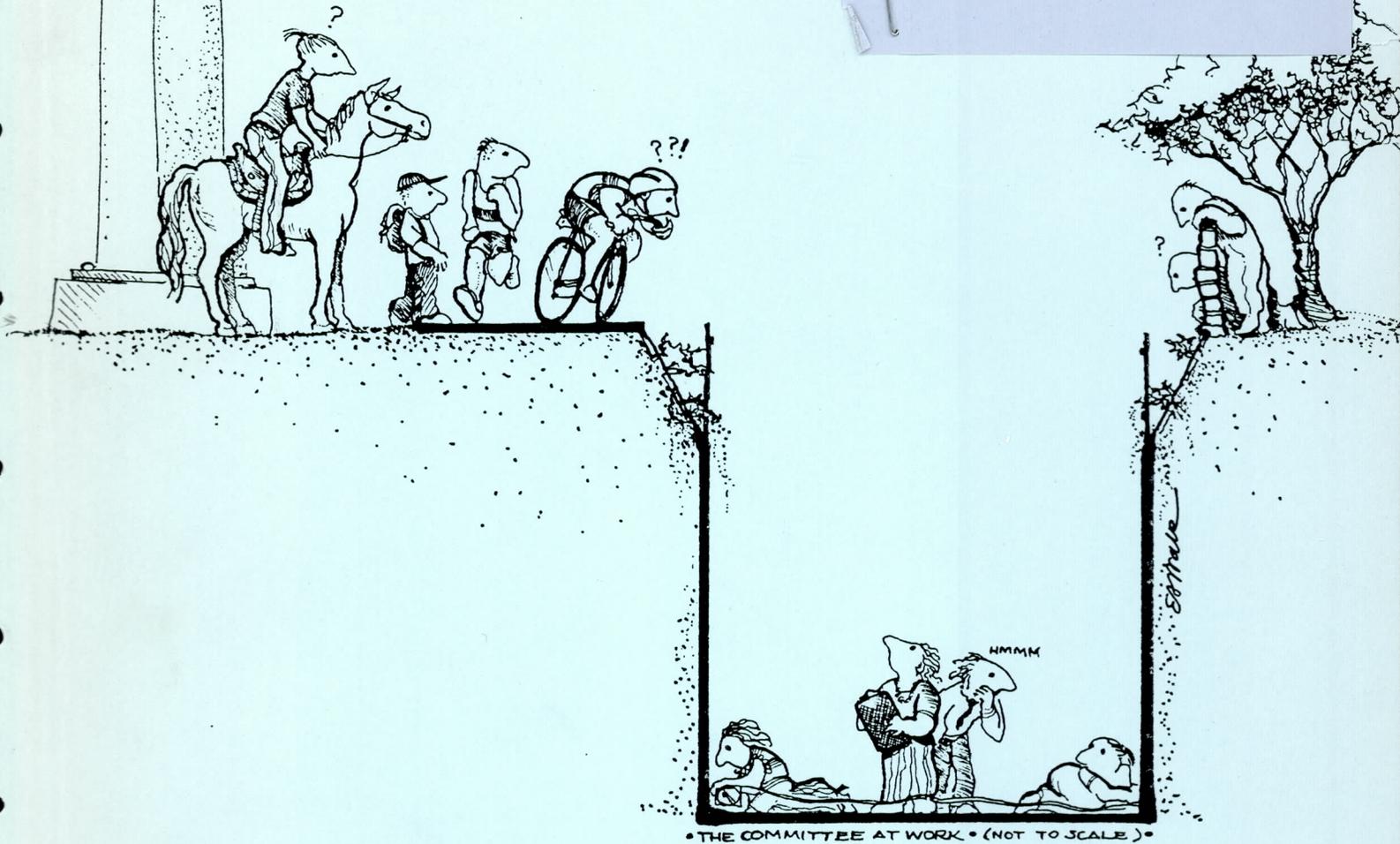


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FINAL REPORT

ARIZONA CANAL DIVERSION CHANNEL AESTHETICS COMMITTEE

MAY 5, 1989

A118.916

TO: Mayor Terry Goddard
Members of the City Council

FROM: Betty Drake, Chairman
Arizona Canal Diversion Channel Aesthetics Committee

DATE: May 5, 1989

RE: Transmittal of ACDC Aesthetics Committee Final Report
for Review and Comment

The ACDC Aesthetics Committee is pleased to transmit this copy of its final report. It is a lengthy document, reflecting the hundreds of hours volunteered by Committee members and the complexity of the task assigned. We are very appreciative of the support given to the Committee by City staff and of the input of technical advisors, trail groups, landscaping "experts" of all kinds, homeowners, business owners and the general public.

The report includes a concise Executive Summary, General Recommendations and Site-Specific Recommendations. Site-Specific Recommendations are arranged geographically, so information on areas of particular interest can be easily located. At the beginning of the report is a brief comment on "The Need for Council Action," which we hope you will give serious consideration.

We welcome your comments and questions and will be happy to meet with you to discuss any aspect of the Committee's work and the report.

FINAL REPORT

ARIZONA CANAL DIVERSION CHANNEL AESTHETICS COMMITTEE

Committee Members

Betty Drake, Chairman
Lisa Dent
Kris VanDenburgh
Sid Friar

Former Committee Members

Richard Lee
Debra Cody
Jasper Hawkins
Cruz Maldonado

May 5, 1989

**ARIZONA CANAL DIVERSION CHANNEL AESTHETICS COMMITTEE
FINAL REPORT**

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PREFACE: THE IMPORTANCE OF COUNCIL ACTION

The ACDC Aesthetics Committee hopes that the City Council will take immediate, positive steps to follow up on Committee recommendations. Yes, it is late in the game. We know that ACDC construction and design are well underway....but we also know that the ACDC will be a permanent and undeniably significant addition to the Phoenix landscape.

The Channel's benefits to the city in terms of flood control must be considered in the context of its impact on the everyday lives of the people who live, drive, walk, jog, ride and bicycle along it. Major storms are seasonal, occasional and ephemeral....but people look out of their windows, sit in their yards, walk along the canal banks and cross them in cars every day after day, all year long.

Canals like the Arizona Canal have generally been considered "good neighbors" -- ribbons of water winding through town, with usable trails or banks and shady trees here and there. What kind of neighbor will the ACDC be? Is there any hope of softening the impact of an empty, mostly vertical-sided, 24- to 26-foot deep concrete ditch? Will even the most lavish landscape treatment lessen the harshness of the Channel?

Landscaping, walls, artworks and other "aesthetic" improvements are only part of the answer. Camouflaging the ACDC doesn't really give its neighbors and trail users back the amenity they had prior to its construction....let alone improve conditions. Yes, it will decrease flooding but it may also bring less desirable impacts.

Whether justified or not, many people feel threatened by the Channel. They look straight down to a sheer 24 or 26-foot drop from steep embankments. They envision pets or children slipping through or over the "wrought iron" fence and falling to the bottom of the concrete channel. They worry about odors and standing water and potential health problems. They worry about decreased privacy and security.

The Committee heard these and other fears expressed over and over....but the ACDC is a fact of life. **The real challenge, perhaps, is how to find an opportunity in the building of the ACDC for Phoenix and the other agencies involved to get back something of quality for neighborhoods in the heart of the city?**

Is it possible that we can still get something of real, immediate amenity out of ACDC?.....something that all the people of Phoenix can enjoy on a daily basis?.....something that enhances our quality of life as well as solves our flooding problems?

It may be too late to turn the ACDC into Indian Bend Wash, but it may not be too late to make dramatic improvements. The City is

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investing millions in downtown, in the airport and in cultural, sports and entertainment facilities. Why not invest in permanent improvements to our neighborhoods as part of the ACDC work? **Why not give the people who have made the commitment to live and work in Phoenix something that they can enjoy close to home?**

The Committee identified two ways in which ACDC can potentially make a significant contribution to the quality of our everyday lives in Phoenix:

- o the opportunity to create distinctive **neighborhood landscape and public art themes**; and
- o the opportunity to create a unique, top-quality recreational asset - **a properly designed ACDC trail that almost spans the entire city, from 40th Street to the Glendale city limits.**

Just imagine being able to walk or bicycle a few blocks to the ACDC trail and then go all the way to MetroCenter, up Dreamy Draw or Cave Creek Wash and then east through the Biltmore! Imagine a trail system that was designed to the highest standards -- not a makeshift solution patching together maintenance roads and bits of sidewalk.....but a high-quality recreational trail, constructed to meet the safety and convenience standards embodied in state-of-the-art trail design guidelines.....for all types of trail users, for the anticipated mix of users and for the large volumes of users that can be expected.

The ACDC Aesthetics Committee has formulated this report in the hope that its recommendations will result in effective action by City Council. The aesthetic and quality of life impacts of the ACDC will be lasting and pervasive. Decisive, energetic leadership from Council is needed immediately if the ACDC is to realize its full potential to become a contributor to improved quality of live in Phoenix.

ARIZONA CANAL DIVERSION CHANNEL AESTHETICS COMMITTEE

FINAL REPORT: EXECUTIVE SUMMARY

In October, 1986, the City Council appointed the Arizona Canal Diversion Channel (ACDC) Aesthetics Committee to develop design and appearance standards for application to the Channel and associated improvements. The Committee has organized its recommendations into two groups:

- o General Recommendations (applicable to the entire ACDC)
- o Site-Specific Recommendations (applicable to specific areas along the ACDC).

The recommendations are the result of over two years' work by Committee members with input from the City of Phoenix, Maricopa County, Army Corps of Engineers, Arizona Department of Transportation, the City of Glendale and other agencies. Much valuable comment and ideas were provided by members of the public and by technical advisors. Committee members spent many hours walking or bicycling the ACDC route, completing 15-page survey forms for 14 "sub-reaches", reviewing plans, talking to neighbors and observing ACDC improvements constructed to date.

Six major "issue areas" were identified:

- A. Decking
- B. Underpasses
- C. Bridges
- D. Landscaping
- E. Parks and Schools
- F. Trails.

For each of these, a general description of the importance of the issue to ACDC aesthetics was developed, along with a goal, objectives, review guidelines and recommendations.

General Recommendations are organized by issue area (decking, bridges, etc.) with highest priority recommendations summarized. Site-Specific Recommendations are organized geographically, from west to east, with analysis of issues and recommendations presented for each of 14 sub-reaches. These recommendations are more detailed and reflect specific neighborhood input and observations by Committee members.

This Executive Summary addresses only the General Recommendations. Major recommendations are summarized for each issue area, along with related goal, objectives and overview of key findings. Specific recommendations for each of the 14 sub-reaches are summarized at the beginning of each sub-reach discussion (starting on page 70).

ACDC Aesthetics Executive Summary

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A. DECKING

The Committee feels strongly that **the very substantial aesthetics benefits of decking need to be stressed and that priorities for possible future decking should be established.** Benefits and constraints associated with decking include:

Benefits

- o Show a tangible, long-term commitment to quality of life in Phoenix.
- o Maintain good views for residents overlooking the ACDC.
- o Maintain or enhance views of the Arizona Canal for motorists.
- o Enhance views and the recreation experience of trail users.
- o Increase safety.
- o Increase multiple-use potential.
- o Decrease area impacted by ACDC construction.
- o Decreased Channel maintenance.

Constraints

- o High costs.
- o Decking costs cannot be met by Army Corps of Engineers unless necessary for safety or substantial cost-benefit advantages.
- o No City Council position on decking where needed for open space, trails and recreation.
- o Advanced state of ACDC construction.

1. Goal

Identify high priority areas for decking additional portions of the ACDC where exceptional long-term community benefits of aesthetics, preservation of neighborhood quality, expanded use options and safety can be demonstrated.

2. Objectives

- o Define areas where decking can provide the greatest visual benefits.
- o Define areas where decking can provide the greatest safety benefits.
- o Define areas where decking can provide expanded options for multiple use.
- o Deck design should assure safety and cost-effective maintenance of the Channel and of improvements associated with decking.

3. Findings and Recommendations

Based on stated objectives and guidelines and on extensive fieldwork by Committee members, the following areas have been identified as having highest priority for decking of the ACDC:

- o 43rd Avenue/Peoria intersection area
- o 29th Avenue intersection area
- o Central Avenue to eastern Reach 3 boundary
- o Glendale Avenue/16th Street intersection west to 14th Street
- o 24th Street to 19th Street.

Staff indicates that future decking is possible without City investment in structural modifications to the Channel at this time. This will give the City the flexibility to consider future decking at any location.

The ACDC Aesthetics Committee appreciates the costs, timing constraints and the fact that the ACDC has been designed primarily to meet flood protection needs in the most cost-effective way. The Committee, however, urges consideration of other needs as well and of giving these needs a high priority in recognition of the ACDC's long-term impacts on the future of Phoenix.

B. Underpasses

Underpasses provide continuity to the ACDC trail system. They remove barriers to trail use by allowing safe and easy access across busy streets and freeways. They are the key to a quality recreational experience by all types of trail users.

1. Goal

To insure that the design and location of underpasses maximizes benefits to all trail users: pedestrians, bicyclists, equestrians and the handicapped.

2. Objectives

- o Make every effort to provide underpasses at all ACDC crossings of major arterials and freeways, where traffic levels constitute a hazard or major inconvenience to trail users.
- o Underpasses should be equally and readily accessible to all trail users.

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- o Underpass design standards should meet the most restrictive criteria--whether for bikes, horses, pedestrians or the handicapped--to provide for safe use of the underpass.

3. Findings and Recommendations

- a. **Highest priority should be given to provision of an underpass at 12th Street.** This area experiences very heavy trail use. Twelfth Street has high peak-hour traffic volumes. The ACDC crossing is at a dangerous mid-block location approximately one-half mile from the nearest signalized intersection.
- b. **High priority should also be given to provision of underpasses at 29th Avenue and 32nd Street.**
- c. **At major street crossings where no underpass is provided (e.g., 43rd Avenue and Peoria) a first-hand look should be taken at the path likely to be used by bicyclists and other ACDC trail users. Any hazards or barriers to safe, convenient crossing should be eliminated.**
 - o Utility poles or boxes, fire hydrants and similar obstructions should be relocated from the path.
 - o Ramp designs should be modified if necessary so trail users can travel straight across the street rather than be forced to angle out into the intersection (Figure 5).
 - o Turning radii for accessing ramps should be maintained in accordance with AASHTO standards for bicycle facilities (Figure 4).
- d. **Where underpasses are provided:**
 - o Underpass trail approaches must be designed (or retrofitted if already constructed) to provide adequate turning radii for bicyclists turning onto the ACDC trail from intersecting streets (Figure 4).
 - o Improve installation of drainage grates in underpasses, so the grates are flush with the pavement, with no gaps that could trap a bicycle tire. Use only bicycle-safe grate designs.
 - o Existing underpasses at Glendale Avenue and 24th Street do not meet trail design standards for equestrian and bicycle use. Unless these are to be replaced, improvements to drainage, access, lighting and signage are needed (see "Site-Specific Recommendations").

C. BRIDGES

Bridges across the ACDC are important in three key ways:

- o as vantage points from which motorists will view the ACDC;
- o as connections for trail users going to and from the ACDC trails from intersecting streets;
- o as de facto ACDC trail segments, where no underpasses exist and trail users must cross the bridges to get to the nearest signalized intersection.

2. Goal

Design bridges to maximize good views, safety and convenience for all trail users and motorists.

3. Objectives

- o Ease of access to the trail system should be assured in bridge design and construction.
- o Safety for all trail users (pedestrians, bicyclists, equestrians and the handicapped) and motorists is essential in design, construction and maintenance of the ACDC bridges.
- o Consideration should be given to widening and landscaping bridges in areas of high visibility, high trail use and where bridges are a key neighborhood gateway feature. Special bridge designs could incorporate landscaping or artist-designed elements to reflect neighborhood character.

4. Findings and Recommendations

Preliminary surveys conducted by the Committee indicate that none of the bridges meet all listed standards. The bridges were clearly not designed with use by bicyclists, horsemen and other trail users in mind....particularly for multiple-use, bi-directional travel and heavy volumes of non-motorists.

Of particular concern are the following:

- o Low bridge railings. Bridge railings are below height standards for equestrian and bicycle trails (AASHTO guidelines recommended as a guide for bicycle facilities);
- o Substandard rub rails provided. Rub rails in some cases are not smooth and in almost all cases are below recommended heights.

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- o Insufficient "trail"/sidewalk width. Given heavy volumes of trail traffic expected in some areas, along with likelihood of bi-directional use and shared use by different groups (bicycles, horses, etc.) the 4 to 5-foot sidewalks found on existing bridges are seriously substandard and constitute a potential hazard to trail users. The 8-foot width planned on new bridges also is insufficient (see AASHTO standards). Serious consideration should be given to alternative trail routing to discourage use of ACDC bridges.
 - Insufficient horizontal clearance to vertical obstructions and trail drop-offs. In some cases utility poles and railings/barriers narrow the effective width of the pathway. In others, a vertical curb at the edge of the path drops to the roadway. Additional trail width should be provided in these cases to allow adequate clearance.
- o Inadequate warning, directional and regulatory signage for trail users at bridges. Serious hazards may exist where signage is not present. The ACDC trail meets intersecting streets at right angles. To prevent ride-outs into busy, major arterials, barriers and/or warning signs are needed directing trail users to make a sharp right turn onto the bridge. Signage is also needed to warn of intersection approaches, to guide trail users through complex intersections, to slow and watch for traffic.
- o Design of trail connections to the bridges is substandard. Horizontal radius of curvature for (especially) bicycles turning onto or off of the bridges is not up to standards recommended by AASHTO. This hazardous situation should be corrected.
- o All bridges should be evaluated in terms of adequacy, given generally accepted trail bridge design standards (AASHTO, for bicycles). Where needed, bridges should be retrofitted to bring them up to standards.
- o Poor maintenance of bridge sidewalks was observed by Committee members on virtually all visits to the ACDC. Trash, dirt, glass and debris are a very serious hazard and a detriment for trail users.

