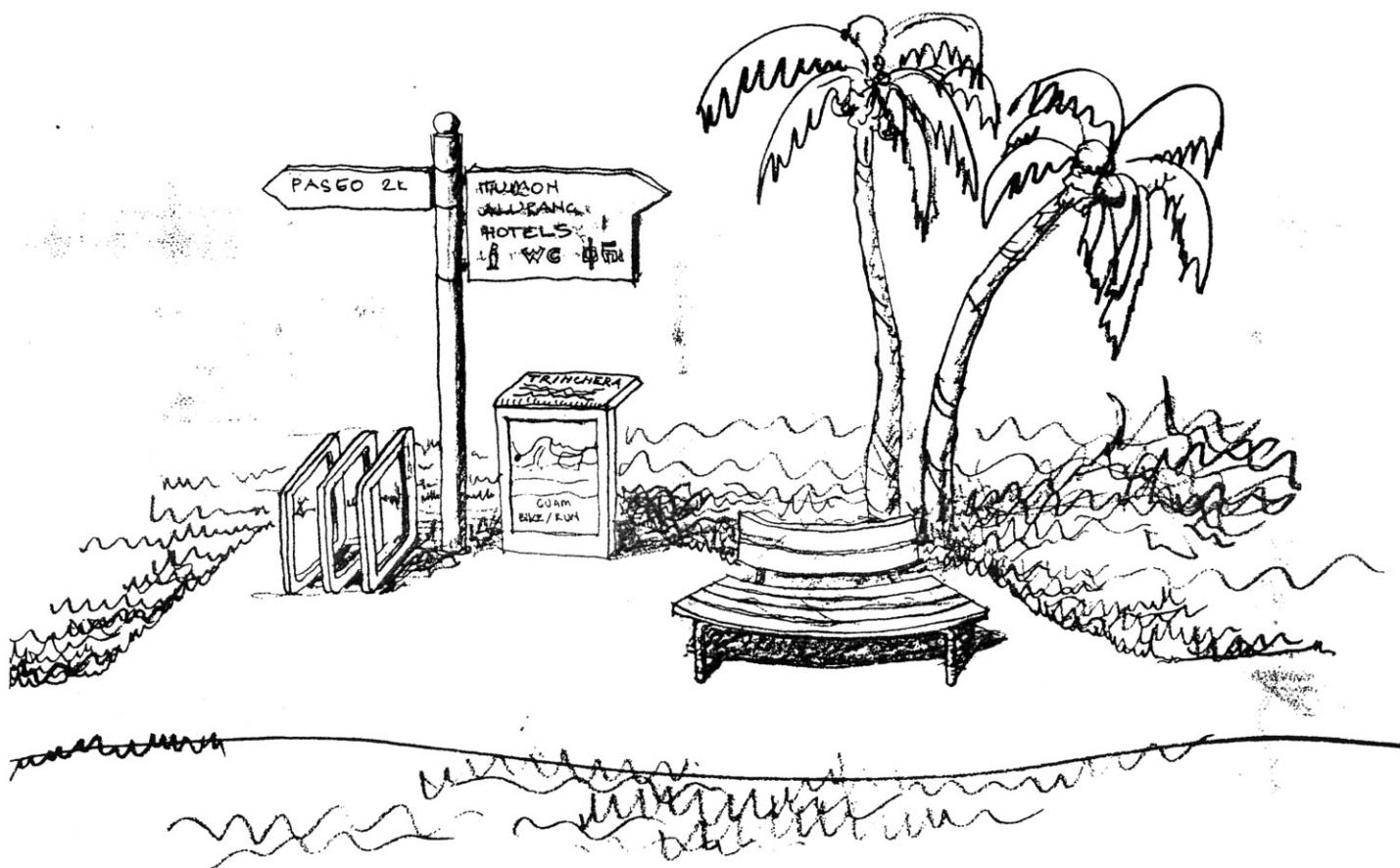


TUMON LOOP ROAD
ROUTE 14

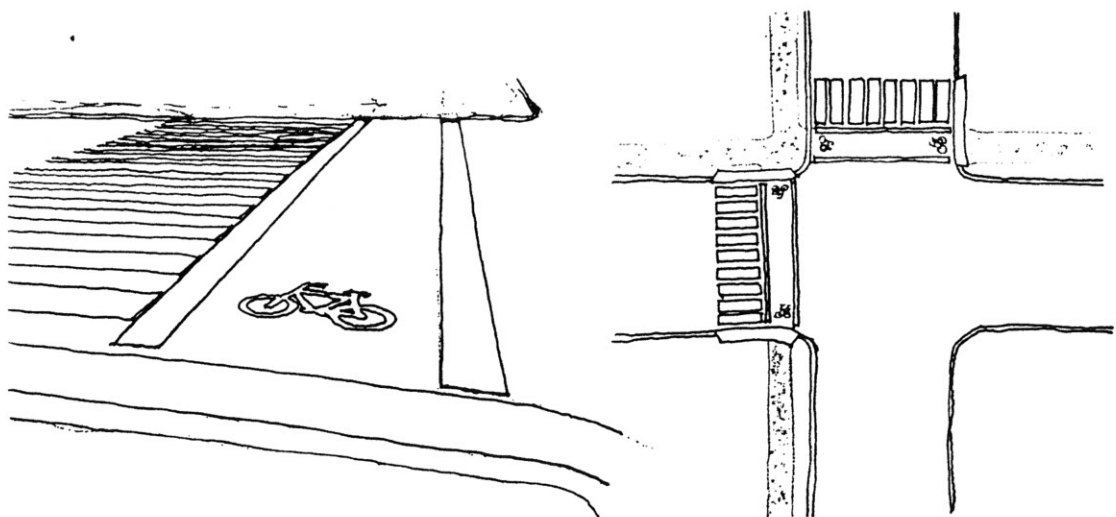
AT REGENCY HOTEL

1:200

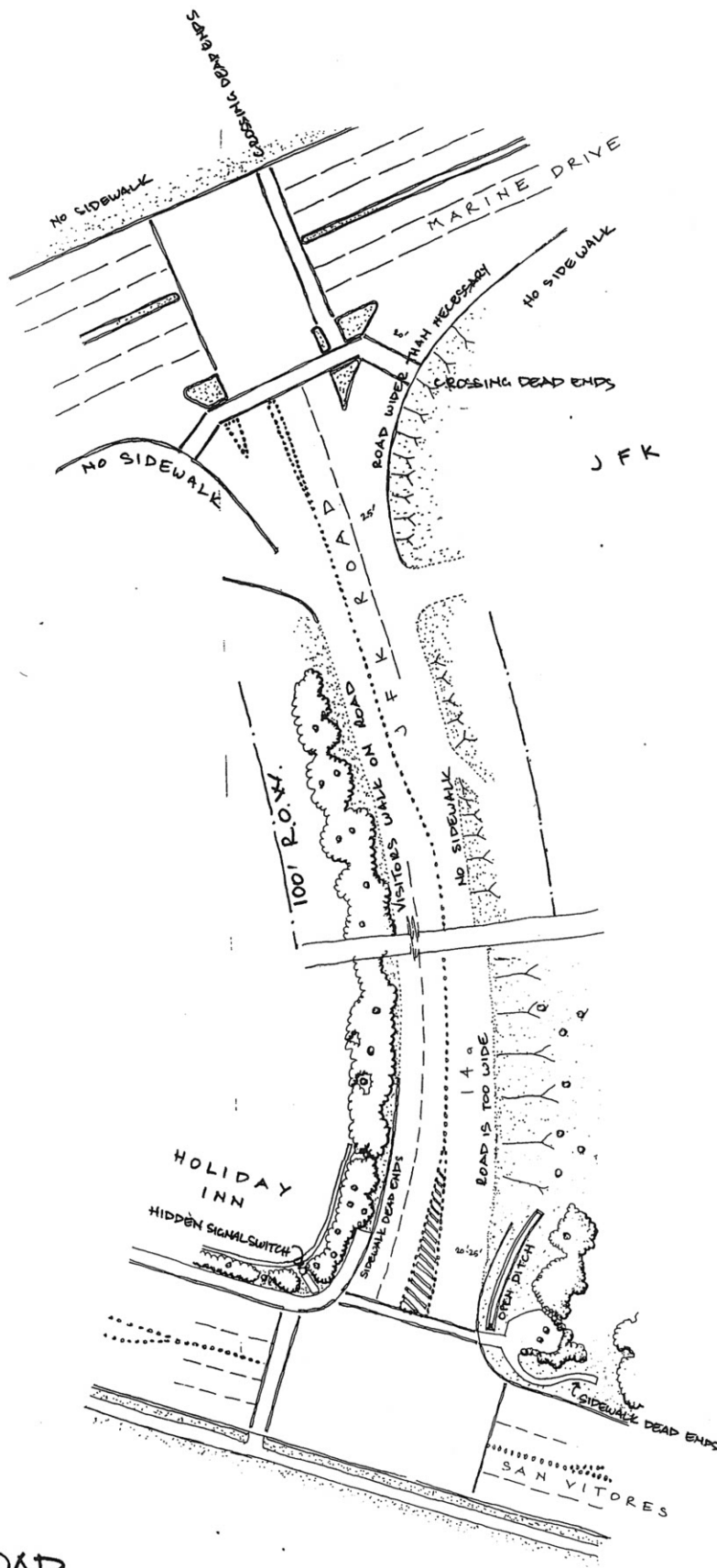
VI. Typical Road Crossings, Signage and Rest Areas