Trail users wishing to access the ACDC or to connect from ACDC to a signalized intersection will often have to cross the Arizona Canal bridge as well as the ACDC bridge. The existing Canal bridges generally have narrow sidewalks, low railings and, in a few cases, vertical curbs that are a hazard to many types of trail users. It is strongly recommended that an ACDC Citizens' Committee work with City staff and Salt River Project to address possible retrofit to enable safe and comfortable travel for all trail users.

Committee fieldwork indicates that the bridges themselves will offer little effective screening of the ACDC channel as presently designed. In some cases, special bridge design (e.g., public art project) may result in improved screening or at least in creating a competing vista for motorists. In most cases, however, ACDC landscaping on both sides of the road, at both ends of the bridge will be the primary means of softening ACDC views. This landscaping should generally be increased in density and size of materials over that proposed to provide effective screening.

D. LANDSCAPING

Landscaping is perhaps the most important element of ACDC aesthetics; and the Committee devoted a great deal of time to discussing related issues. Among these are:

- o appropriateness of ACDC landscaping theme/palette to adjoining neighborhoods;
- o preservation of significant, existing trees;
- o assuring high-quality maintenance;
- o adequacy of plant sizes and quantities to create effective screening in our lifetimes;
- o concern with erosion and landscaping of steep banks;
- o adequacy of the irrigation system.

Since landscaping has already been installed in western portions of the ACDC, Committee members were able to see first-hand what is proposed for the balance of the project. Reports are not encouraging. Extensive erosion was observed. Plants were very widely spaced and not large enough to assure any immediate visual impact. Many dead plants were observed that have not been replaced despite repeated assurances to the Committee that maintenance will be of highest quality.

These deficiencies can be remedied. It is hoped that the Corps and the County can demonstrate to the City Council that tangible steps have been taken to eliminate problems and assure higher standards of landscaping and maintenance in the future.

1. Goal

To insure that the completed landscape reflects specific neighborhood character while providing screening for property owners and motorists, amenity for trail users and emphasis for activity nodes.

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2. Objectives

- o Plant selection should take into account the various needs of people affected by the Channel.
- o High-quality irrigation systems should be installed to insure the longevity of plant materials.
- o Use landscaping to enhance and strengthen community character.
- o Insure high standards for maintenance of all landscape treatments.

3. Findings and Recommendations

Areas where ACDC landscaping is not at a level appropriate to its visibility and surroundings (take steps to improve):

First priority

51st Avenue/Cactus intersection
Arroyo School area
43rd Avenue/Peoria intersection
35th Avenue intersection
19th Avenue intersection
Dunlap to 19th Avenue
Central Avenue to eastern Reach 3 boundary
North Avenue bridge area
Glendale/16th Street to Squaw Peak Parkway
19th Street to 24th Street
Undecked areas between 24th Street and 32nd Street
32nd Street to ACDC spillway.

Areas where opportunities exist for establishing distinctive landscape themes to strengthen neighborhood character or to add recreation facilities:

First priority

51st Avenue/Cactus intersection
43rd Avenue/Peoria intersection
35th Avenue intersection
19th Avenue to 47th Avenue, various sites
29th Avenue intersection
7th Avenue intersection
Dunlap Avenue intersection
Dunlap to Central Avenue, various sites
Central Avenue to eastern Reach 3 boundary, various sites
7th Street bridge
12th Street and Oranewood/State
Glendale/16th Street triangle
19th Street to 24th Street, various sites
24th Street to 32nd Street, at San Miguel crossing

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Stanford Drive area
32nd Street intersection

Areas of high priority for preserving significant vegetation:

First priority

Dunlap Avenue intersection
Dunlap Avenue to Central Avenue
Central Avenue to eastern Reach 3 boundary
Eastern Reach 3 boundary to 14th Street
19th Street to 24th Street
24th Street to 32nd Street

Areas where aesthetic treatment of adjacent properties is needed to screen unsightly areas:

First priority

51st Avenue/Cactus intersection
Cactus to 47th Avenue
19th Avenue to Dunlap Avenue
Glendale/16th Street, northeast intersection triangle

Strong concerns were raised by homeowners in areas where visual barrier walls have been constructed and homes face the ACDC. This report recommends specific design treatments addressing homeowner complaints (see Figure 10, page 93).

E. PARKS AND SCHOOLS

The proximity of public parks and schools to the ACDC poses some specific concerns regarding safety, access and general aesthetics. Since the ACDC will be viewed as an "extension" of parks or of school grounds in some cases, it is particularly important that design character be compatible and of high quality.

1. Goal

To insure high levels of safety, accessibility and aesthetic experience for all people at schools, parks and public attractions in the vicinity of the ACDC.

2. Objectives

- o Ease of access is essential between channel recreational trails and parks, schools and public attractions.
- o Because of high concentrations of children and public activity in these areas, safety is of utmost importance

and highest priority should be assigned to assuring safety in these areas.

- o All park and school facilities impacted by ACDC construction must be replaced with equivalent or higher-quality facilities.

3. Findings and Recommendations

ACDC plans are generally adequate in terms of meeting stated objectives and guidelines related to parks and schools:

No areas were identified where ACDC will generate specific security problems.

Replacement of park and school facilities with like facilities or landscaping is planned in all cases.

Two areas were identified where additional turf should be considered to provide a usable amenity for trail users:

- o Adjacent to Sunnyslope High School
- o At Cave Creek Park

Trail access between the ACDC and Cortez Park should be improved.

F. TRAILS

The ACDC trail has the potential to become a popular, high-quality recreational amenity for all Phoenix area residents. The Committee endorses the concept of developing a safe, functional and aesthetically pleasing ACDC trail for use by equestrians, bicyclists, runners, walkers and the handicapped.

1. Goal

To insure that the ACDC trails constructed provide a continuous, high-quality recreational experience, maximizing safety and security for both trail users and adjoining property owners.

2. Objectives

- o To provide a continuous, barrier-free trail system with linkages to existing trails, feeder streets, parks and schools.

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- o The ACDC trail system should be designed to maximize safety for all trail user groups -- pedestrians, equestrians, bicyclists and the handicapped.
- o Design the trail system to provide a varied, high-quality recreational experience.
- o Provide high-quality amenities and facilities to support the ACDC trail system.
- o Locate and design the trail to minimize adverse effects on adjacent properties.

3. Findings and Recommendations

It is recommended that trail design guidelines cited in this report be used to review and modify the ACDC trail. The Committee is concerned that the trail, as designed and partially constructed, is seriously substandard for planned multiple use. Accepted equestrian trail design standards and American Association of State Highway and Transportation Officials (AASHTO) "Guide for Development of New Bicycle Facilities" (1981) should be used, along with appropriate guidelines for design of facilities for pedestrians and the handicapped.

Specific areas of concern include:

- o substandard trail width for shared use
- o substandard shoulder width to steep Channel embankment and other obstructions
- o lack of warning, directional and regulatory signs
- o substandard horizontal radius of curvature for trails linking with underpasses and bridges
- o mixing horses and bicycles on multi-use trail
- o substandard bridge design for cyclists and equestrians
- o pedestrian bridges that present barriers to the handicapped, bicyclists and equestrians
- o maintenance road gates across the trail that disrupt trail continuity.

Places where the ACDC trail, as designed, may not be adequate to accommodate all users. The entire ACDC trail does not meet AASHTO guidelines for bicycle facilities or generally accepted standards for equestrian trail design, given planned multiple use of the trail and areas of expected heavy use. Specific areas of highest priority are discussed in the text on page 57-59.

The ACDC trail should be lighted for security and visibility reasons at:

- o all trail access points
- o all parks and schools
- o all overpasses and underpasses
- o other places, as needed (see Site-Specific Recommendations)

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Provision of low-level trail lighting in heavy use areas is also recommended.

Areas where the ACDC trail system connects to other existing or planned trails. The ACDC trail will be a major trail "arterial" with connections in all reaches to other trails. The entire length of the ACDC is part of the existing **Sun Circle Trail**, a designated "National Recreation Trail" that will provide a 110-mile loop around the Valley for hikers, bicyclists and equestrians. The Phoenix General Plan calls this trail the "primary loop trail that will connect with spoke trails throughout the City."

Other trail connections (see also pages 59-63) include:

- o City of Glendale trail system, extending west from 51st Avenue and Cactus Road.
- o From 39th Avenue: NORTH - planned trail extension to the Outer Loop; SOUTH - existing Arizona Canal Loop trail.
- o Arizona Canal bike path to Cortez Park.
- o 28th Avenue - planned trail from ACDC to Outer Loop
- o Cave Creek Wash trail system
- o Central Avenue, Murphy Bridle Path
- o Perl Charles Trail
- o Other planned trails east of 28th Street in Reach 4.

Areas where access between ACDC trails and major trail user destinations should be improved:

- o Cave Creek Park
- o 24th Street to 32nd Street (Arizona Biltmore)
- o MetroCenter

Areas where addition of rest stops or staging areas is recommended:

- o 51st Avenue/Cactus Road area
- o Cortez Park
- o Metro Parkway/29th Avenue area
- o Cave Creek Park
- o 7th Avenue/Dunlap area
- o Granada Park
- o 32nd Street/Stanford Drive area

G. LONG-TERM MONITORING AND EVALUATION OF ACDC IMPROVEMENTS

The Committee feels that it is important to establish a mechanism for ongoing monitoring of ACDC improvements and maintenance. There will be a need for additional review of ACDC design features and evaluation of the effectiveness of any retrofit or redesign that

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comes out of this Committee's work.

1. Goal

To insure responsible, high-quality maintenance of all aspects of ACDC aesthetics improvements addressed in the Committee report; and to provide for long-term monitoring and evaluation of safety and aesthetic impacts.

2. Objectives

- o Insure ongoing, high-quality maintenance of all plant materials, irrigation systems and other landscaping improvements.
- o Provide ongoing, high-quality trails system maintenance; monitor trail usage and provide periodic evaluation and recommendations for improvements.
- o Maintain all bridges (motor and trail/pedestrian bridges) and underpasses to insure a high standard of comfort and safety for all ACDC trail users.
- o Minimize impacts of ACDC on adjoining property owners by providing the opportunity for them to regain use of or to improve/beautify excess ACDC right-of-way following construction.
- o Establish a process for ongoing monitoring of ACDC construction, aesthetics improvements, evaluation and review that includes representatives of all affected agencies, adjoining property owners from all reaches and members of the general public.

3. Findings and Recommendations

Establish a way for members of the general public to report needed repairs or replacements to the responsible agencies and for verifying actions taken in response.

Conduct a detailed survey of all significant trees and other plant materials contributing to neighborhood character and ACDC aesthetics. Relocate or otherwise protect all existing trees found to be significant, in accordance with Committee guidelines.

Document and adopt a specific program for ACDC maintenance. Provide a method for the general public to report maintenance problems and verify actions taken.

All uses for decked areas of ACDC must be in conformance with

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the Phoenix General Plan. The Planning Commission and City Council should develop and adopt specific land use policies to guide evaluation of future development on decked areas. Use of decked areas should be subject to site plan review to assure that the continuity, recreational quality, safety and other aspects of ACDC trails are not compromised.

Policy should be developed by appropriate agencies for review, evaluation and accommodation of requests from property owners to regain use of "excess" ACDC right-of-way.

Establish a permanent committee by City Council appointment to be responsible for monitoring, review and evaluating aesthetics, safety and maintenance of the ACDC and associated improvements. With a mix of staff and citizen representatives, and an appropriate appeal process, the committee should:

- o monitor maintenance
- o review comments, suggestions and complaints
- o provide feedback to citizens on actions taken
- o evaluate aesthetics aspects of future ACDC improvements
- o evaluate impacts of proposals for reuse of decked areas
- o evaluate requests from adjoining property owners for use or improvement of ACDC right-of-way
- o monitor completion of the ACDC and recommend any needed changes in terms or aesthetics and trails
- o provide periodic evaluation of ACDC trail use and impacts
- o establish policy for ACDC-related land uses, and other matters, as necessary.

H. REQUESTED COUNCIL ACTION

The Committee requests that the City Council, after appropriate review and possible revision of this report, take action to:

- o accept the report in concept and
- o direct City staff to prepare a specific Work Plan for addressing Committee recommendations.

Following review and approval of this Work Plan, Council can take action directing staff to begin implementation steps, as needed.

I. INTRODUCTION

A. PURPOSE OF COMMITTEE

At its meeting of October 1, 1986, the City Council appointed the Arizona Canal Diversion Channel (ACDC) Aesthetics Committee:

"make recommendations to the City Council regarding the various aesthetic aspects of the Channel, including those conditions set forth by the Arizona Canal Diversion Channel Task Force. These design and appearance standards should be applicable to either the original ACDC proposal or the scaled down detention basin alternative now being considered. They should be generally applicable to the entire canal."

An eight-person committee was appointed, chaired by Betty Drake. The Committee became active in January, 1987 and held 23 public meetings, including a workshop for the general public at North High School. In addition, individual Committee members conducted field surveys of the ACDC, drafting issue statements, talking to concerned citizens and monitoring status of construction and design. The Chairman would especially like to recognize Lisa Dent, Kris VanDenburgh and Sid Friar for their patience, perseverance and effective work and to thank Dave Harmon, City of Phoenix Engineering Department and Dennis Scholtz, City of Phoenix Landscape Architect for their valuable and much-appreciated support and technical input.

Although the Committee's primary focus was on developing general aesthetics standards applicable to the entire ACDC, many ideas and questions were raised relating to specific areas along the Channel. Much valuable input from the public and from technical experts was received addressing both general and site-specific issues. The Committee wanted to make sure that this specific information was passed on to the City Council and staff and therefore structured its recommendations to address both standards applicable to the entire ACDC project and to specific "sub-reaches" within the Phoenix portions of ACDC.

B. ACDC HISTORY

The Arizona Canal Diversion Channel (ACDC) is a key element of the U.S. Army Corps of Engineers "Phoenix, Arizona and vicinity" flood control project. Potential solutions to flooding problems were evaluated by the Corps, working with the Flood Control District of Maricopa County and a comprehensive flood control plan was drafted. Following final planning and review, Phoenix City Council passed Resolution 14324, endorsing the plan.

The flood control project includes an integrated system of dams, channelization and flowage easements. The ACDC will intercept

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and convey discharges from Dreamy Draw Dam, Cave Buttes Dam and all other tributary flows west to Skunk Creek and south to New River, the Agua Fria River and ultimately, to the Gila River.

In Phoenix, the ACDC roughly parallels the north bank of the Arizona Canal from 39th Street at the upstream end to the Glendale City Limits at about 51st Avenue. A system of hiking, bicycling and equestrian trails is proposed, with rest areas and other facilities where right-of-way allows. Arid region landscape materials are proposed, with a continuous "wrought iron" security fencing and with screening fencing as needed. The channel itself is to be integrally colored concrete.

For purposes of design, funding and construction, the ACDC has been subdivided into the following "reaches" (see Figure 1):

REACH 1 -- Not in Phoenix

(75th Avenue/Skunk Creek to Cactus/51st Avenue)
(broad, shallow channel similar in concept to Scottsdale's Indian Bend Wash)

REACH 2A-- 51st Avenue to 47th Avenue

Trapezoidal channel (19-20 ft. maximum depth)

REACH 2B-- 47th Avenue to 29th Avenue

Vertical walls (110 ft. approximate width; 19-26 ft. maximum depth)

REACH 2C-- 29th Avenue to 21st Avenue/Cave Creek Wash

Vertical walls (110 ft. approximate width; 19-22.5 ft. maximum depth)

REACH 3 -- Cave Creek Wash to Dreamy Draw Wash/12th St.

Vertical walls (50-60 ft. width; 19-22.5 ft. maximum depth)

REACH 4 -- Dreamy Draw Wash to Cudia City Wash/39th St.

Vertical walls (40 ft. approximately width; 22.5-24.5 ft. maximum depth)

C. AREAS OF ACDC RESPONSIBILITY

The Army Corps of Engineers is responsible for design and construction of project elements.

Flood Control District of Maricopa County is the local sponsor for the ACDC and responsible for land and easement acquisitions, new

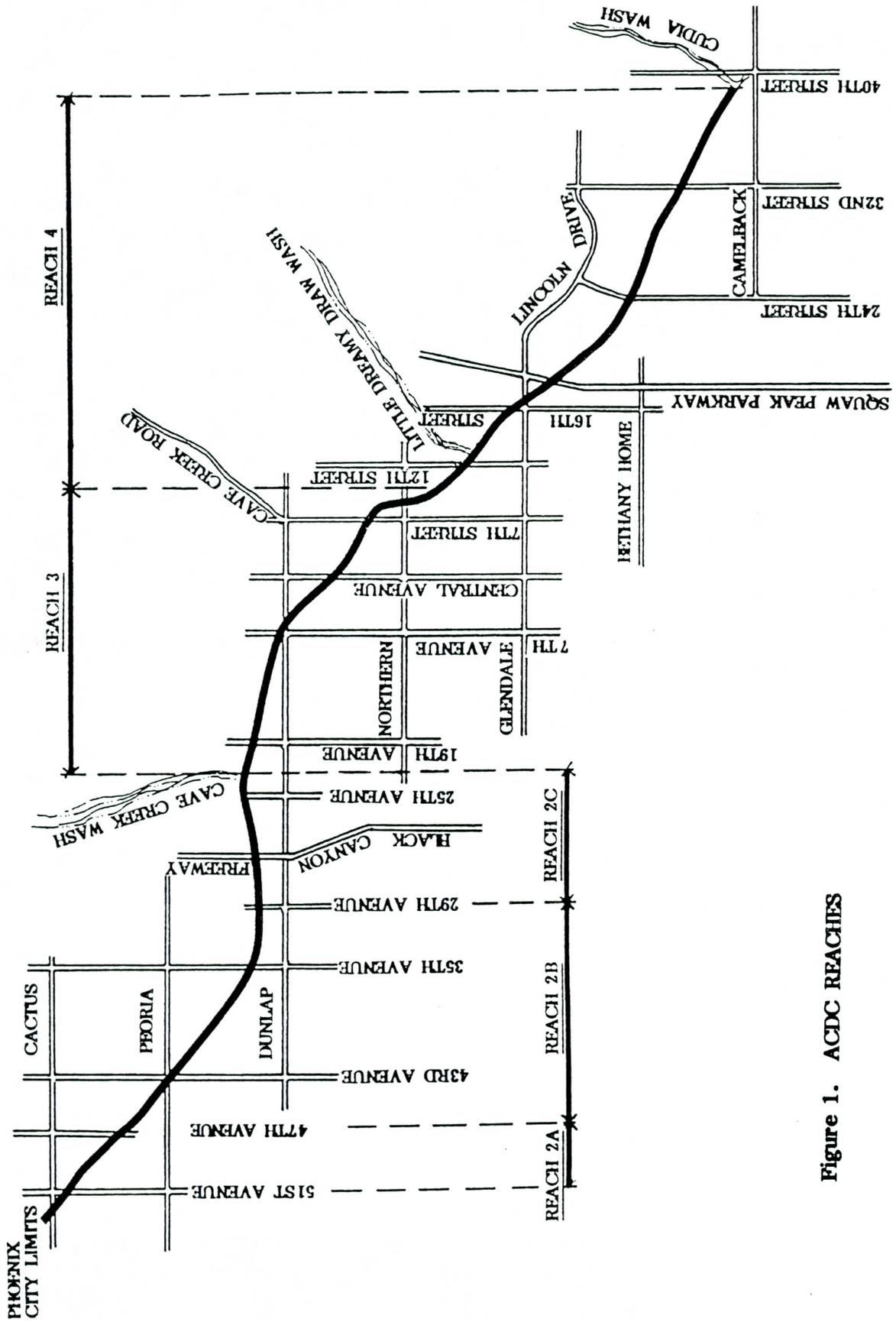


Figure 1. ACDC REACHES

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or relocated bridges and utilities, operation and maintenance of landscaping and facilities following construction and other items.