SIGNAGE
& REST STOP (TYP)



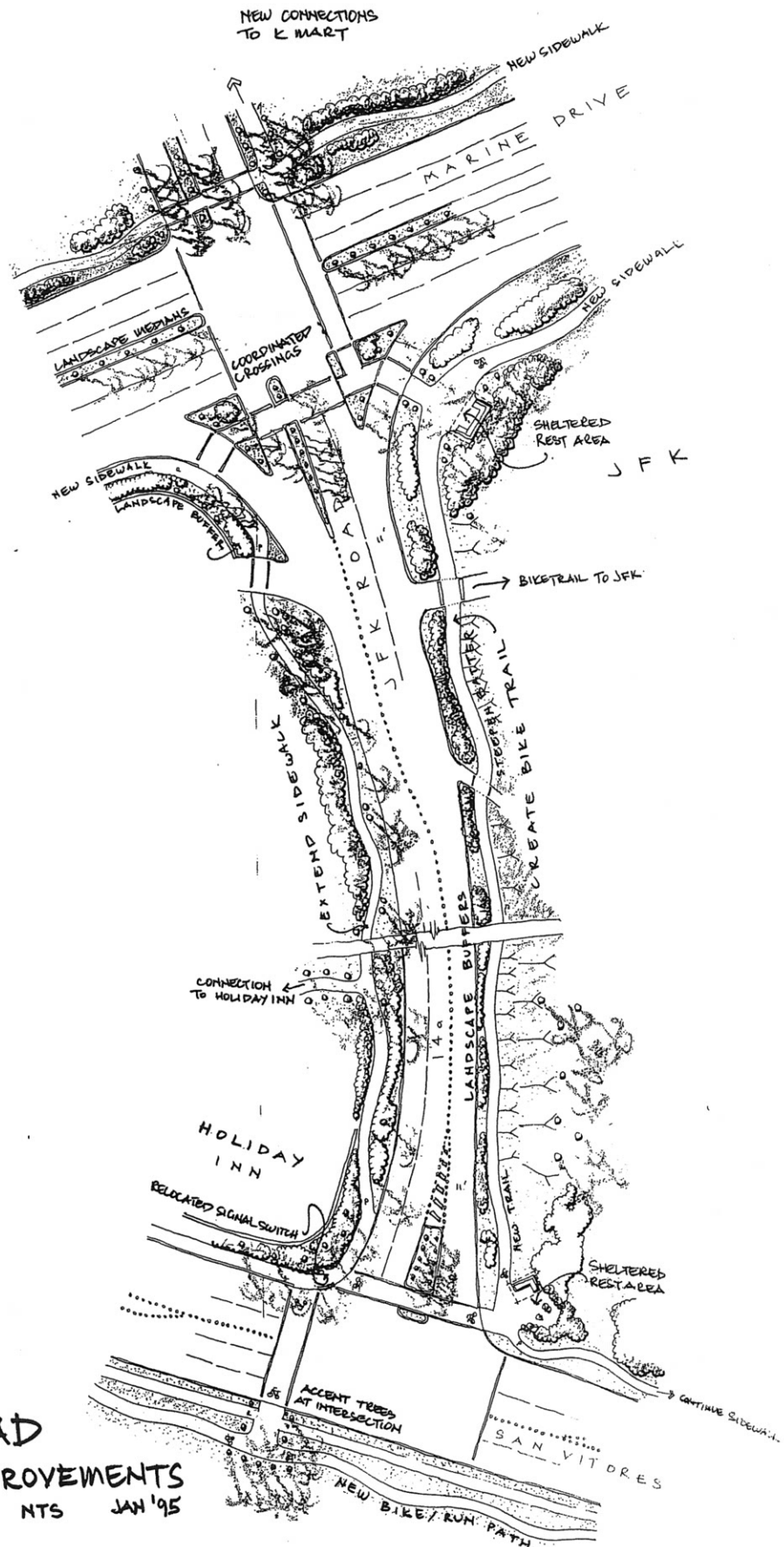
BIKE CROSSING (TYPICAL)



14a/JFK ROAD

EXISTING CONDITIONS

JFP INTERNATIONAL JAN'95



14a/JFK ROAD
 PROPOSED IMPROVEMENTS
 JFP INTERNATIONAL NTS JAN '95

VIII. Funding Considerations
Estimated Cost of Construction



RIDER HUNT LTD
Guam

CYCLE/JOGGING PATHWAY FUNDING

This project will significantly enhance the streetscape in a manner which will be compatible with existing beautification programs as well as providing a valuable asset and facility which will benefit both Guam residents and tourists.

Ideally, this project could be funded directly from within the Governments capital works programs. We acknowledge, however that other priorities would inevitably preclude funding from this source with the result that the project could not be commenced in the short term.

There are, however, we believe, alternative funding arrangements which could be put in place. These funding sources offer a combination of both Government and Private Sector contributions and should generally be acceptable to the taxpayers of Guam in light of the obvious public benefit of this project.

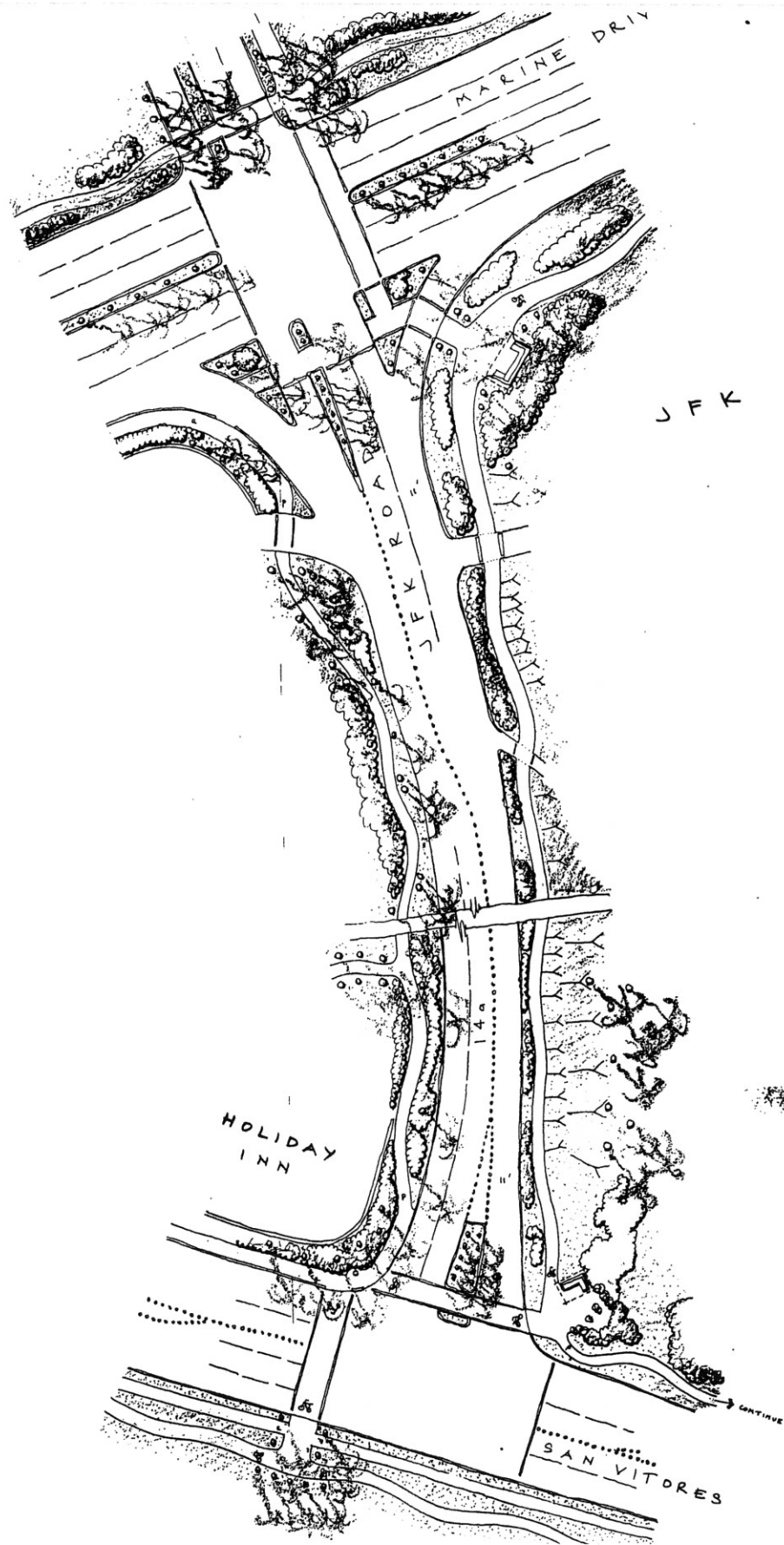
ALTERNATIVE FUNDING ARRANGEMENTS

Amongst the possible funding sources are:

1. A levy on the land tax assessment of those properties which will directly benefit from the provision of this facility.
2. A levy on the motor registration fee
3. A levy on purchase of motor fuel.
4. A special license fee for cycle rental companies which will obviously flourish with the construction of the pathways.
5. A levy on the gross receipts tax for those business houses directly or indirectly benefitting from the facility.
6. A levy on the hotel occupancy tax.
7. Direct capital contributions from business houses who would directly or indirectly benefit from the facility.
8. Business sponsorship of sections of the pathway. Such sponsorship would entitle the business name to be incorporated into signage over the sponsored sector with other advertising signage allowable in aesthetically acceptable locations.

The above list is by no means exhaustive or presented in any particular order of preference. It would be feasible that the optimum funding arrangement could include a number of these alternatives.

ROUTE 14a TRIAL SECTOR





RIDER HUNT LTD

Guam

ROUTE 14A TRIAL SECTOR

To expedite the construction of the trial sector along Route 14A direct Government funding maybe necessary.