City of Phoenix provides input on matters such as recreational development, environmental and cultural resource preservation and aesthetics. Cost-sharing with other agencies is determined on a case-by-case basis.

The ACDC Aesthetics Committee provides recommendations to City Council for use as input during remaining design and construction stages, in future planning and as retrofit considerations.

II. METHODOLOGY FOR DETERMINING COMMITTEE RECOMMENDATIONS

A. MEETING SCHEDULE

The first meeting of the ACDC Aesthetics Committee was held on February 5, 1987. It was decided that weekly meetings would be held during initial stages of the Committee's work and that meetings would be held on an as-needed basis thereafter.

B. BACKGROUND AND TECHNICAL BRIEFINGS; GENERAL PUBLIC INPUT

Two meetings were devoted to briefings on the history of the ACDC project; proposed aesthetics treatments; defining information needs; distribution of maps, reports and other data; review of landscaping approaches and materials; trail standards; ACDC plans for Reach 1 (Glendale) and general orientation.

Throughout the Committee's work, periodic informational briefings were held on specific technical matters (e.g., fence design and costs, bridge design, plant availability and costs, underpass design, decking costs and constraints). Meetings were advertised in conformance with Public Meeting Law requirements; and members of the general public who attended were given the opportunity to comment.

C. DEFINITION OF PRELIMINARY LIST OF ISSUES

Committee discussion at the February 19, 1987 meeting resulted in the following preliminary list of aesthetic issues:

- o decking for multiple use
- o size and availability of plant materials
- o bridges and safety aspects
- o high priority areas, including
 - intersections
 - homes fronting on adequate ACDC rights-of-way
 - homes fronting on inadequate ACDC rights-of-way
 - angle of view from road/high visibility areas
 - landscape nodes
 - park and school areas
- o costs
- o maintenance reliability, costs and long-term budgeting
- o recreation areas, underpasses, joint-use trails, bicycle paths

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- o neighborhood character
- o active zones
- o passive zones
- o security, safety and privacy

D. REVIEW OF RECOMMENDATIONS BY ACDC TASK FORCE, CITY OF PHOENIX AND ARMY CORPS OF ENGINEERS

A detailed review of ACDC Task Force aesthetic "conditions" was held. Each condition was discussed separately and an Aesthetics Committee position was adopted with technical input from staff. Background related to conditions was provided by Aesthetics Committee members who had previously served on the Task Force.

The U.S. Army Corps of Engineers submitted a list of the concessions made in response to aesthetics concerns. The City of Phoenix submitted a list of about 35 recommendations and issues, many of them dealing with specific areas of the ACDC.

The Committee's review made it evident that there was considerable overlap and duplication among these various lists. While many common issues were identified, there were also conflicting recommendations.

E. REVISED GENERAL ISSUE CATEGORIES

The Committee's preliminary list of issues was expanded to include concerns addressed by recommendations of the Task Force, City and Army Corps of Engineers. Through Committee discussion, a consolidated list of issue categories was developed for use in further analysis and recommendations.

General Issue Categories (3/12/87)

- o Covering, decking over ACDC
- o Landscape materials: type, size, amount
- o Bridges and underpasses
- o Intersection treatment
- o Homes and streets: relationship to ACDC
- o Landscape nodes
- o Parks and schools
- o Trails and associated recreation facilities
- o Visibility/high visibility areas
- o Initial cost/maintenance
- o General aesthetics and design
- o Save existing trees

- o Neighborhood character
- o Landscape aesthetics/agreements
- o Monitoring of implementation
- o Safety issues

F. ACDC Aesthetic Issues - Conditions and Previous Recommendations Matrix

Using the 16 general issues categories, a matrix was developed so Committee members could readily compare the positions of the Corps, City, and ACDC Task Force with results of its own discussion of issues.

G. Revised Committee Issue Categories

The matrix was discussed at the Committee's March 19, 1987 meeting. It became apparent that the various groups represented on the matrix had made recommendations ranging widely in level of detail and with some internal overlap. The matrix categories were simplified further, grouping related recommendations and concerns to minimize redundancy. Five final aesthetic issue categories were defined:

<u>Final Issue Category</u>	<u>General (II.E) Issue Categories</u>
1. Structural Elements	Covering, decking over ACDC Bridges and underpasses (safety and design, location)
2. Landscaping	Amount, size, availability of landscape material Intersection treatments Homes fronting on ACDC/streets paralleling ACDC/homes backing on ACDC Landscape nodes (non-intersection) Saving existing trees Neighborhood character, special design themes Landscape easements, agreements to allow landscaping
3. Parks and Schools	
4. Trails	

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- 5. Monitor Implementation** Monitoring of implementation
All safety issues
Design and maintenance standards

H. Public Workshop

A public workshop was held on April 9 at North High School to receive public ideas and comment. Participation with homeowner's groups, trails organizations and other interested citizens led to increased awareness of the Committee's efforts and increased information flow to the Committee from participants.

I. Development of Issue Statements

Following the public workshop, a lengthy process of developing position statements on the five major issue areas was initiated. For each of the issue areas (trails, landscaping, etc.) statements included:

- o general description of the issue's importance
- o goals
- o objectives
- o design standards/other review guidelines so
 Committee can determine whether objectives have
 been met
- o checklist for conformance to guidelines

Discussion and refinement of these issue statements has been an ongoing process throughout the Committee's work. The issue statements are incorporated into Section III, General ACDC Aesthetics Recommendations (page 18 of this report).

J. Preliminary Aesthetics Survey Form

Based on the guidelines and checklists drafted as part of the five issue statements, a survey form was developed. The survey form addressed all questions on the checklists and was formatted to enable individual Committee members to evaluate aesthetics issues in the field. This survey form was discussed at several meetings and revised accordingly.

K. Define Sub-Reaches

While the survey form was being developed, a subcommittee reviewed the entire length of ACDC to see if there were "logical break points" for the Committee to use in structuring its recommendations. There was a strong feeling that site-specific recommendations needed to be made. There was, in many cases, substantial variation in uses, character and edge conditions within designated reaches. Defining smaller, sub-reaches enabled the Committee to give more focus to recommendations.

Subcommittee members walked or bicycled the entire ACDC length to get a first-hand look at the route to recommend boundaries for sub-reaches. Thirty-two sub-reaches were defined, including (from east to west):

1. Cudia City Wash at 39th Street
2. Stanford Drive
3. 32nd Street to 24th Street
4. 24th Street to 20th Street (Granada Park)
5. 19th Street to 14th Street
 - a. All right-of-way excluding intersection
 - b. 16th St./Glendale intersection
6. State Street to Reach 3 boundary
7. Reach 3 boundary to Central Avenue
8. Central Avenue to Dunlap
9. Dunlap to Hatcher
 - a. All right-of-way excluding intersections
 - b. Dunlap intersection
 - c. 7th Avenue intersection
10. Hatcher to Reach 2 boundary
 - a. 19th Avenue intersection
 - b. 19th Avenue to Reach 2 boundary
11. Reach 2 boundary to 25th Avenue/Cave Creek Park
12. 25th Avenue to 29th Avenue
 - a. All right-of-way excluding intersection
 - b. I-17 intersection
 - c. 29th Avenue intersection
13. 29th Avenue to 47th Avenue
 - a. All right-of-way excluding intersections
 - b. 35th Avenue intersection
 - c. 43rd Avenue/Peoria intersection
14. 47th Avenue to Reach 1 boundary/Glendale city limits
 - a. Right-of-way excluding intersection
 - b. 51st Avenue/Cactus intersection

Figure 2 illustrates these sub-reaches.

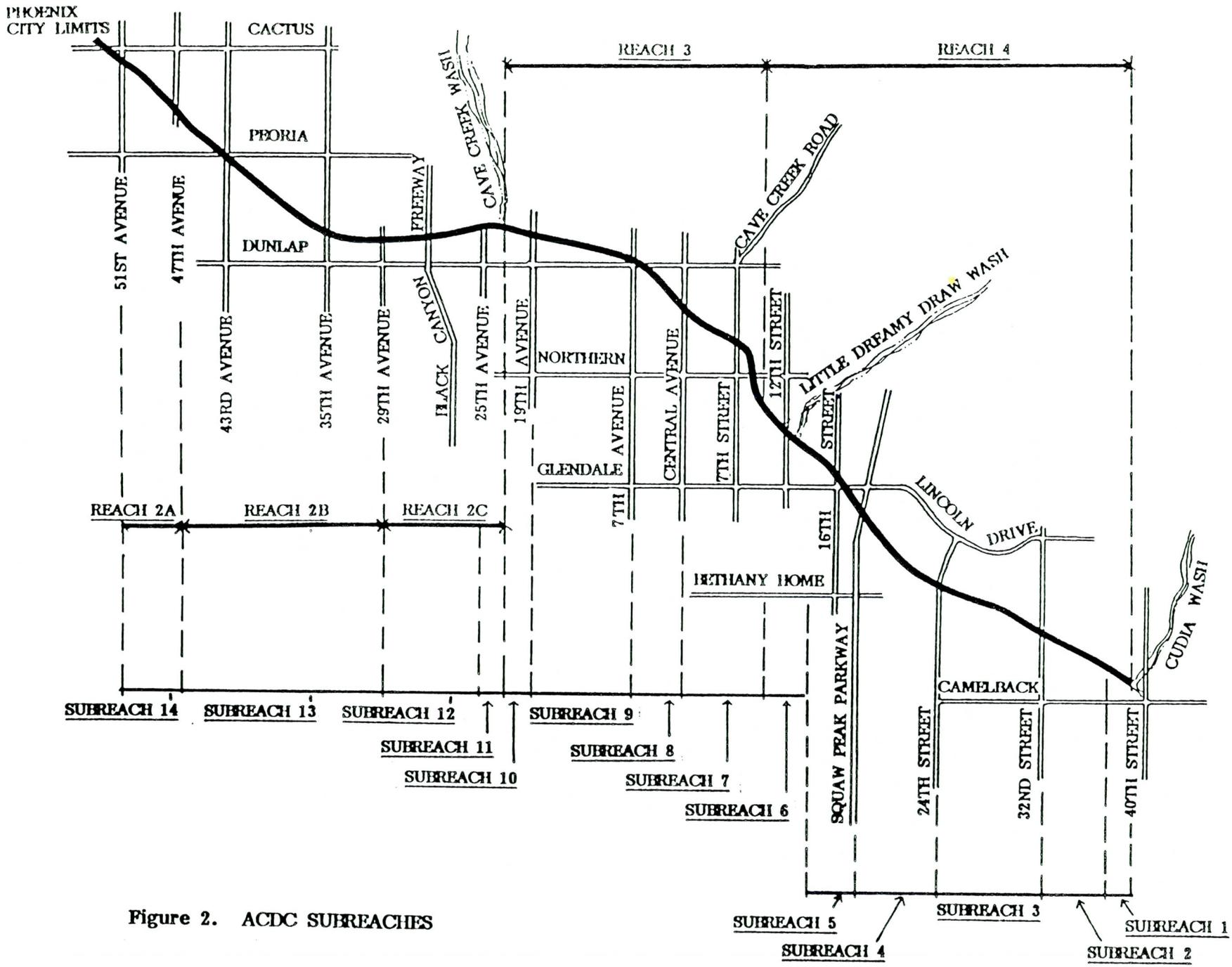


Figure 2. ACDC SUBREACHES

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L. Action Priority Criteria Definition

Based on Committee discussion of aesthetics goals, objectives and standards/guidelines, a preliminary list was made of criteria to be used in determining general priorities. Criteria include:

- A. Close to, or adjoining schools/areas significant exposure to school age children
- B. Close to, or adjoining parks/areas with high pedestrian traffic due to park use/high concentration of children and the elderly
- C. Homes facing ACDC and high visibility homes that back onto ACDC.
- D. Two-story dwelling with views of ACDC
- E. Intersections with major streets.
- F. Non-residential areas with visual or physical access to ACDC
- G. Continuity with neighborhood character
- H. Continuity with trail system
- I. Landscape agreement with property owner, already established
- J. Existing adequate right-of-way
- K. Inadequate remaining right-of-way/more needed for aesthetic impact
- L. Intersections with local streets
- M. All uses backing, siding or with no visual or physical access
- N. Densely populated neighborhoods
- O. Large percentage of children living in area
- P. High trail use in area

Subcommittee members walked or bicycled the entire length of ACDC using engineering plans, right-of-way information and preliminary landscape plans provided by the Corps, County and City. The applicability of each of the criteria listed above was studied for each of the sub-reaches. (Are there parks along ACDC here? Is there high trail use? Are there two-story homes that will look into ACDC?)

A report was given to the Committee that detailed its findings for each ACDC sub-reach, along with a recommended general priority rating, preliminary thoughts on recommendations, and comments on each area.

M. Sub-Reach Priority Ratings

The Committee agreed that its recommendations, while addressing aesthetics of the entire ACDC corridor, should focus on areas where resources devoted to aesthetics improvements would have the

greatest impact. Accordingly, the general field survey described in step "L" of this process included assigning relative ratings to each sub-area ("high", "medium", and "low") based on application of the criteria listed on Page 9.

Sub-Reaches with "HIGH" Ratings
(High Priority for Aesthetic Actions)

2. Stanford Drive
3. 32nd Street to 24th Street
4. 24th Street to 20th Street (Granada Park)
- 5.b. 16th St./Glendale intersection
6. State Street to Reach 3 boundary
7. Reach 3 boundary to Central Avenue
8. Central Avenue to Dunlap
- 9.b. Dunlap intersection
 - c. 7th Avenue intersection
- 10.a. 19th Avenue intersection
11. Reach 2 boundary to 25th Avenue/Cave Creek Park
12. 25th Avenue to 33rd Avenue
 - a. All right-of-way excluding intersection
 - b. I-17 intersection
 - c. 29th Avenue intersection
13. 33rd Avenue to 47th Avenue
 - a. All right-of-way excluding intersections
 - b. 35th Avenue intersection
 - c. 43rd Avenue/Peoria intersection
- 14.b. 51st Avenue/Cactus intersection

Sub-Reaches with "MODERATE" Ratings

5. a. 19th Street to 14th Street, all right-of-way excluding 16th/Glendale intersection
9. a. Dunlap to Hatcher right-of-way excepting major intersections

Sub Reaches with "LOW" Ratings

8. Central Avenue to Dunlap
- 10.b. Hatcher to Reach 2 boundary right-of-way
- 14.a. 47th Avenue to Reach 1 boundary right-of-way excepting 51st Avenue/Cactus intersection

The large percentage of sub-reaches with "high" ratings underscores the extent of the impact ACDC will have on residents, motorists and trail users and the importance of ACDC aesthetics.

N. Progress Report to City Council

A progress report to City Council was made on May 19, 1987.

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O. Test and Finalize ACDC Aesthetics Survey Form

In May and June of 1987, several Committee members spent time along the ACDC route testing the survey form and suggesting revisions. At one Committee meeting, members (having previously been asked to visit and rate a given sub-reach) jointly filled out the form and discussed ratings for one of the sub-reaches. A memo was prepared giving instructions for use of the survey. At this stage, the idea was that Committee members would individually rate each sub-reach and turn in the completed survey forms for compilation. Results would be discussed at a meeting of the Committee and consensus reached on ratings and recommendations for each sub-reach and general issue category.

The final version of the 15-page ACDC Aesthetics Committee "Checklist" Survey Form, filled out for each sub-reach, included the following questions:

I. Covering/Decking

- A. Should decking be provided?
Surveyor asked to give "high", "medium" or "low" priority ratings for the sub-reach based on:
 - o safety
 - o aesthetics
 - o number of people affected
 - o duration of experience
 - o degree of visibility
 - o do alternatives exist? (Describe alternatives to decking)
 - o potential for multiple use if decked
 - o overall decking priority rating
- B. If Decking is already planned, a series of questions dealt with compatibility with neighborhood character, transition between decked and undecked areas and related issues.

II. Bridges

- A. Describe status and location of bridges in this sub-reach.
- B. Will bridges be crossed by trail users?
 - 1. If YES, does the bridge meet acceptable standards for all trail users (bikes, horses, and pedestrians)?
 - 2. If NO, please describe deficiency.
- C. Does the bridge and associated approach landscaping provide adequate screening for ACDC?
 - 1. If NOT, why?
 - 2. If NOT, how can screening be increased?
- D. Is the bridge itself designed to be aesthetically pleasing?

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III. Underpasses

- A. Is an underpass needed? (Surveyors were given a chart to fill out, listing for each street crossing:
- o class of street;
 - o underpass needed? (criteria provided to allow high/medium/low priority rating based on level of trail use and other factors);
 - o underpass provided?;
 - o if underpass needed but not provided, distance to signalized intersection;
 - o potential for use of signalized crossing as alternative (criteria provided based on distance to intersection and level of improvements to intersection needed for trail crossing standards);
 - o overall priority for underpass provision (criteria provided related to trail continuity, level of projected trail use, rating of street as major hazard or barrier).
- B. Adequacy of underpass design. (NOTE: Details of underpass location and design were not available in most instances. The questions on the checklist reflect standards considered important by the Committee.)
1. Do approaches to underpass from trail allow clear view into underpass for adequate sight distances?
 2. Does trail alignment encourage slowing prior to entering the underpass?
 3. Is a minimum 10 feet vertical clearance provided?
 4. Is a minimum 10 feet width provided?
 5. Are underpass approaches lighted?
 6. If needed, is soundproofing provided?
 7. Are light wells provided in medians (if applicable)?
 8. Is adequate provision made for gravity flow drainage of nuisance water?
 - a. If NOT, is adequate pumping provided?
 9. Are approaches designed to prevent erosion of vegetative materials or soils into the underpass?
 10. Is this underpass included in maintenance agreements?

IV. Landscaping

A chart was provided allowing the surveyor to divide the sub-reach into "sub-areas" that varied in landscape character. For each of these sub-areas, a rating was made as to level of landscaping ("high," "medium" or "low" depending on types of adjoining uses, level of trail use, visibility, etc.). Determination of whether or not the landscaping planned by the Corps was at the appropriate level

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was made and, if not appropriate, the surveyor was asked to suggest changes.

A series of questions was asked relating to landscaping issues:

- o Are there major street intersection open space areas with potential for recreation, exhibit, neighborhood theme establishment?
- o Should additional landscaping be provided on the south bank of ACDC in this area? (priority rating)
- o Should landscaping be provided on the south bank of the Arizona Canal in this area? (priority rating)
- o Is there any significant existing vegetation that would be removed with construction of ACDC? (if YES, describe, assign priority to preservation or relocation)
- o Is there a need for aesthetic treatment/landscaping on adjoining private properties? (describe)
- o Will any aspect of ACDC landscaping trails or aesthetic treatment have a negative impact on the privacy of adjacent homes? (describe)
- o Will any aspect of ACDC landscaping trails or aesthetic treatment have a negative impact on the security of adjacent homes? (describe)
- o Is landscaping character compatible with that of adjoining areas?
- o Are there opportunities to create or strengthen neighborhood character through use of a special landscape theme? (give examples, ideas)
- o Are landscape design standards proposed appropriate and attractive? (fencing, walls, etc., comment if not appropriate)

V. Parks and Schools

- A. Are any parks and/or schools located in this sub-area? (if YES, list type and location)
- B. Does any aspect of proposed aesthetic treatment pose a potential security problem for the park or school?
- C. Will construction of ACDC result in removal of any park or recreation areas of school facilities? (describe)
- D. Do proposed ACDC aesthetic treatment plans include replacement of facilities removed with similar facilities or landscaping?
- E. Is there potential to add small turfed areas for use by trail users adjoining existing parks? (describe)
- F. Is trail access provided to the schools and/or parks for pedestrians and bicyclists?

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VI. Trails

- A. Are all trails accessible to maintenance equipment?
- B. Are all trails accessible to emergency equipment?
- C. Should trails in this area be lighted, to assure security and safety for trail users?
- D. Does landscape design include any elements that decrease security? (Comment)
- E. Are trails adequate to accommodate all types of users?
- F. Do connections to other trail systems exist in this sub-area? (Describe)
 1. If YES, are trails compatible in terms of design, alignment of the connection, maximizing aesthetics, safety, convenience?
- G. Do proposed trails provide access to all types of users to major destinations and the rest of the ACDC system? (if NO, describe)
- H. Does the bike path alignment undulate through this part of ACDC?
- I. Are there any areas in this sub-reach where staging areas should be provided for trail users? (if YES, describe)

For each major section (Bridges, Trails, etc.) surveyors were asked to summarize recommended actions. Ample space was provided throughout the survey form for comments.

P. Aesthetics Evaluation Survey

Three Committee members devoted the time needed to walk or ride the ACDC route and complete the survey. A fourth member set up a field trip for the entire committee and agency staff to drive along the ACDC route, discussing ratings and recommendations en route.

One of the Committee members was assigned the task of taking all completed survey forms and creating a composite for review by the Committee. This substantial task was carried out during summer and early fall, 1987.

In addition to the composite of ratings, landscape and other plans for each sub-area were reviewed and a package consisting of a survey form marked with the composite ratings (differences of opinion and comments noted), xerox reductions of proposed landscape plans, planned recreation areas and other design elements and a location map showing the extent of the sub-reach and major features was prepared for review and discussion.

Q. Evaluation of Survey Results

The composite of survey results revealed some areas of consensus but many more areas of difference among ratings by Committee members completing the survey. A series of informal work sessions was held to discuss the differences, reasons for ratings, obtain additional information or take a fresh look at some areas and to agree on a consensus rating for each survey item for each sub-reach.

Once this was done, it was apparent that the Committee had so much information that it was difficult to interpret it in terms of general recommendations without further "filtering" and reformatting into a graphic display that would allow overall patterns and priorities to emerge.

Survey questions and responses were carefully reviewed to determine which were most significant in terms of formulating aesthetics recommendations. Some questions were related directly to aesthetics (e.g., is proposed landscaping in keeping with the character of adjoining neighborhoods?). Others had a more indirect relationship to aesthetics. Substandard trail design, for example, can detract significantly from a trail user's recreational/aesthetic experience on the ACDC. In these types of questions, safety and engineering considerations are strongly related to aesthetics. Aesthetic/safety factors were summarized to highlight and describe and deficiencies.

A matrix was developed rating "high significance" responses to the various survey items for each sub-reach. "High significance" responses were those with highest priority for formulation of Committee recommendations. The matrix categories included "high significance", "moderately high significance" and "conditions or information unknown". Something that the survey found to be adequate, well-designed and not in need of changes was not shown on the matrix. Thus, the matrix served as guide, directing the Committee to matters most seriously in need of attention in its recommendations.

R. General ACDC Recommendations

Some survey results pointed to recommendations that would impact all sub-reaches, dealing with general aesthetics standards or guidelines. Others pointed to site-specific matters, such as preservation or relocation of existing trees in given areas. Recommendations were thus developed at both general and specific levels.

Going back to the five general issue areas (structural elements, landscaping, parks and schools, trails, monitoring of implementation), a fresh look was taken at previously drafted issue descriptions, goals, objectives, and review guidelines. For each issue, a final set of general standards and recommendations was developed for review by active Committee members in informal work sessions. The general recommendations went through a series of revisions until consensus was reached.

With publication of this report, the recommendations are being submitted to the full Committee and other interested agencies, citizen's groups and individuals for review and comment.

S. Site-Specific ACDC Aesthetics Recommendations

Many survey results addressed localized issues, pointing to recommendations that impacted specific locations along the ACDC route. These specific recommendations are summarized in this report based on the original survey forms and comments, the survey rating consensus and matrix that addressed significance of the results. General priorities were assigned based on evaluation of survey results (p. 15, "Q").

T. Recommendations for Implementation

From the beginning of the Committee's work, there was a sense that ACDC was far down the road with regard to design and that the City's real influence on substantive alterations to major design elements (e.g. bridges, decking) was technically "advisory" and in reality, rather limited. This led to an erosion of active involvement on the part of some Committee members, despite assurance that the Committee's work would have an impact and that recommendations would result in improved aesthetics for ACDC. The final stage of the Committee's work, therefore, has been discussion of potential impacts of its recommendations and the proposal that a follow-up committee be formed to serve a watchdog function with regard to aesthetics concerns and to work with the Corps, County and City in reviewing details of landscape, trails, recreation facilities and development nodes as they are implemented.

U. Structure of ACDC Aesthetics Committee Recommendations

The recommendations in this report are presented in two major sections:

General Recommendations

Goals, objectives, review guidelines, and recommendations impacting the overall ACDC project, with general priorities assigned, arranged by issue areas.

Site-Specific Recommendations

Recommendations affecting limited areas of ACDC, geographically arranged by sub-reach.

Included within each section are goals, objectives, analysis, comments and background related to developing and understanding of the issues and of the recommendations that address them. Information is provided on the current status of ACDC design and construction as it relates to implementation of the recommendations.

III. GENERAL ACDC AESTHETICS RECOMMENDATIONS

A. DECKING

1. Description

The possibilities of providing additional decking for the ACDC have been discussed repeatedly, at length and in detail. Nonetheless, the Aesthetics Committee devoted substantial energy to discussing the feasibility of additional decking. Committee members feel strongly that the very substantial aesthetics benefits of decking need to be stressed and that priorities for possible future decking should be established. Staff indicates that future decking is possible without City investment in structural modifications to the Channel at this time. This is good news, as it gives the City the flexibility to cover the Channel at any location, not just where Channel walls were strengthened based in 1989 assumptions about future development.

AESTHETIC BENEFITS OF DECKING THE ACDC

- o Maintain good views for residents overlooking ACDC.
In some areas, homes will overlook the ACDC. At present, these homes enjoy pleasant views of the canal. If the ACDC is decked and landscaped, good views and property values are likely to be protected.
- o Maintain or enhance views of the Arizona Canal for motorists.
Intermittent views of the Arizona Canal are a positive experience for motorists. Decking can screen the ACDC and maintain quality views of one of the Valley's most distinctive features from the vantage point of a very large population group -- the motorists.
- o Enhance views and the recreation experience of trail users.
Much attention has been given to the potential of Valley canals as amenities. Walking, jogging or bicycling along the canals is a form of recreation enjoyed by all kinds and ages of people from all parts of Phoenix. Designated trails show the City's commitment to providing a quality recreation experience and encourage people to use the canal banks. Decking the ACDC will protect that experience, adding rest areas and landscaping as part of planned improvements.

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- o Show a tangible, long-term commitment to quality of life in Phoenix.
With trails, schools, homes and parks along the ACDC, people are invited to experience the Channel at close range. Decking opens up possibilities for a significantly improved linear park and trail systems as well as for multiple use at selected nodes. In cooperation with Salt River Project, a decked ACDC and the Arizona Canal could become a major amenity for Valley residents and an attraction for visitors.

OTHER BENEFITS OF DECKING THE ACDC

- o Increased safety -- eliminates hazard to children, trail users and pets inherent in a concrete channel with, in some places, vertical sides and a depth of 24.5 feet.
- o Increased potential for multiple use of decked area
- o Decreased area impacted by ACDC construction.
- o Decreased maintenance by preventing trash and debris from entering the open Channel.

DECKING CONSTRAINTS

- o High costs.
- o Decking costs cannot be met by Army Corps of Engineers unless essential for safety or unless substantial cost benefits can be realized due to decreased right-of-way acquisition or need for other improvements. Studies evaluating such benefits and safety factors were conducted prior to Aesthetics Committee formation and decking was planned for areas meeting Corps standards.
- o Although the City Council has approved funds for strengthening channel walls in areas with multi-use potential (development nodes), the assumption was that a future developer would pay decking costs and incorporate the ACDC right-of-way into planned uses. No strategy has been developed for decking where the deck would be used for much-needed recreation, trail or open space.

- o Construction of ACDC's western reaches is far advanced; land design of Reach 3 is nearing completion. Without costly retrofit, decking opportunities are increasingly limited.

The ACDC Aesthetics Committee appreciates the costs, the timing constraints and the fact that the ACDC has been designed primarily to meet flood protection needs in the most cost-effective way. Having been brought into the process rather late, however, the Committee urges consideration of other needs as well and of giving these needs a high priority in recognition of ACDC's long-term impacts on the future of Phoenix.

2. Goal

Identify high priority areas for decking additional portions of the ACDC where exceptional long-term community benefits of aesthetics, preservation of neighborhood quality, expanded use options, and safety can be demonstrated.

3. Objectives and Review Guidelines

3. 1. Visual Impact

OBJECTIVE: Define areas where decking can provide the greatest visual benefits.

GUIDELINES:

- 3. 1.1. High priority should be assigned to areas with greatest visibility for largest numbers of people for extended periods of time.
 - A. Major intersections
 - B. Parks, schools and major public attractions
 - C. Areas of heavy trail use
 - D. Adjacent buildings fronting on or overlooking ACDC (two-stories or higher)

3. 2. Safety

OBJECTIVE: Define areas where decking can provide the greatest safety benefits.

GUIDELINES:

3. 2.1. First priority should be assigned to areas with high concentrations of children, particularly to schools, parks, major public attractions and areas of high trail use.
 - A. Transition areas between covered and non-covered portions of the channel may be particularly vulnerable sites for unauthorized access to the A-CDC. Avoid transition areas of this type near areas of high concentrations of children.
- 3.2.2. Second priority should be given to higher density residential areas where there are substantial concentrations of homes and where long-term residential use is projected.

3. 3. Potential for Multiple-Use

OBJECTIVE: Define areas where decking can provide expanded options for multiple use.

GUIDELINES:

3. 3.1. High priority should be assigned to :
 - A. areas in private ownership, which are accessible to the public, such as major public attractions, retail and restaurant uses;
 - B. areas in public ownership, which are accessible to the public, such as parks, public buildings, trail corridors;
 - C. areas commercially zoned with potential for multiple use;
 - D. areas where expansion of public parks could create open space for exhibits, entertainment or other uses;
 - E. areas at major street crossings where decking could offer staging areas for trail users or mini-parks with recreation, exhibit facilities, or for major public art opportunities.
 - F. areas where trails do not meet acceptable standards due to space limitation; where trail use is high and no suitable alternative is available;
 - G. areas that are lacking in and with demand for recreation facilities

where a linear park could fill the need combined improvement of Arizona Canal right-of-way and landscaping of a covered channel should be creatively explored.

Note: Land uses for decked areas must be in conformance with the General Plan.

3. 4. Deck Standards, Safety and Maintenance

OBJECTIVE: Deck design should assure safety and cost effective maintenance of the channel and of improvements associated with decking.

GUIDELINES:

- 3. 4.1. Design standards for deck improvements should stress compatibility with other ACDC aesthetic treatments and with the character of adjoining areas.
- 3. 4.2. Special maintenance attention is required at parks and schools.
- 3. 4.3. Where private development is involved provisions should be made to insure compatibility with multi-use and trail continuity.
- 3. 4.4. In areas where decking is currently planned, any facilities or vegetation to be removed must be replaced with similar materials, i.e. grass for grass, mature trees for mature trees.
- 3. 4.5. Deck design of inflow openings should not create a safety hazard to any type of trail user.

4. Recommendations

4.1 High Priority Areas for Decking

Based on stated objectives and guidelines and on extensive fieldwork by Committee members, the following areas have been identified as having highest priority for decking of the ACDC (Figure 3):

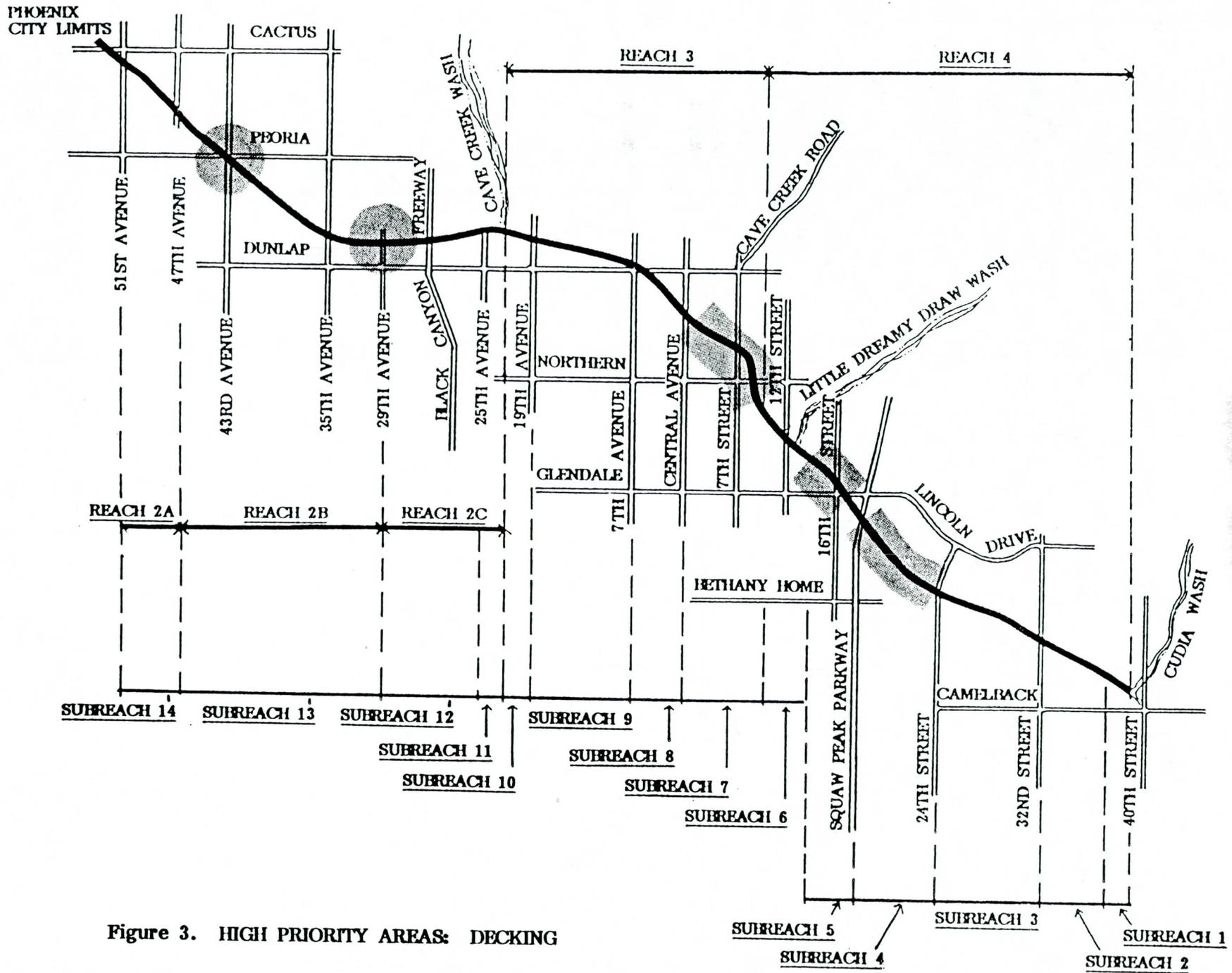


Figure 3. HIGH PRIORITY AREAS: DECKING

Reach 2B

43rd Avenue/Peoria intersection

- o high visibility area
- o large number of people affected
- o duration of viewing is "high"
- o strong safety benefits to decking here
- o no alternatives were found to mitigate impact of ACDC
- o high potential for multi-use of decked area

Reach 2C

29th Avenue intersection

- o high visibility area
- o large number of people affected
- o strong safety benefits to decking here
- o strong potential for multi-use of decked area

Reach 3

Central Avenue to eastern Reach 3 boundary

- o high visibility area
- o large number of people affected
- o duration of viewing is "high"
- o strong safety benefits to decking here
- o no alternatives were found to mitigate impact of ACDC
- o high potential for multi-use of decked area

Reach 4

Glendale Avenue/16th Street intersection west to 14th Street

- o high visibility area
- o large number of people affected
- o duration of viewing is "high"
- o no alternatives were found to mitigate impact of ACDC
- o high potential for multi-use of decked area

24th Street to 19th Street

- o high visibility area
- o large number of people affected
- o duration of viewing is "high"
- o strong safety benefits to decking here
- o no alternatives were found to mitigate impact of ACDC

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The following areas were found to also merit priority in consideration of decking:

Reach 4

Reach 3 boundary to 32nd Street (entire length)

Additional discussion of reasons for assigning decking priorities is included in the "Site-Specific Recommendations" section of this report.