We recommend, however that approaches be made to major business houses in the direct vicinity of the San Vitores Drive Intersection to contribute towards the cost. Included in these business would be the Pacific Islands Club and the Pacific Star Hotel.

It may also be feasible to solicit a further contribution from the K Mart Corporation towards the cost of the Marine Drive end of this sector.



RIDER HUNT LTD
Guam

CYCLE/JOGGING PATHWAY ESTIMATED COST OF CONSTRUCTION

ROUTE 14A. TRIAL SECTOR

We have estimate the cost of construction inclusive of design and construction management fees for the trial sector along Route 14A to be within the range of \$325,000 to \$375,000.

This estimated cost excludes the cost of the improvements to the intersection to Marine Drive and Route 14A being constructed as part of the K Mart development.

OVERALL PROJECT

We are unable to provide realistic estimate for the total construction cost of either individual stages or the overall project until substantial additional detail design work has been completed.

This additional design work would require to include the following information:

1. Extent of each construction option for the pathway.
2. Extent of alteration to existing roadways.
3. Extent of protective barriers between the pathways and roadways.
4. Extent of landscaping to be incorporated
5. Location of GPA power poles and other utilities which would require to be relocated.
6. Extent of pathway to be built on private land or incorporated into existing driveways, parking areas, etc.
7. Amount of civil works, excavation and/or retaining walls required.
8. A draft schedule for the construction of each stage.

IX. Appendix

News Article

Planning Criteria

FORUM TOPIC

Budget traffic solutions

Lines of traffic continue to lengthen on Marine Drive and other main central and northern streets. With the addition of major new retailers such as Kmart and Cost-U-Less, and the reconstruction of Route 16 in busy and growing Harmon, the problems are likely to get worse before they get better.

What are your ideas for solving traffic problems and anticipated traffic problems ... keeping in mind the island's money problems?

OUR OPINION

Keep trying to coax people out of cars

Automobiles are the modern status symbols, illustrating our taste in the styling and accessorizing, our income on the grill, and our politics on the bumper.

The 20th Century love affair with automobiles is most prominent in Los Angeles, where more than half the land is dedicated in some way to autos in streets, freeways, parking lots, driveways, garages, dealerships, or repair shops.