B. UNDERPASSES

1. Description

Underpasses provide continuity to the ACDC trail system. They remove very severe barriers to trail use by allowing safe and easy access across busy streets and the freeway. They are the key to a quality recreational experience by various types of trail users.

Of the four major trail user groups, **bicycles** move fastest, have greatest stopping distances, greatest sensitivity to surface irregularities and poor maintenance. Underpass standards for sight distances, ramp design, etc. should focus on their "worst case" needs.

Horses are less predictable and occupy greater space than other users. Special safety considerations addressing potential conflicts must be made.

Pedestrians are slowest and most vulnerable to conflict with bikes and horses. They are able to stop and turn quickly, occupy the least amount of space and are best qualified to take evasive action if needed. It is assumed that by designing to standards suitable for bikes and horses, pedestrian needs in underpasses will be taken into account. The needs of the handicapped focus upon special criteria involving ramp grades, surface conditions and comfortable transitions to the trails.

2. Goal

To insure that the design and location of underpasses maximizes benefits to all trail users: pedestrians, bicyclists, equestrians, and the handicapped.

3 Objectives and Review Guidelines

3.1. Continuity

OBJECTIVE: Make every effort to provide underpasses at all ACDC crossings of major arterials and the freeway where traffic levels constitute a hazard or major inconvenience to trail users.

GUIDELINES:

- 3.1.1. Determine the need for an underpass using current and projected City of Phoenix traffic counts.
- A. If the ACDC is near a signalized intersection, the intersection may be modified to accommodate trail users if there is:
- o removal of hazards and barriers (utility poles or boxes in the path, substandard bridge design)
 - o adequate directional signing
 - o curb cuts for bicycles and wheelchairs
 - o safety island of adequate width
 - o properly located signal buttons so all types of trail users can trigger the signal without inconvenience or dismounting.
 - o safe trail access to the crossing
 - o warning signs at approach to crossing for motorist
 - o special crosswalk striping
 - o safe waiting area at intersection for horses
 - o mounting block and pipe rail for horsemen wishing to dismount.

3.2. Access

OBJECTIVE: Underpasses should be equally and readily accessible to all trail users.

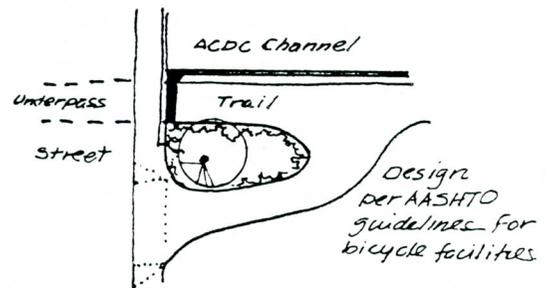
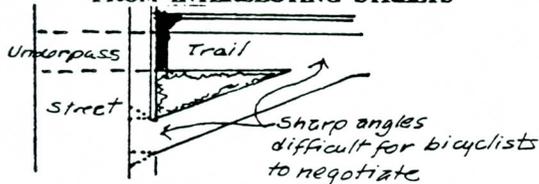
GUIDELINES:

- 3.2.1. Underpass access points should align with connecting trails to maximize safety and convenience to users.

3.2.2. All ramps should be designed with slopes accessible to the handicapped. If ramp length exceeds national standards, rest areas should be provided.

3.2.3. Access to underpasses for trail users coming to the ACDC trail from intersecting streets must be designed to AASHTO standards. In particular, adequate horizontal turning radii for reasonable bicycle design speeds must be provided where a trail leading to a street joins the ACDC trail (see Figure 4).

Figure 4. UNDERPASS ACCESS FOR BICYCLISTS FROM INTERSECTING STREETS



3. 3. Safety

OBJECTIVE: Underpass design standards should meet the most restrictive user criteria--whether for bikes, horses, pedestrians, or wheelchairs-- to provide for safe use of the underpasses.

GUIDELINES:

3.3.1. Approaches to underpasses should allow visual access, so users can tell before entering if someone else is in the underpass.

A. Trail approaches to the underpass should be clearly visible from within the underpass.

3.3.2. Trails should be designed to alert people to use caution in underpass areas.

A. Trail alignment can be used to slow bikes approaching the underpass by creating uphill stretches or forcing bikes to turn and slow.

B. Locate warning signs in advance of underpasses to alert trail users to possible conflicts.

3.3.3. Underpass dimensions should be maximized, to the degree possible, within budget limitation

- A. Provide a minimum of 10 feet for vertical clearance.
 - B. Provide a minimum of 10 feet in width. A width of 12 to 14 feet is preferred.
- 3.3.4. Provision should be made for equestrian trail users who wish to dismount and walk through the underpass.
- A. For equestrians who wish to dismount, provide a mounting block and rail on both sides of underpasses, located in a quiet area to the side of the trail.
- 3.3.5. Lighting should provide security and visibility, but fixtures should not be a hazard for the trail user.
- A. Lighting in the underpasses should be recessed or located where injury to the trail user is not likely in event of an accident.
 - B. Provide light wells in long underpasses.
- 3.3.6. Concrete entrance ramps should be provided, textured to prevent slippage by trail users.
- 3.3.7. Give consideration to sound-absorptive materials or design in long underpasses.
- 3.3.8. All underpasses, new and existing, must have proper drainage so nuisance water is not allowed to stand.
- A. If water draining into the underpass cannot drain out by gravity flow, a system must be provided to pump water and mud out of the structure.
 - B. The design of approaches should preclude the erosion of soil or vegetative materials into the underpass.
- 3.3.9. Underpasses must be maintained to maximize safety and comfort for trail users.
- A. A regular program of cleaning should be implemented to keep the underpasses free of trash and debris, to replace lights, signs and other improvements, and maintain pavement surfaces.
 - B. Periodic special maintenance should be provided as needed (after storms).
 - C. Responsibility for maintenance should be clearly defined. City of Phoenix

Parks, Recreation, and Library
Department should be involved.

- 3.3.10. All drainage grates and other utility installations in the underpass floor must be flush with the pavement and not interfere with safe, comfortable travel. Parallel-slat drainage grates should not be used.

4. Recommendations

- a. **Highest priority should be given to provision of an underpass at 12th Street, in Reach 4.** This area experiences very heavy trail use. Twelfth Street has high peak hour traffic volumes. The ACDC crossing is at a dangerous mid-block location approximately one-half mile from the nearest signalized intersection.
High priority: 29th Avenue, 32nd Street
- b. **At major street crossings where no underpass is provided** (e.g., 43rd Avenue and Peoria) a first-hand look should be taken at the path likely to be used by bicyclists and other ACDC trail users. **Any hazards or barriers to safe, convenient crossing should be eliminated.**
- o Utility poles or boxes, fire hydrants, and similar obstructions should be relocated from the path.
 - o Ramp designs should be modified if necessary so trail users can travel straight across the street rather than be forced to angle out into the intersection (see Figure 5).
 - o Turning radii for accessing ramps should be maintained in accordance with AASHTO standards for bicycle facilities (Figure 4).
- c. **Where underpasses are provided:**
- o Underpass trail approaches must be designed (or retrofitted if already constructed) to provide adequate turning radii for bicyclists turning onto the ACDC trail from intersecting streets (Figure 4).
 - o Improve installation of drainage grates in underpasses so the grates are flush with the pavement, with no gaps that could trap a bicycle tire. Use only bicycle-safe grate designs.
 - o Existing underpasses at Glendale Avenue and 24th Street are substandard. Unless these are to be replaced, improvements to drainage, access, lighting and signage are needed.

These and other considerations should be evaluated by City staff in cooperation with an ACDC Citizen's Committee (see Section G) and steps taken to carry out needed improvements.

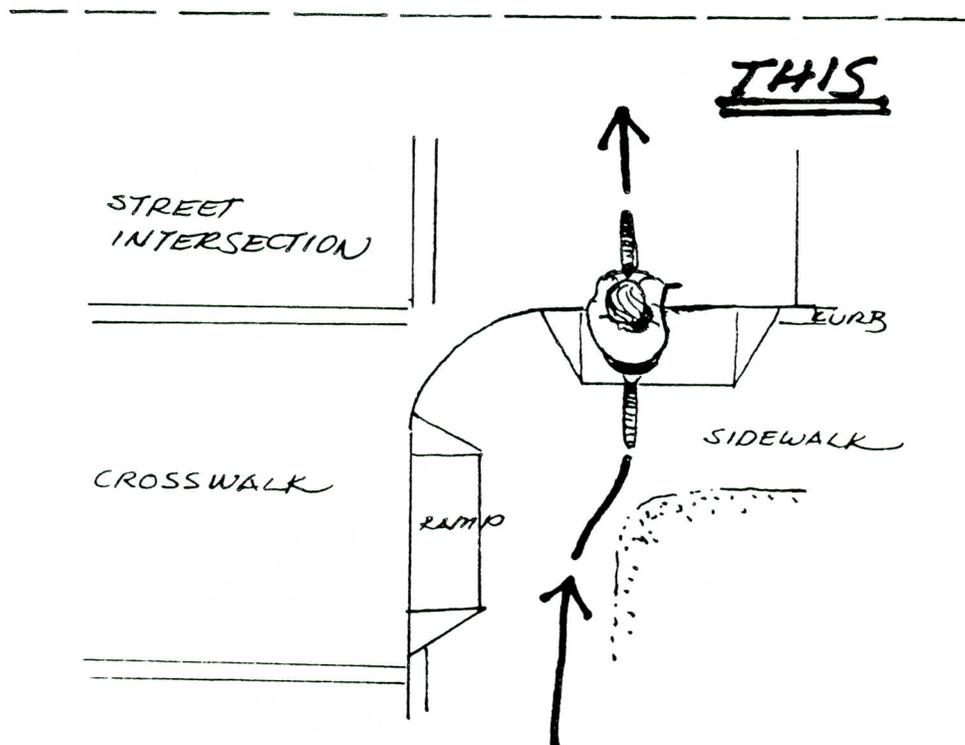
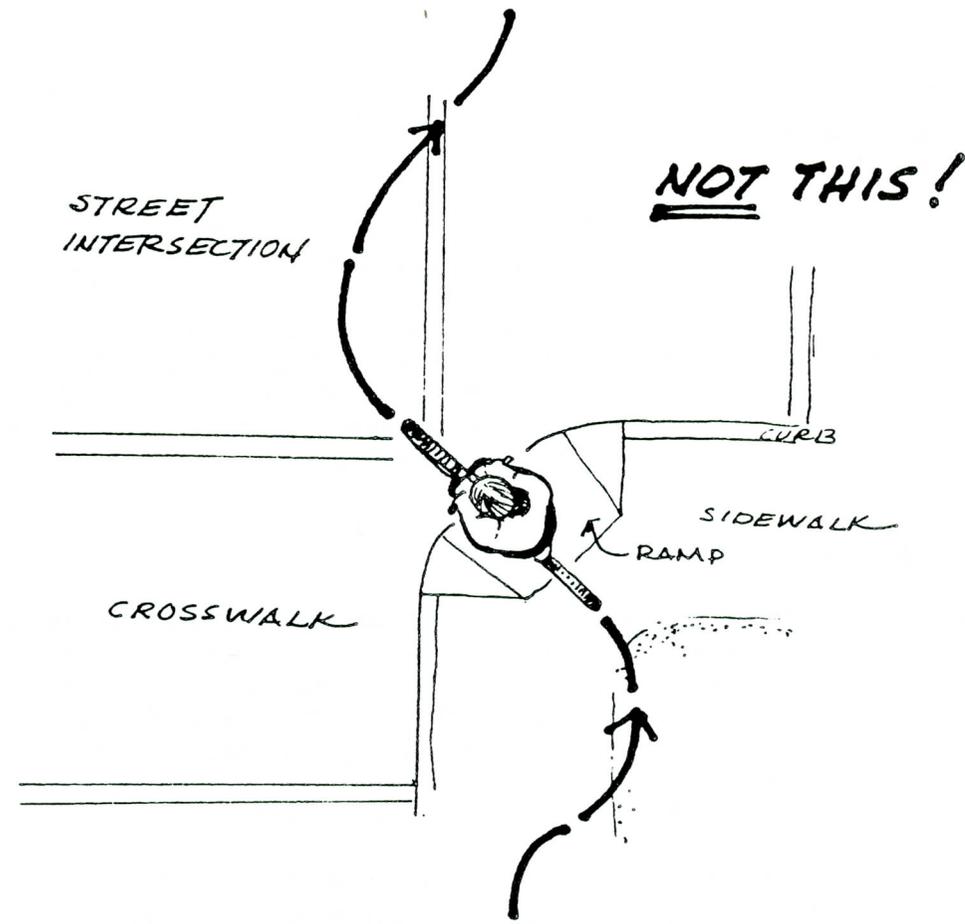


Figure 5. TRAIL RAMP DESIGN

C. BRIDGES

1. Description

Bridges represent a connective link for both the motorist and the trail user over the ACDC. At intersections, bridges will be expected to carry the normal daily traffic flow together with recreational trail users attempting to gain access to or exit the trail system. At street crossings where underpasses are not provided, the bridges carry an above-average number of bicyclists, pedestrians, equestrians, and handicapped trail users. At some locations, pedestrian bridges are required across ACDC to ensure continuity and for access to schools, parks, connecting trails and other destinations.

2. Goal

Design bridges to maximize good views, safety and convenience for all trail users and motorists.

3. Objectives and Review Guidelines

3.1. Access

OBJECTIVE: Ease of access to the trail system should be assured in bridge design and construction.

GUIDELINES:

- 3.1.1. Because ACDC's intersections with streets are the access points for trail users, bridges should be constructed to provide ease of transition between the street and the trail.
 - A. Curb cuts should be positioned to allow bicyclists and handicapped safe and direct access.
 - B. Bollards at trail entry points should allow free flow of trail users and emergency vehicle access while preventing casual motor vehicle entry.
 - C. The connection between bridges and ACDC paths should meet AASHTO standards for design

elements such as turning radii, width and sight distances. Extra width should be provided on tight curves and ramps to accommodate novice riders and the handicapped.

- 3.1.2. Street approaches to the ACDC bridge should allow safe access for all types of trail users.
- A. Connection of the ACDC bridges with existing canal bridges remains a problem. Width of sidewalk and safety rails are substandard and dangerous for equestrian uses or for combined bicycle/pedestrian use on most of the canal bridges. In areas where trail users need to cross canal bridges to get to signalized intersection trail crossings, or where high trail use requires the use of these existing sidewalks and canal bridges, retrofit of bridges is recommended to bring them into conformance with AASHTO standards for bicycle facilities as a minimum. Improvement to a standard suitable for equestrian use is suggested in high-use areas.
- 3.1.3. Pedestrian bridges are recommended where trail access will be hazardous or where current access will be cut off or made very inconvenient with construction of ACDC.

3.2. Safety

OBJECTIVE: Safety for the trail user, pedestrian bridge user, and motorist is essential in the design, construction, and maintenance of ACDC bridges.

GUIDELINES:

- 3.2.1. Provide adequate separation of motor vehicles and trail users on all bridges. As a minimum, guard rails and parapet walls should adhere to AASHTO standards for bicycle facilities.

- 3.2.2. Bridge sidewalks should be of ample width for combined use - less than eight feet is unacceptable; ten-foot width is recommended.
- 3.2.3. Bridge railings should be designed to prevent children from climbing on them or slipping through them and be of sufficient height for cyclist and equestrian safety (AASHTO).
- 3.2.4. Design standards for pedestrian bridges must take into account the needs of all trail users.
 - A. Access ramps should be designed with slopes and radius of curvature accessible to all trail users, including the handicapped.
 - B. Approaches should allow visual access, taking into consideration the various needs of the recreational groups.
 - C. Lighting should be provided at all overpasses.
 - D. The surface of the pedestrian bridge and access ramps should be textured to prevent slippage by horses, but not difficult for the handicapped to negotiate.
- 3.2.5. Adequate maintenance of the bridges is essential to provide for the safety of all users.
 - A. A regular program of cleaning should be implemented to keep all bridges and pathways free of debris.
- 3.2.6. Trail, directional and warning signs should be installed at all bridges.