That love affair is no less ardent on Guam, but there is a way that the island could, or should, devote so much space to autos. What we need is a more efficient transportation system, not more pavement. That will require a combination of trip reduction, creative engineering, and maximizing the use of existing space and infrastructure.

As the island anticipates new retailers in already-congested Harmon, partial solutions already suggest themselves. Engineers should (and in some cases, have) study "short cuts" and alternate routes already in use and upgrade them to safely handle overflow traffic. (Examples: Tun Jesus Crisostomo Street between the Sunny complex and Gibsons, and San Jose Salas Street to Pick-A-Nail Road).

Right-of-way should be acquired and roadways should be installed alongside McDonald's in Harmon and from Macheche Hill through the flea market to reduce Marine Drive traffic, open up the Harmon strip for more development, and provide an alternate route to the rear of Kmart.

Provisions should be made to improve the Airport Road/Marine Drive intersection before the Aspac Plaza breaks ground there. And the route through NAS should be fenced off from the runway, and made available to drain traffic from Macheche and Agana.

Eventually — when and if money begins to flow into the government — several intersections may require overpasses to make traffic flow more smoothly. The island's traffic master plan already has sites for over- and underpasses.

But as much as roads are improved or expanded, traffic quickly surges ahead. The best long-term solution short of paving the island under is to keep experimenting with ways to get people out of cars, using mass transit or at least sharing rides and reduce the number of vehicles off the roads.

The government should provide leadership for a "trip reduction" program, with employee incentives (even passes) for the use of mass transit, convenient park-and-ride lots, and choice, close-in parking spaces for car or van poolers and, perhaps, supporting the program with back-up transportation or emergency taxi vouchers for unexpected trips during the workday, such as to pick up a sick child at school, and the use where possible of bicycles.

Flex-time scheduling also can help cut peak-hour traffic. Then, work on ways to get the private sector involved in the flex time, trip-reduction, mass transit efforts.



Use tolls, bike and skate lanes

BY PETER C. MAYER

The budget crisis may end the typical non-solution to traffic woes, more traffic lanes! Downs' Law states that, with widening of a highway, traffic increases such that peak congestion remains unchanged. If Guam learns this law and acts on its implications, the budget crisis will prove to have been most desirable.

I will focus on two solutions to Guam's traffic congestion: time-of-day highway toll through use of electronic license plates and providing for commuting and other travel by bicycle and Rollerblades. Neither solution is costless, but both are cheaper than the non-solution of more lanes.

Proven electronic license plate technology is available. A car with an electronic license plate can be identified by a sensor in the road. Given that all motor

COMMENT

vehicles must enter through the Port, Guam can easily require electronic plates on all cars.

To illustrate the use of electronic license plates for imposing time-of-day tolls, consider a sensor on the North bound lanes of Marine Drive between the ITC building and Airport Road. Impose a high toll on the owner of the car crossing the sensor between 5 and 6 p.m., a low toll for a car passing at 2 p.m., and no toll for a car passing at 2 a.m. The car owner is billed once a month. Such tolls will reduce travel during peak travel times.

Two items will help provide for travel by bicycle and Rollerblades. First, build on all highways raised, paved shoulders. Raised shoulders will dis-

courage drivers from using the shoulder as a traffic lane and prevent gravel from accumulating on the shoulders. As governing by example, all Government of Guam work places should provide for showers and lockers. Then employees may change clothes for work after bicycling. Rollerblading or running to work. These proposals require spending, but are cheaper than the non-solution of more traffic lanes. Providing for bicyclists and skaters has two other benefits: improved public health and reduced pollution.

These solutions and others proposed on this page require a commodity that has been in shorter supply on Guam than cash: faith in ourselves; that is, faith that Guam can be a leader by providing new and quality solutions.

Peter C. Mayer is an economist

Transit is an essential solution

BY RAMONA T. PEREZ

The topic for this week's Forum — Solving Traffic Problems and Anticipated Traffic Problems While Considering the Island's Money Problems — speaks to the very mission and purpose of the Guam Mass Transit Authority (GMTA). We at GMTA believe that any solution for Guam's traffic problems must include a commitment to mass transit.

Long waits in heavily congested traffic lines have become common to everyday life on Guam. It's apparent that there is a problem with the number of cars on our island's roads, and the problem won't be solved by the old solution of widening and building more roads. Eventually, we're going to run out of space. Land surface area is an extremely limited commodity, and it simply isn't practical to take up so much of this valuable resource just to build more roads and parking lots. In addition, continuous expansion and maintenance of Guam's roadways

COMMENT

costs more and more every year.

A more practical solution to our traffic woes lies in decreasing the island's dependence on the "one person per car" theory, and increasing the use of mass transportation. Guam currently has a public transportation system consisting of the Freedom Express (serving persons with disabilities); the Maudai Express which runs along fixed routes; and the Guaha Shuttle which provides a Dial-a-Ride service, meeting requests for home pick-up and transportation to sites along the Maudai Express route.

Although there is clearly room for improvement, the public bus system has steadily grown over the past few years, and it currently has routes that cover most of the island's busiest roads during peak traffic hours. Yet, use of the system still remains rather low. Perhaps people aren't aware of how considerable are the ad-

vantages. The primary and most obvious advantage is that increased use of public transportation will immediately decrease the number of vehicles on the road and reduce traffic congestion. But, there are also other advantages. First, it saves money for individuals who use the system by reducing the wear and tear cost on their private vehicles. Second, having fewer vehicles on the road will decrease air pollution and wear and tear on the island's roadways. Finally, use of public transportation would help alleviate and already bad parking situation in many of our island's business districts.

Guam can't avoid the problems anticipated with increased business, tourism and jobs. But we can sensibly address these problems if we are creative in our solutions. Guam Mass Transit is one such solution that deserves the support of our government leaders and the community.

Ramona T. Perez is GMTA public information officer.