3.3. Aesthetics

OBJECTIVE: Consideration should be given to widening and landscaping bridges in areas of high visibility, high trail use, and where bridges are a key neighborhood gateway feature, i.e. Central Avenue into Sunnyslope. Special bridge designs could incorporate landscaping or artist-designed elements to reflect neighborhood character.

4. Recommendations

4.1. Bridges with projected high levels of use by ACDC trail users

Reach 2A

51st Avenue bridge** **These connect to City
Cactus Road bridge** of Glendale trails

Reach 2B

43rd Avenue bridge
Peoria Avenue bridge

Reach 2C

29th Avenue bridge
25th Avenue bridge

Reach 3

19th Avenue bridge
7th Avenue bridge
Dunlap Avenue bridge
Northern Avenue bridge
Central Avenue bridge
7th Street bridge

Reach 4

12th Street bridge
16th Street bridge
Glendale Avenue bridge
Maryland Avenue bridge
24th Street bridge
32nd Street bridge

4.1.1. **ACDC Bridge design adequacy for all trail users**

Each one of these high-use bridges (including pedestrian bridges) should be evaluated for conformance to guidelines cited in this report. Preliminary surveys conducted by the Committee indicate that none of the bridges listed meet all listed standards, although in some cases, design information about the bridge's linkage to ACDC trails was not available at the time the survey was conducted. It is urged that ongoing design of new bridges and of connections between bridges and trails be in conformance with the guidelines and that the possibility of retrofit be explored for existing or previously designed bridges.

4.1.2. Canal bridge retrofit

As noted in the guidelines, trail users wishing to access the ACDC or to connect from ACDC to a signalized intersection will often have to cross two bridges: the ACDC bridge and the existing Arizona Canal bridge. These two bridges were not designed to the same standards. The existing Canal bridges often have narrow sidewalks, low railings and, in a few cases, vertical curbs that are a hazard to many trail users (especially handicapped, bicyclists and horsemen). Trail users will be likely to swing out into traffic to avoid these bridge sidewalks.

It is strongly recommended that an ACDC Citizen's Committee work with City staff and Salt River Project to address possible retrofit to enable safe and comfortable travel for all trail users. AASHTO standards for bicycle facilities should be used as a guide.

4.1.3. Role of bridges in screening ACDC

Committee fieldwork indicates that the bridges themselves will offer little effective screening of the ACDC channel as presently designed. In some cases, special bridge design (e.g., as a public art project) may result in screening or at least in creating a competing vista for motorists. In most cases, however, ACDC landscaping on both sides of the road, at both ends of the bridge will be the primary means of softening ACDC views. Although landscaping will be discussed in a later section of this report, it should generally be increased in density and size of materials near bridges to provide screening. Caution should be exercised to maintain good sight distances to trail access points.

D. LANDSCAPING

1. Description

Landscaping is perhaps the most important element of ACDC aesthetics. Landscape materials can provide:

- o effective screening
- o shade
- o a sense of nature and scale
- o visual relief
- o reflection of neighborhood character

The Committee devoted a great deal of time to discussion of landscaping. Among issues raised were:

- o a uniform plant palette and general landscape concept is proposed for the entire ACDC while the character of landscaping in adjoining established neighborhoods varies considerably and in some cases contrasts strongly with the ACDC proposal;
- o preservation of significant existing vegetation;
- o assuring long-term, high-quality maintenance;
- o adequacy of plant sizes and quantities to create effective screening in our lifetimes;
- o adequacy of right-of-way in some areas for effective screening and recreation uses;
- o concern with aspects of ACDC design such as landscaping of the steep slope between the trail and ACDC channel;
- o providing an adequate irrigation system, with a high quality maintenance program.

Since landscaping has already been installed in western portions of the ACDC, Committee members have been able to see first-hand what is proposed for the balance of the project. Reports have not been encouraging. Extensive erosion was observed. Plants were very widely spaced and not large enough to assure any immediate visual impact. Many dead plants were observed that have not been replaced, despite repeated assurances to the Committee that maintenance would be of the highest quality.

These deficiencies can certainly be remedied. It is the Committee's hope that the Corps and County can demonstrate to the City Council that tangible steps have been taken to eliminate landscaping problems and that future landscaping and maintenance will conform to a higher standard.

2. Goal

To insure that the completed landscaping reflects specific neighborhood character while providing screening for property owners and motorists, an amenity for trail users, and emphasis for activity nodes.

3. Objectives and Review Guidelines

3. 1. Plant Selection

OBJECTIVE: Plant selection should take into account the various needs of people affected by the Channel.

GUIDELINES:

- 3.1.1. Every effort should be made to preserve significant existing landscaping.
 - A. Prior to construction, evaluate all existing significant trees and vegetation that are valuable contributions to community aesthetics.
 - B. Determine whether these plants can be preserved or relocated.
- 3.1.2. Selection of plant materials should reflect neighborhood character and should be varied accordingly.
- 3.1.3. Plant materials should be of adequate size and quality to allow for an effective visual barrier for both the trail user and the adjacent property owner.
 - A. Provide shade for the trail user.
- 3.1.4. Safety of the trail user and surrounding property owners should be a factor in the selection of plant materials.
 - A. Consideration should be given to plantings alongside trails that do not interfere in any way with the safety of the trail user, i.e., plants with thorns that could puncture a bicycle tire, mass groupings of plants that attract bees, trees with low overhanging branches, shrubs that conceal lawbreakers, etc.

- B. The trail shoulder should be of adequate width to provide horizontal clearance for normal growth of plants.
- C. Use of landscape materials to create a separation between bicycle and horse trails should be considered (see II.F. Trails).
- D. Barrier landscaping should be considered as an extra measure of protection against entry into the channel.
- E. Plant selection should take into account the privacy and security of adjoining properties, particularly residential properties left with new exposure to the north-side maintenance trail.

3.1.5. Plant choices should maximize erosion control, especially on the south side of the channel where there are unresolved problems due to the degree of slope and inadequacy of right-of-way. Retaining walls or raised channel walls may have to be built in some areas to compensate for slopes.

3.1.6. Selection of plants should emphasize drought- and frost-resistant varieties.

3.2. Irrigation

OBJECTIVE: High quality irrigation systems should be installed to insure the longevity of the plant materials.

GUIDELINES:

3.2.1. Irrigation systems must take into account adequate delivery of water to sustain plant materials while adhering to water conservation standards.

3.2.2. Selection of the system should consider protection against vandalism and rodent damage.

3.2.3. The irrigation system should be designed to keep water away from bicycle trails.

3.3. Community Character

OBJECTIVE: Use landscaping to enhance and strengthen community character.

GUIDELINES:

- 3.3.1. Focus on park nodes and high-visibility intersections within neighborhood boundaries. Specimen plantings, planter boxes or art work at bridges will also help define community gateways.
- 3.3.2. Consider opportunities for interpretive (e.g., plant identification) trails.
- 3.3.3. Encourage the installation of compatible landscape treatments on adjacent private property in high visibility areas.
 - A. At intersections, especially those where stopped traffic has an extended view of the channel, provide landscape screening on private, adjacent properties if needed.
 - B. Utilize recently modified landscaping criteria by Salt River Project to landscape portions of Arizona Canal right-of-way.
 - C. Where limited right-of-way does not allow proper screening of channel, encourage landscaping of adjacent properties to draw attention away from unsightly views.
 - D. Encourage a City policy requiring new development adjacent to the Arizona Canal and ACDC to install landscaping as an aesthetic buffer.

3.4. Maintenance and Safety

OBJECTIVE: Insure high standards for maintenance of all landscape treatments.

GUIDELINES:

- 3.4.1. A regular program for maintenance should cover the following areas:
 - A. Trimming and pruning
 - B. Fertilization
 - C. Weed control
 - D. Replacement of diseased or dead vegetation

- E. Repair of non-functioning irrigation
- F. Vandalism repair
- G. Erosion control
- H. Litter control

4. Recommendations

4.1. Adequacy of Landscaping Provided

Landscape plans or concepts for each area of ACDC were reviewed to determine whether the "level" of landscaping proposed was appropriate to the uses and degree of exposure of ACDC in that area.

By "level" of landscaping, the Committee refers to the size, variety and density of landscape materials. A "high" level of landscaping implies a variety of plant materials including large box or specimen trees, and a sufficient quantity of plant materials, spaced close enough to assure a lush (if arid-region) appearance and good screening. A "low" rating implies small plant materials, little variety and spacing that will produce a sparsely landscaped appearance and no screening.

In some areas a "low" level of landscaping is appropriate - where uses back or side on ACDC without visual or physical access. In others, a "high" level is required: where schools, parks or homes face or overlook ACDC, at intersections with major streets, along heavily used trails, and in non-residential areas with visual access to ACDC.

Each of the fourteen sub-reaches and its components was divided into smaller areas, as needed to reflect key changes in uses, character or edge conditions affecting landscape design:

First priority:

Areas where ACDC landscaping is not at a level appropriate to its visibility and surroundings. Take steps to improve (Figure 9).

Reach 2A

51st Avenue/Cactus intersection
Arroyo School area

Reach 2B

43rd Avenue/Peoria intersection
35th Avenue intersection

Reach 3

19th Avenue intersection
Dunlap to 19th Avenue
Central Avenue to eastern Reach 3 boundary

Reach 4

Northern Avenue bridge area
Glendale/16th Street to Squaw Peak Parkway
19th Street to 24th St. (several areas, including
Desert Crest Patio Homes area, Granada Park
& others)
Undecked areas between 24th St. and 32nd St.
32nd Street to ACDC spillway

Second priority:

Areas where some improvement of ACDC landscaping is desirable.

Reach 3

19th Avenue to Cave Creek Channel

Reach 4

14th Street to Glendale/16th Street intersection

Areas where landscape plan information was not sufficient at the time of survey for accurate rating.

Reach 2C

Interstate 17 intersection

Reach 3

Central Avenue to Dunlap

Reach 4

Squaw Peak Parkway intersection

It should, additionally, be noted that landscape plan information was not available for decked portions of ACDC.

- 4.2. Major street intersections where opportunities exist for added recreation facilities or for establishing distinctive landscape themes to strengthen neighborhood character.

In some areas there is either an identifiable, existing neighborhood character or expression of interest in establishing one. The

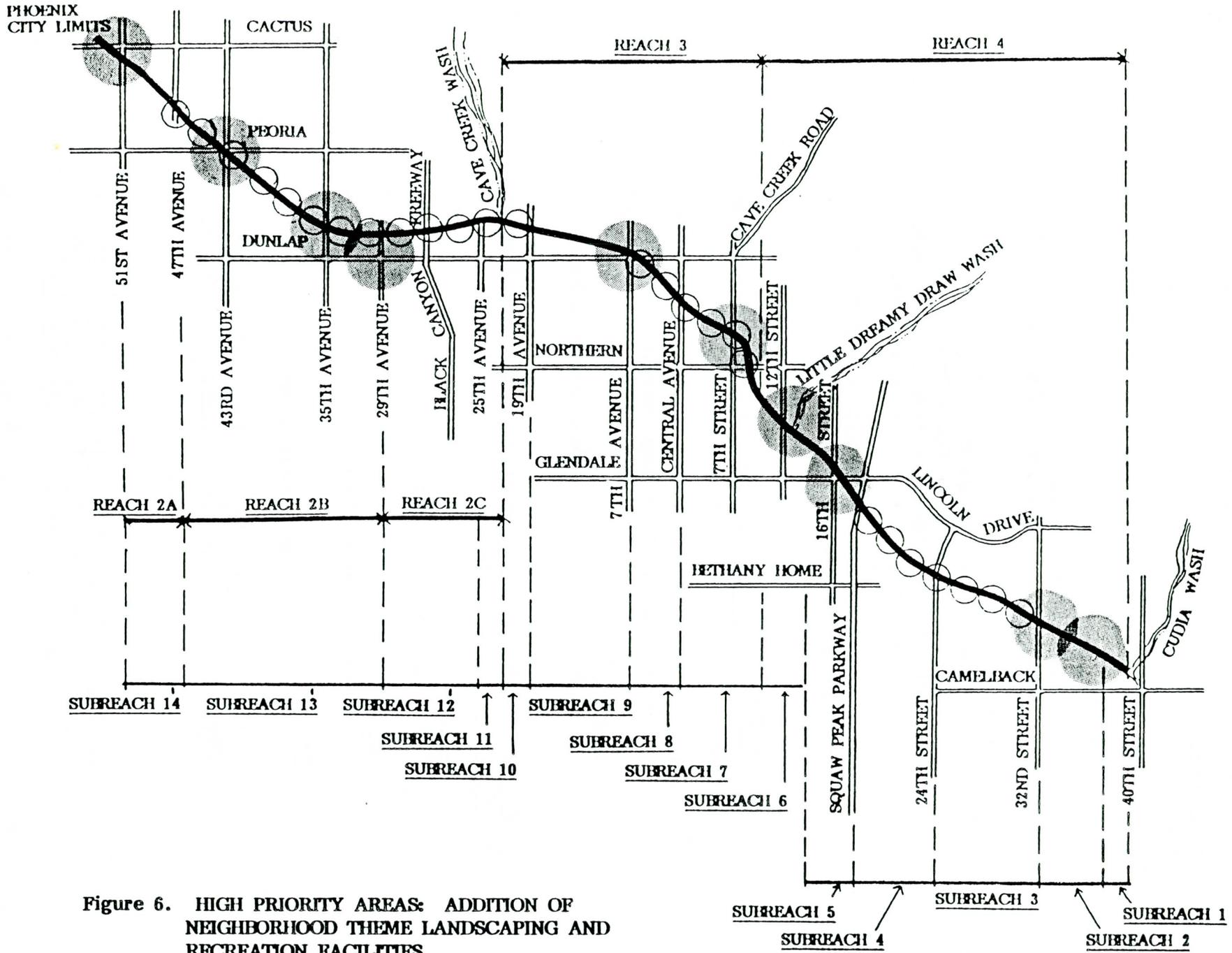


Figure 6. HIGH PRIORITY AREAS: ADDITION OF NEIGHBORHOOD THEME LANDSCAPING AND RECREATION FACILITIES

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Specific Plan Committee for Sunnyslope, for example, has recommended design character and image for the area. It has selected a palette of theme trees and other design elements appropriate to Sunnyslope; and the ACDC aesthetics should reflect use of these trees and other recommendations.

In many places along ACDC are "high-visibility areas", "landscape nodes" or leftover bits of right-of-way that could be the sites for gateways, public art, neighborhood-oriented recreation or community identification, distinctive gardens or other theme landscaping. Committee members identified these places, along with ideas for possible improvements or themes.

First priority areas

Reach 2A

51st Avenue/Cactus intersection

Reach 2B

43rd Avenue/Peoria intersection

35th Avenue intersection

19th Avenue to 47th Avenue, various sites

Reach 2C

29th Avenue intersection

Reach 3

7th Avenue intersection

Dunlap Avenue intersection

Dunlap to Central Avenue, various sites

Central Avenue to eastern Reach 3 boundary,
various sites

Reach 4

7th Street bridge

12th Street & Orangewood/State

Glendale/16th Street triangle

19th Street to 24th St. (various sites - Squaw Peak

Parkway, Maryland Ave., 24th Street crossing)

24th St. to 32nd St. - at San Miguel crossing

Stanford Drive area

32nd Street intersection

Second priority areas

Reach 4

Stanford Drive area east to ACDC spillway

Spillway area east to end of ACDC near 40th Street

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4.3 Areas of high priority for additional landscaping on south bank of the ACDC.

The area available for landscaping on or adjacent to the south bank of ACDC is limited in many areas by utility corridor restrictions, the Arizona Canal maintenance road, the ACDC trail, and the steep sloped bank (1:2) between trail and channel. In some areas there is very high trail use or streets parallel or intersecting ACDC in such a way that this south bank is highly visible. In these areas, Committee members felt that some expansion of landscaped areas or intensification of landscape treatments was warranted.

First priority areas

Reach 2A

51st Avenue/Cactus intersection

Reach 2C

29th Avenue intersection

Reach 3

7th Avenue intersection

Central Avenue to eastern Reach 3 boundary

Reach 4

Eastern Reach 3 boundary to 14th St.

14th St. to Glendale/16th Street intersection

19th Street to 24th St.

24th St. to 32nd St. (undecked areas)

32nd Street to Stanford Drive/ACDC.

Second priority areas

Reach 4

Stanford Drive to ACDC spillway

ACDC spillway

ACDC spillway to Stanford Drive/40th St intersection.

4.4. Areas of high priority for working with Salt River Project to landscape the south bank of the Arizona Canal.

ACDC and the Arizona Canal share the same corridor. Views by

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motorists toward ACDC and by trail users toward the Arizona Canal can be greatly enhanced in some areas by addition of landscaping along the Canal's south bank. Landscaping of the north bank is precluded by limited right-of-way and the need to provide maintenance access to the canal. High priority areas were identified where landscaping of the south canal bank could screen unsightly adjoining areas from ACDC trails or could significantly improve motorist views toward ACDC where streets parallel or intersect ACDC and the canal.

First priority areas

Reach 2C

29th Avenue intersection

Reach 3

Central Avenue to eastern Reach 3 boundary

Reach 4

16th St/Glendale Ave., northeast intersection
triangle
32nd Street intersection.

Second priority areas

Reach 2A

51st Avenue/Cactus intersection

Reach 2B

43rd Avenue/Peoria intersection
35th Avenue intersection

Reach 2C

25th Avenue to Cave Creek channel

Reach 3

19th Avenue to Dunlap

Reach 4

24th St. to 32nd St.

4.5 Areas of high priority for preserving significant vegetation.

Along the Arizona Canal/ACDC corridor are intermittent areas where large trees provide character, shade for trail users, pleasant views and screening. The Committee and many concerned citizens feel strongly that these trees must be preserved. Trees that

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cannot be left in place should be relocated within the immediate vicinity where they will continue to benefit everyone along the ACDC.

The Committee has had generous input from Desierto Verde owner, Wayne Hibbets, on relocation constraints and logistics for mature desert trees. With proper care, even the largest existing trees (mesquite, palo verde, etc.) can be relocated with a very high likelihood of survival.

The cost involved is not small, but these mature trees cannot be replaced at any price and represent, to many concerned with ACDC, a commitment to neighborhood history, continuity and quality. Five 15-gallon trees are not an acceptable substitute for one mature specimen-quality mesquite.

First priority areas for tree preservation, where removal is proposed under current ACDC plans:

Reach 3

Dunlap Avenue intersection
Dunlap to Central Avenue
Central Avenue to eastern Reach 3 boundary

Reach 4

Eastern Reach 3 boundary to 14th St.
19th Street to 24th St.
24th St. to 32nd St.

Second priority areas

Reach 2B

29th Avenue to 47th Avenue

Reach 3

7th Avenue intersection

Reach 4

Glendale/16th Street to Squaw Peak Parkway

Areas where trees will be removed but preservation priority did not receive a "high" rating

Reach 2C

25th Avenue to Cave Creek Channel

4.6. Sub-reaches where aesthetic treatment of adjacent properties is needed to screen unsightly areas.

In some areas poorly maintained properties, "eyesore" uses, cluttered storage and industrial facilities, backsides of buildings and refuse areas will detract from the recreational aesthetic experience for ACDC users.

In some cases, landscaping within the ACDC right-of-way can be modified to provide screening. In others, only screening or cleanup on the private property itself can solve the problem (e.g. where ACDC trail is elevated). Ways of encouraging property owners to provide aesthetic improvements (landscaping, fencing, or clean-up) should be vigorously explored.

First priority areas for aesthetic treatment of adjoining properties

Reach 2A

51st Avenue/Cactus intersection
Cactus to 47th Avenue

Reach 3

19th Avenue to Dunlap Avenue

Reach 4

Glendale/16th Street, northeast intersection triangle

Second priority areas

Reach 2B

43rd Avenue/Peoria intersection
47th Avenue to 29th Avenue
25th Avenue to Cave Creek Channel

Reach 3

Cave Creek Channel to 19th Avenue

Reach 4

19th Street to 24th St. (City facility)

4.7 Areas where ACDC landscaping, trails or aesthetic treatment may decrease privacy for adjoining properties.

A frequent complaint of property owners when a trail is proposed

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at their rear property lines is that it will negatively impact privacy. Especially where the trail will be elevated and landscape screening is not provided, there is a perception that people will be able to look into the yards and homes along its route.

Countermeasures for this problem may include increased height of screening wall, use of opaque/solid walls , or adding enough landscape materials to assure a dense screen.

First priority areas

Reach 3

19th Avenue to Dunlap
Central Avenue to eastern Reach 3 boundary,
various sites

Reach 4

Eastern Reach 4 boundary to 14th Street
Area adjoining Monteil Patio Homes at
Glendale/16th Street triangle
19th Street to 24th St.
24th St. to 32nd St.
ACDC spillway area

4.8. Areas where ACDC landscaping, trails or aesthetic treatment may decrease security for adjoining properties.

There is a common perception that encouraging trail use or otherwise allowing access to open space areas behind people's homes increases the likelihood of crime. There are specific fears of theft, vandalism, intruders, and of transients or others "hanging out" in such areas, with consequent threats implied for adjoining property owners.

Although ACDC landscaping was designed to minimize the "lurking in bushes" opportunities, the Committee felt that improvements in some areas could increase neighboring property owners' sense of security relative to ACDC.

First priority areas

Reach 3

Central Avenue to eastern Reach 3 boundary,
various sites

Reach 4

19th Street to 24th St.

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Second priority areas

Reach 2B

29th Avenue to 47th Avenue

Reach 4

24th St. to 32nd St.

ACDC spillway area

4.9. Compatibility of ACDC landscaping with character of adjoining areas.

In some neighborhoods along the ACDC, strong landscape character has been established. The ACDC landscape design concept is relatively uniform along the Channel's entire length through the Phoenix area. The plant palette used and the "arid" landscape theme is a stark contrast to some areas where a strong sense of historic association with "green" landscaping or other types of plant materials exists.

The Committee identified major areas of incompatibility and recommends that the ACDC landscape concept be modified to provide stronger ties to neighborhood landscape themes. This is not to say that extensive turf areas are recommended, but rather that use of, for example, compatible green ground covers (e.g. myoporum), and trees and shrubs similar to those in the area should be pursued.

First priority areas

Reach 4

19th Street to 24th St.

24th St. to 32nd St. (no specific plans available on landscaping of decked areas)

Second priority areas

Reach 2B

43rd Avenue/Peoria intersection

35th Avenue intersection

29th Avenue to 47th Avenue

Reach 3

Dunlap to Central Avenue

Eastern Reach 3 boundary to 14th Street

4.10. Appropriateness of ACDC landscape/hardscape design to neighborhood context.

The design of walls, security fencing, tinted concrete and other materials was generally found to be compatible in most areas along ACDC. The channel will be of integrally colored, earth-toned concrete; security fencing will have a wrought iron look, simple and visual barrier walls will be of rough, earth-toned block.

Two areas where design of these elements was of concern to the Committee were in the Biltmore area and in all areas where homes face the ACDC. In the Biltmore area, a very strong character using Frank Lloyd Wright's cast concrete "fabric" block has been established. **The Committee strongly recommends that, in particular, fence and wall designs along any undecked areas between 24th Street and 32nd Street be modified to reflect this special Arizona Biltmore design character.**

In areas where homes face the ACDC, problems with the visual barrier walls have been observed (see p. 92). **These walls must be constructed to a high standard. Use of a design similar to that in Figure 10 and implementation of recommendations on pages 94 and 95 are strongly urged.**

E. PARKS AND SCHOOLS

1. Description

The proximity of public parks and schools to the ACDC poses some specific concerns regarding safety, access, and general aesthetic improvements. High concentrations of children at these areas require that special criteria be developed to address, for example, bicycle and pedestrian access to schools and parks, "attractive nuisance" aspects of ACDC and concerns about safety of children using ACDC trails, parks, and school yards. Since the ACDC in many ways will be viewed as an extension of the parks or school grounds, it is important that design character be compatible and of high quality.

Along ACDC are: Cortez Park, Cave Creek Park, Herberger Park, Sunnyslope Pool and Granada Park. Schools adjacent to the channel are Arroyo Elementary School, Phoenix Country Day School, and Sunnyslope High School. Also of concern are major attractions to children located near the channel, such as Metrocenter, which also are addressed in this section.

2. Goal

To insure high levels of safety, accessibility, and aesthetic experience for all people at schools, parks, and public attractions in the vicinity of the ACDC.

3. Objectives and Review Guidelines

3.1. Access

OBJECTIVE: Ease of access is essential between channel recreational trails and parks, schools, and public attractions.

GUIDELINES:

- 3.1.1. Provide trail access to all parks, schools, and public attractions.
- A. Trails should not end abruptly at the edge of ACDC right-of-way; rather, they should continue into adjacent school and park properties.

3.2. Safety

OBJECTIVE: Because of high concentrations of children and public activity in these areas, safety is of utmost importance and highest priority should be assigned to assuring safety in these areas.

GUIDELINES:

- 3.2.1. Security aspects of high public use of ACDC trails in these vicinities require special attention to safety; therefore:
- A. In addition to planned fencing, barrier landscaping should be considered as an extra measure of protection against entry into the channel.
 - B. The highest standards should be used in pedestrian overpass design, considering likely bicycle use.
 - C. Do not locate maintenance ramps into the channel near these high activity areas.
- 3.2.2. Lighting should provide proper illumination for security at all hours at trails, bridges, underpasses, and access points in these high use areas.
- 3.2.3. Improve existing sidewalk widths and separation from motor vehicles where necessary to provide a safe connection between ACDC trails and parks or schools. (e.g., 35th

Avenue access to Cortez Park).

- A. If existing conditions cannot be improved to provide safe access to these areas, provide pedestrian/bicycle bridges to insure such access.

- 3.2.4. High maintenance standards must be aggressively followed in these high-use areas.

3.3. Facilities

OBJECTIVE: All park and school facilities impacted by ACDC construction must be replaced with equivalent or higher quality facilities.

GUIDELINES:

- 3.3.1. Make every effort to replace facilities removed by channel construction with an equivalent or improved facility.
 - A. Replace any existing recreational facilities removed by the channel construction with like recreational facilities.
 - B. Replace desirable landscape areas that will be impacted by channel construction with like landscaping.(i.e. replace grass with grass, mature trees with mature trees.)
- 3.3.2. Where parks adjoin ACDC, consider adding limited grassy areas for use by ACDC trail users (resting, picnicking, etc.).
- 3.3.3. Recreational amenities for trail users should be readily available at high-use points (near parks, schools, staging areas, Metrocenter).
 - A. Trash receptacles, benches, drinking fountains, and shade should be provided.

4. **Recommendations**

The Committee's Survey indicated that ACDC plans are generally adequate in terms of meeting stated objectives and guidelines, as related to schools and parks.

- 4. 1. No areas were identified where ACDC would generate specific security problems.

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4. 2. Replacement of park and school facilities with like facilities (or landscaping) is planned in all cases.
4. 3. Two areas were identified where additional turfed areas were recommended as continuation of existing turfed areas, to provide usable amenity for trail users:
 - o Adjacent to Sunnyslope High School
 - o In the vicinity of Cave Creek Park.
- 4.4. Trail access between the ACDC and Cortez Park should be improved (Reach 2B, see III.F. Trails and IV. Site-Specific Recommendations).

F. TRAILS

1. Description

The trail system running the length of the ACDC has been designed to serve a dual purpose: as a paved recreational corridor and as a channel maintenance road. The ACDC trail system can become a major public asset -- 12.5-mile linear trail through the heart of the Phoenix urban area. It makes substantial improvements upon the existing Arizona Canal trail, with extended length, underpasses, connections to other trails and pedestrian bridges.

The Committee endorses the plan to develop a safe, functional and aesthetically pleasing ACDC trail for use by equestrians, bicyclists, runners, walkers, and the handicapped.

2. Goal

To insure that the ACDC trails constructed provide a continuous, high-quality recreational experience, maximizing safety and security for both trail users and adjacent property owners.

3. Objectives and Review Guidelines

3.1. Continuity

OBJECTIVE: To provide a continuous, barrier-free trail system with linkages to existing trails, feeder streets, parks and schools.

GUIDELINES:

- 3.1.1. Provide a continuous, barrier-free trail system on the south side of the ACDC.
- 3.1.2. Insure easy access to the trails with consideration for all types of trail users. Take into consideration the varied needs of all trail user groups: bicyclists, pedestrians, equestrians, and the handicapped.
 - A. Make sure that streets, bridges and other trails that are used for access to ACDC trails are free of hazards, barriers and substandard design features that could pose safety problems for people wishing to get to ACDC trails.
 - B. Link the ACDC trail to established trails and to adjacent parks and schools.
 - C. Provide pedestrian overpasses at appropriate intervals where needed to assure convenient trail access from adjoining neighborhoods.
 - D. Insure continuous trail access through the Arizona Biltmore.
- 3.1.3. Provide underpasses at all major street crossings where needed to insure safety and convenience for trail users.
 - A. Locate underpasses between the Arizona Canal and the south side of the channel to provide direct, uninterrupted trail use.
 - B. Current traffic counts on intersecting streets should be considered in determining the need for underpasses.
- 3.1.4. Where trail users must use bridges at street level to gain access to the trail, provide ample path or lane width for combined bicyclist/pedestrian use in conformance with AASHTO standards.

3.2. Safety

OBJECTIVE: The ACDC trail system should be designed to maximize safety for all trail user groups -- pedestrians, equestrians, bicyclists and the handicapped.

GUIDELINES:

- 3.2.1. Since the trail will be shared by bicyclists, pedestrians, equestrians and the handicapped, the design needs of all these user groups must be taken

into account. Where these needs vary, the most restrictive design standards should be used as a guide (e.g., curves should be designed for use by bicyclists, who move at substantially higher speeds than pedestrians). The AASHTO "Guide for Development of New Bicycle Facilities, 1981" should be used as the standard for design of bicycle facilities.

- 3.2.2. Landscaping should be designed to maximize safety for all trail user groups.
- A. Plantings along trails should not interfere in any way with the safety of the trail users (i.e., do not plant shrubs with thorns that could puncture bicycle tires, plants that attract bees, trees with low, overhanging branch structures, etc.).
 - B. The trail shoulder should be of adequate width to provide horizontal clearance for normal growth of plants, given expected levels of maintenance.
 - C. Bicycle and horse trails should be separated spatially and visually, with landscaped screening desirable. Among safety reasons for this are:
 - o Horses startle easily and accidents can happen...particularly when fast-moving, almost-silent bicyclists overtake horses;
 - o Horses require an unpaved surface; bicycle paths should be paved.
 - Impact on paved surfaces can damage horses legs;
 - Paved surfaces can be slippery for horses;
 - Unpaved surfaces can damage many types of bicycles;
 - Unpaved surfaces are uncomfortable riding and require a higher level of bicycling skill (for non-mountain bikes).

NOTE: AASHTO standards do not recommend mixing bicycles and horses, citing this as "an unsatisfactory and possibly dangerous mix" (p. 28).

A cooperative effort between ACDC agencies and the Salt River Project should be initiated to address this potentially dangerous mixing of

incompatible trail users. Perhaps a separate equestrian trail can be designated on the Arizona Canal's south bank.

- D. Particular attention should be paid to design and maintenance of the north side ACDC trails where ground-level washes and sheet flow from the north into the Channel, intersecting the trail. Debris, pavement damage, silt, gravel, standing water and other conditions can impact trail user safety.
 - E. Because asphalt experiences rapid deterioration in hot weather or when wet and is difficult to patch and maintain to high standards, use of machine-laid concrete with sawcut joints should be encouraged.
- 3.2.3. Lighting should be provided for security and visibility.
- A. All access points should be adequately lighted.
 - B. The trail should be lighted at all parks and schools.
 - C. All overpasses and underpasses should be lighted.
 - D. Consideration should be given to low-level surface lighting along the length of the trail in areas of heavy trail use.
- 3.2.4. Bollards or other barriers should be installed that allow free flow of trail users and allow emergency vehicle access while preventing casual motor vehicle access.
- A. Maintenance gates, as installed at 51st Avenue/Cactus Road, are barriers to trail use and should be replaced immediately.
- 3.2.5. Trail shoulders should be a minimum of six feet wide, where the trail parallels the Channel, to provide clearance from steep grades at the Channel's edge.
- 3.2.6. Safe transitions from street level to underpasses and to the trail must be provided.
- A. Approaches to underpasses should allow visual access, so trail users can tell if someone else is in or approaching the underpass.
 - B. Ramps must be designed with adequate radius of curvature and other considerations to allow a safe transition for all trail users.

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3.3. Aesthetics

OBJECTIVE: Design the trail system to provide a varied, high-quality recreational experience.

GUIDELINES:

- 3.3.1. Provide variety in the south side trail by allowing the path to meander gently, with possible use of Salt River Project right-of-way, if necessary.
- 3.3.2. Give top priority to preserving, in place, existing landscape specimens which make significant contributions to trail aesthetics. Where this is not possible, box and relocate trees and other major plant materials in the immediate vicinity.

3.4. Trail Amenities

OBJECTIVE: Provide high-quality amenities and facilities to support the ACDC trail system.

GUIDELINES:

- 3.4.1. Drinking fountains, trash receptacles and benches should be provided at regular intervals along the trail. It is recommended that they be spaces no further than two miles apart.
- 3.4.2. A complete system of directional, warning and informational signs should be installed along the trail and at all access points.
- 3.4.3. Public restrooms and picnic tables should be readily accessible to trail users at parks and other locations along the ACDC.
- 3.4.4. Bicycle racks, hitching points and horse watering facilities should be provided at trail staging areas, adjacent parks and other key activity and rest areas.
- 3.4.5. Make provision for parking at regular intervals along the trail, especially where parking will be removed (e.g., 32nd Street, Stanford Drive).
- 3.4.6. Provide shade at frequent intervals along the trail, using trees trimmed to provide a shade canopy or man-made shade structures.

3.5. Effect on Neighborhoods

OBJECTIVE: Locate and design the trail to minimize adverse effects on adjacent properties.

GUIDELINES:

- 3.5.1. Provide continuous screening walls and landscape barriers where trail use of the north ACDC maintenance road is anticipated and where right-of-way limitations place the trail close to existing residences.



Figure 7. LANDSCAPE TREATMENT WHERE TRAILS ARE CLOSE TO RESIDENCES

- 3.5.2. Convenient access to trails along the south side of the ACDC should be provided from all adjoining neighborhoods.
- 3.5.3. Any ACDC lighting should be placed to reflect light away from adjoining residential areas. No glare or reflected light from the ACDC trails should be transmitted beyond the ACDC right-of-way.

4. Recommendations

4.1. Upgrading of existing ACDC trail/trail design

It is recommended that trail design guidelines cited in this report be used to review and modify the ACDC trail. The Committee is concerned that the trail, as designed and partially constructed, is seriously substandard for planned multiple use. Rather than creating a very desirable amenity, the City and other agencies may find liability problems and an underutilized trail system.

Specific areas of concern are:

- o substandard trail width for planned multiple use
- o substandard shoulder width to steep Channel embankment

- o lack of warning, directional and informational signs
(Committee saw no signage plan for overall trail system)
- o substandard horizontal radius of curvature for trails linking with underpasses and bridges
- o mixing horses and bicycles on multi-use trail
- o substandard bridge design for equestrians and bicyclists
- o pedestrian bridges that present barriers to the handicapped, to bicyclists and equestrian trail users
- o maintenance road gates across trail that disrupt trail continuity.

4.2. Need for Trail Lighting

As stated in the Guidelines (3.2.3) trails should be lighted for security and visibility reasons at:

- o all trail access points (e.g., street crossings, pedestrian bridges, intersections with other trails)
- o all parks and schools
- o all overpasses and underpasses
- o other places, as needed.

Provision of low-level trail lighting in heavy use areas is also recommended.

At all times of year, trail use at non-daylight hours can be anticipated. In winter, limited hours of daylight mean that people who exercise before or after work by bicycling, walking or running must either do so in the dark or suspend their exercise programs for several months. People who wish to use the trails to commute to work by bicycle are similarly limited from about November through February.