Pacific Sunday News

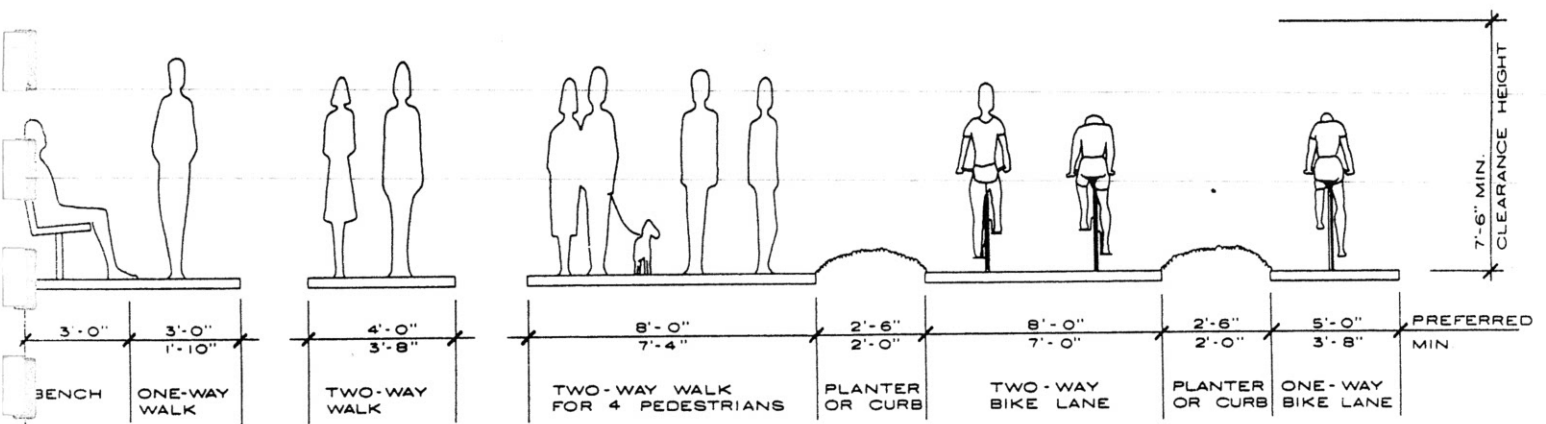
A Gannett Newspaper

LEE P. WEBBER/Publisher

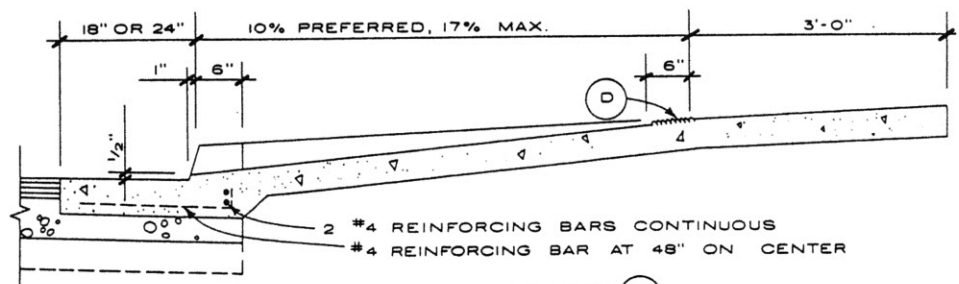
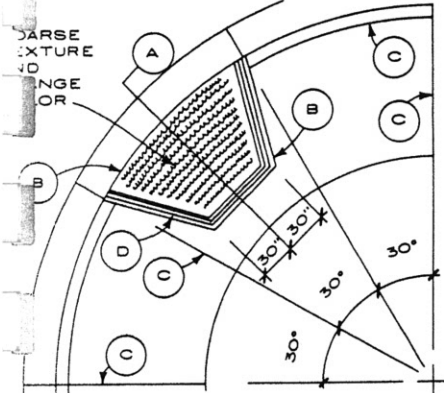
MARGARET SIZEMORE/Managing Editor

MARK R. COOK/Editorial Page Editor

Walks, Curbs, and Paving



WALK AND BIKE LANE WIDTHS



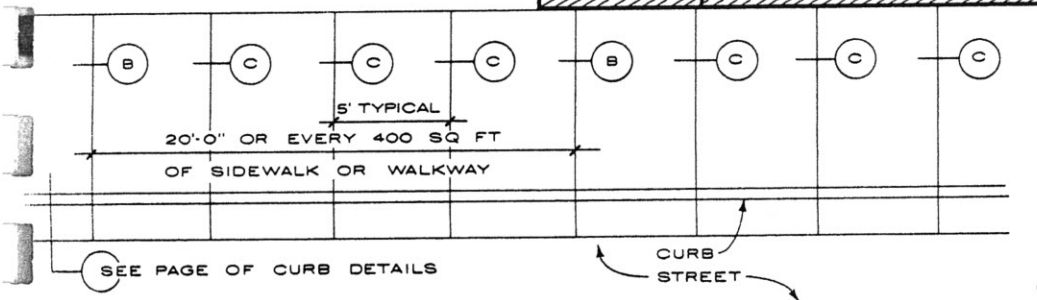
SECTION (A)

FOR (B) AND (C) SEE WALK JOINTS BELOW

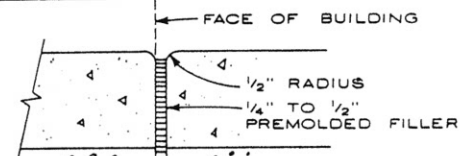
(D) BORDER WITH 1/4" GROOVES 3/4" ON CENTER

WHEELCHAIR RAMP AT CURB

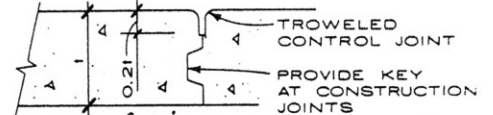
ROUND CURB SHOWN IN PLAN. SECTION TYPICAL FOR ANY CURB



AT FACE OF WALL USE EXPANSION JOINT (B)



EXPANSION JOINT (B)

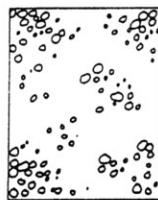


CONSTRUCTION CONTROL JOINT (C)

WALK AND CURB JOINTS

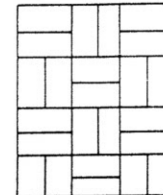
ROCK SALT

Spread on troweled surface and press in. Wash salt away after concrete hardens. Protect planting.



EXPOSED AGGREGATE

Seed aggregate uniformly onto surface. Embed by tamping. After setup, brush lightly and clean with spray. If using aggregate mix, trowel and expose by washing fines or use a retarder.

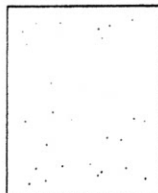


PRESSED OR STAMPED

Stock patterns are available. Use integral or dry shake colors. Joints may be filled with mortar.

BROOM SURFACE

Use stiff bristle for coarse texture. Use soft bristle on steel troweled surface for fine texture.



TROWELED

Use wood float for coarse texture. Use steel float for fine texture.



NONSLIP

Apply silicon carbide (sparkling) or aluminum oxide at 1/4 to 1/2 psf; trowel lightly.

WALK SURFACES AND TEXTURES