In summer, many people like to take advantage of cooler morning or evening temperatures to walk, bicycle or run/jog. Again, lighting the ACDC trails using low-level lights that will not impact adjoining residential properties will greatly enhance trail use.

Highest priority should be given to provision of lighting in the following areas:

Reach 2A

- o 51st Avenue/Cactus Road intersection

Reach 2B

- o Arroyo School
- o 35th Avenue intersection
- o 43rd Avenue/Peoria intersection

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Reach 2C

- o 29th Avenue intersection
- o I-17 intersection
- o ACDC Trail between 29th and 25th Avenues

Reach 3

- o 7th Avenue intersection
- o Dunlap Avenue intersection
- o Herberger Park/pool

Reach 4

- o ACDC trail from 14th Street to Squaw Peak Parkway due to heavy use (includes intersections at 16th Street/Glendale)
- o Squaw Peak Parkway intersection
- o ACDC trail from Squaw Peak Parkway to 32nd Street
- o 32nd Street intersection
- o Stanford Drive rest area
- o ACDC trail from 32nd Street to east end of ACDC

4.3. Areas where changes are recommended to improve trail security.

Reach 3

- o Central Avenue east to Reach 3 boundary at Dreamy Draw Wash/12th Street
This area experiences relatively high trail use and there are neighborhood concerns with trail security. Landscaping plans for this area should be reviewed carefully and revisions made if needed to make sure that shrubs, walls and other landscape materials will not create "lurking" places or camping places for transients.

4.4. Places where the ACDC trail, as designed, may not be adequate to accommodate all users.

The entire ACDC trail does not meet AASHTO guidelines for bicycle facilities or generally accepted standards for equestrian trail design, given planned multiple use of the trail and areas of expected heavy use.

Specific areas of highest priority are:

Reach 2A

- o 51st/Cactus intersection trail crossings are seriously substandard and represent an unsafe condition for

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bicyclists and equestrians. These crossings must be retrofitted or redesigned to improve conditions for trail user safety.

Reach 2B

- o 43rd/Peoria intersection trail crossings are seriously substandard and represent an unsafe condition for bicyclists and equestrians. These crossings must be retrofitted or redesigned to improve conditions for trail user safety.

Reach 2C

- o 29th Avenue ACDC intersection trail crossing is seriously substandard and represents an unsafe condition for bicyclists and equestrians. This crossing must be retrofitted or redesigned to improve conditions for trail user safety.
- o Design of trails at the intersection of Cave Creek Wash and the ACDC was not complete at the time of Committee survey work. Access from the ACDC trail along the south side of the Channel to Cave Creek Park (on the north side of the Channel) and to the Cave Creek trail system must be provided for all users according to high standards of safety and convenience.

Reach 3

- o 19th Avenue ACDC trail intersection is seriously substandard and represents an unsafe condition for bicyclists and equestrians. This crossing must be retrofitted or redesigned to improve conditions for trail user safety.
- o Due to high projected trail use in this reach, and to the anticipated mix of trail users (including equestrian), trail standards that exceed the minimum design shown on the ACDC plans are strongly recommended. A minimum of 12-ft. wide pedestrian/bicycle path (per AASHTO) and a separate trail for horses should be provided (Guideline F, 3.2.2.C.).

Reach 4

- o The Glendale Avenue trail crossing is substandard and represents an unsafe condition for bicyclists and equestrians. The existing underpass on the south side of the Arizona Canal does not meet guidelines in this report.

Trail users must cross from the south side of the ACDC to the underpass using the street or sidewalk and canal bridge. The canal bridge was not built in conformance with trail standards. Many people will be likely to veer out into the street, around the bridge, to get to the underpass. It is also likely that many trail users will attempt midblock crossings at street level, as they do now.

Since this is one of the heaviest trail-use areas on the ACDC, it is strongly recommended that this situation be remedied. Either replace the underpass with one on the north side of the Arizona Canal/south side of ACDC, similar to that at 16th Street and improve the Canal bridge and sidewalks OR install trail bridges to access the existing underpass on both north and south sides of Glendale.

- o Since the entire length of Reach 4 represents the heaviest potential trail use on the ACDC and the most varied mix of users, it is strongly recommended that the trail system be constructed to a higher standard than that shown on ACDC plans. A minimum 12-ft. paved bicycle/pedestrian pathway and a separated equestrian trail are recommended, as discussed in this report.
- o Final design of the intersection of the ACDC with the Squaw Peak Parkway was not complete at the time of Committee review. conceptual designs show a good solution to trail continuity but the Committee is concerned that access between the Parkway trails and the ACDC trails be designed in conformance with guidelines in this report. Detailed design of this intersection should be reviewed to make sure that all users are accommodated and that access to lateral trails in the area is not cut off.

4.5. Areas where the ACDC trail system connects to other existing or planned trails.

All Reaches

- o **Sun Circle Trail.** The existing Sun Circle Trail is a designated "National Recreation Trail" that will provide a 110-mile loop around the Valley for horsemen, hikers and bicyclists. The Phoenix General Plan calls this trail the "primary loop trail

that will connect with spoke trails throughout the City." The Sun Circle Trail presently extends along the entire length of the Arizona Canal that will be paralleled by the ACDC. The City's historic commitment to completion and improvement of the Sun Circle Trail provides additional support for the Committee's recommendations that the ACDC trail be upgraded to at least meet the Guidelines in this report and that a separated equestrian trail be provided.

Reach 2A

- o **51st Avenue/Cactus Road intersection.** At this location, the Phoenix portion of the ACDC trail system should connect to the Glendale ACDC trails. Glendale was successful in achieving construction of the ACDC as a broad, shallow, landscaped channel suitable for recreational use. The Glendale trails approaching 51st Avenue/City Limits are on the north side of the ACDC channel. The Phoenix trails are on the south side and trail users must cross two major street intersections to get to them.

There is a gap here than must be eliminated. It is strongly recommended that a trail connection be constructed allowing safe, convenient and continuous travel by trail users between the Phoenix ACDC trail and the Glendale ACDC trail. Safety concerns stated earlier (re: bridges, underpasses/lack thereof and trail standards) must be addressed.

Reach 2B

- o **39th Avenue: south — existing Arizona Canal Loop trail; north (planned) — trail extension north to the Outer Loop.** The existing Arizona Canal Loop trail extends west from Cortez Park along Eva and then south on 39th Avenue, approximately 1/4 mile south of the ACDC. The General Plan includes extension of this trail north along 39th Avenue to the Outer Loop. Access between the ACDC trail (south side of Channel) and 39th Avenue (dead-ends on north side of channel) must be provided.
- o **Arizona Canal bike path to Cortez Park.** Access between the ACDC trail and Cortez Park via 35th Avenue should be improved. Presently, the canal bike path is on the south side, allowing direct access from path to park. Moving the path to the north side of the Arizona Canal/south side of ACDC means that trail users will have to cross the Canal

bridge to get to the park. Access from the 35th Avenue underpass up to the 35th Avenue sidewalk or roadway should be improved. Horizontal turning radius between 35th Avenue access trail and the underpass should be increased to allow safe bicycle movements at AASHTO-recommended design speeds.

The bridge sidewalk is not designed to accommodate bi-directional bicycle, pedestrian and equestrian traffic. It is recommended that the Arizona Canal bridge at 35th Avenue be upgraded to provide safe and convenient access to Cortez Park for all trail users.

Reach 2C

- o **Planned trail along 28th Avenue, from ACDC to Outer Loop.** The Phoenix General Plan shows a planned bicycle and equestrian trail extending north from the ACDC trails through MetroCenter along approximately 28th Avenue to the Outer Loop. Since the ACDC trail is planned on the south side of the Channel, safe and convenient access across the ACDC bridge at 29th Avenue must be provided (see Site-Specific Recommendations). Design of this bridge and approaches to the ACDC trail from north and south (Arizona Canal bridge) should be evaluated in terms of the Guidelines in this report and any necessary improvements made.
- o **Cave Creek Wash trail system.** No specific information on design of the intersection between Cave Creek Wash trails and the ACDC trails was available at the time of Committee review. It is recommended that the intersection design take into account the Guidelines in this report, providing access for all trail users between the ACDC trail (south side of the Channel) and the Cave Creek Wash trails (north side of Channel).

Reach 3

- o **Murphy Bridle Path, Central Avenue.** The Murphy Bridle Path presently extends south from the Arizona Canal to Bethany Home Road. The Phoenix General Plan calls for extension of this path north along Central Avenue to the Mountain Preserve. although designated as a "bridle path" this trail experiences heavy use by a complete range of trail users. Access to the ACDC trail system from this path should be studied. Any substandard trail features should be retrofitted or replaced to provide

safe and convenient use by all groups -- equestrians, bicyclists and pedestrians.

Reach 4

- o **Perl Charles Trail (1A), 16th Street to Mountain Preserve**, an existing equestrian trail along the east side of 16th Street extends north from the Arizona Canal Loop to the Mountain Preserve. Access to this trail from the ACDC from the east and from the underpass at 16th Street must be designed to accommodate equestrians in a safe and convenient manner, according to guidelines in this report. Due to its proximity to the Dreamy Draw trail, the Sun Circle Trail, stables at the Pointe Squaw Peak and trails in the Mountain Preserve, it is anticipated that this area will experience relatively significant equestrian use.

- o **Planned trails: access to Mountain Preserve at approximately 28th Street from ACDC and paralleling ACDC from 28th Street to 32nd Street, then east on Stanford Drive to 44th Street. Lateral trails are planned extending south from ACDC along 32nd Street to Oak and along 44th Street north to Paradise Valley and south to connect to the Papago Loop trail at Lafayette.** The design of intersections of the ACDC with these trails should be in conformance with design guidelines in this report. Where necessary to achieve safety and convenience for all trail user groups, retrofit or replacement of nearby facilities (Canal bridges, sidewalks, etc.) should be carried out.

4.6. Areas where access between ACDC trails and major trail user destinations should be improved.

Reach 2C

- o Method of getting from the ACDC trails to Cave Creek Park was not determined at time of Committee review. Access should be provided for all trail users, in accordance with recommendations in this report.

Reach 4

- o Continuous trail access for all users must be assured between 24th Street and 32nd Street. In this area most of the ACDC will be covered, but no design was available for Committee review of trails across covered portions of ACDC. This design

should be prepared in accordance with Guidelines in this report to assure continuous public trail access.

4.7. Areas where the ACDC trail alignment does not vary.

Due to limited rights-of-way between ACDC and the Arizona Canal, the alignment of the ACDC trail does not undulate in many areas. Committee members feel that some variation in alignment of the trail is desirable as long as the variation is gentle and does not reduce effective pathway width for bicyclists. The following areas were identified where a more varied trail alignment would be desirable:

Reach 2A

- o Entire reach

Reach 2B

- o Entire reach

Reach 2C

- o Cave Creek Channel to 25th Avenue

Reach 3

- o Cave Creek Channel/west Reach 3 boundary to Central Avenue

Reach 4

- o 19th Street to 24th Street
- o East end of covered portion, east of 32nd Street to east ACDC boundary.

4.8. Areas where addition of rest stops or staging areas is recommended.

Reach 2A

- o In vicinity of 51st Avenue/Cactus, for bicyclists and pedestrians.

Reach 2B

- o At Cortez Park, near the north side of the park for easy access to ACDC trails, for bicyclists and pedestrians.

Reach 2C

- o In vicinity of Metro Parkway/29th Avenue, primarily for bicyclists and pedestrians.
- o At Cave Creek Park, staging and rest areas for equestrians, bicyclists and pedestrians.

Reach 3

- o In vicinity of 7th Avenue and Dunlap, rest area for all users; staging area for bicyclists and pedestrians.

Reach 4

- o At Granada Park, add staging and rest facilities for equestrians (staging already provided for other trail users).
- o At 32nd Street and along Stanford Drive, present informal parking will be eliminated and proposed rest area does not include parking or other required rest facilities. The Committee is concerned that problems will result from trail users' parking on nearby neighborhood streets in this popular trail area. It is recommended that parking be provided as part of ACDC improvements along with rest rooms, water and other facilities, per the Guidelines in this report.

G. LONG-TERM MONITORING AND EVALUATION OF ACDC IMPROVEMENTS

1. Description

Implementation of aesthetics improvements planned and recommended by the Committee will take place over a number of years and high-quality maintenance is essential. The Committee feels that it is important to establish a mechanism for ongoing monitoring of ACDC improvements and maintenance. Already, serious maintenance problems (e.g., with the drip irrigation system, dead plants, mosquitoes) have been noted. There will be a need for additional review of ACDC design features and evaluation of the effectiveness of any retrofit or redesign that comes out of this Committee's work.

2. Goal

To insure responsible, high-quality maintenance of all aspects of ACDC aesthetics improvements addressed in the Committee report; and to provide for long-term monitoring and evaluation of safety and aesthetic impacts.

3. Objectives and Review Guidelines

3.1. Landscaping and Irrigation Materials

OBJECTIVE: Insure ongoing, high-quality maintenance of all plant materials, irrigation systems and other landscaping improvements.

GUIDELINES AND RECOMMENDATIONS

3.1.1. If landscape materials and irrigation systems are damaged through rodents, vandalism, accidents, heat, cold or other means, they should be promptly repaired or replaced with materials of equal or better quality. If repeated problems occur, alternative materials or irrigation systems should be explored, with input from an officially constituted implementation group.

RECOMMENDATION:

Establish a way for members of the general public to report needed repairs or replacements to the responsible agencies and for verifying actions taken in response.

3.1.2. All significant trees and other major plant materials that are valuable contributors to neighborhood character and to the aesthetics of the ACDC should be preserved in place if at all possible. If this is not possible, they must be relocated in the immediate area, taking all due care to assure their protection and survival.

RECOMMENDATION:

A detailed survey should be conducted to provide specific information on type, size, location and condition of all significant trees and other plant materials contributing to character and ACDC aesthetics. Most of these plant materials are identified in general terms in this Committee's report, based on field work by Committee members.

Although relocation costs may be relatively high for mature trees, the Committee feels strongly that the value to ACDC trail users and to creating a sense of neighborhood character are factors that outweigh such costs. Given the massive impact that ACDC will have on established neighborhoods, the cost of relocating or protecting the relatively few mature trees along its right-of-way was seen by the

Committee as a modest request, resulting in substantial community benefits.

Once the survey is completed, it should be reviewed with the committee recommended under Objective 3.5. Funds should be allocated and the landscaping materials relocated or protected.

3.2. Trails

OBJECTIVE: Provide on-going, high-quality trails system maintenance; monitor trail usage and provide periodic evaluation and recommendations for improvements.

GUIDELINES:

- 3.2.1. Maintain the trails to a high standard by removing hazardous debris, standing water, overhanging brush and tree branches and other materials (gravel, sand, etc.) from the trails and by providing frequent inspection and repair of the trail surface, lighting, underpasses, signage, access ramps, bridges and other related facilities.
- 3.2.2. Maintain ACDC walls, fences, bridges, gates, rest areas and staging areas with prompt, high-quality repair of any vandalism or other damage.
- 3.2.3. Improve the quality of recreational experience for ACDC trail users and the aesthetics of the ACDC for neighbors and others by regular disposal of brush and other debris, emptying of trash receptacles and elimination of odors/insects from water standing in the ACDC channel.

RECOMMENDATION:

Document and adopt a specific program for ACDC maintenance for review with the ACDC committee discussed in 3.5.

Provide a method for the general public to report maintenance problems along the ACDC to the appropriate agency and a means of verifying actions taken.

3.3 Underpasses and Bridges

OBJECTIVE: Maintain all bridges (motor and trail/pedestrian bridges) and underpasses to insure a high standard of comfort and safety for all ACDC trail users (equestrians, pedestrians, bicyclists, the handicapped).

GUIDELINES:

- 3.3.1. To ensure safety and the quality of the ACDC, all debris, gravel, sand, standing water, graffiti, trash, pavement damage and damage to signs, safety fencing, lighting and other improvements should be removed or repaired promptly.

RECOMMENDATIONS:

Provide a regular program of inspection and repairs by appropriate public agencies.

Establish a means for the general public to report problems to public agencies and for documenting steps taken in response.

3.4. Private Use of ACDC Rights-of-Way/Development Nodes

OBJECTIVE: Minimize impacts of ACDC on adjoining property owners by providing the opportunity for them to regain use of excess ACDC right-of-way following construction.

GUIDELINES:

- 3.4.1. Where the ACDC is to be decked, or where future decking has a high priority, develop specific land use and site development standards to guide reuse of decked areas.

RECOMMENDATION:

Any uses for decked areas of the ACDC must be in conformance with the Phoenix General Plan. The Planning Commission should develop and adopt specific land use policies to guide evaluation of future development on decked areas. The ACDC committee recommended in this report should have input into development of these policies.

Use of decked portions of the ACDC shall be subject to site plan review to assure that the continuity, recreational quality, safety and other aspects of the ACDC trails are not compromised.

The trails system is the primary positive aspect of the ACDC (in addition to flood control) and developments over the ACDC that would result in rerouting of trails, discontinuity or trail use restrictions are not acceptable.

- 3.4.2. Where decking is not proposed, establish a policy enabling adjoining property owners to obtain easements or other means of using or improving (e.g., landscaping, maintaining) portions of the ACDC right-of-way in special circumstances.

RECOMMENDATION:

With input from the ACDC committee recommended in this report, the City and Maricopa County Flood Control District should develop policy for review, evaluation and accommodation of requests from property owners to regain use of "excess" ACDC right-of-way.

3.5. Areas of Responsibility

OBJECTIVE: Establish a process for ongoing monitoring of ACDC construction, aesthetics improvements, evaluation and review that includes representatives of all affected agencies, adjoining property owners from all reaches and members of the general public.

GUIDELINES:

- 3.5.1. Areas of responsibility for construction, maintenance, liability, review and communication should be clarified.
- 3.5.2. The monitoring process should actively involve agencies and citizens and should allocate specific action-oriented responsibilities to each.
- 3.5.3. The monitoring process should be established on a permanent basis.

RECOMMENDATIONS:

Establish a permanent committee by City Council appointment to be responsible for monitoring, review and evaluation of aesthetics, safety and maintenance of the ACDC and associated improvements. With a mix of staff and citizen representatives, and an appropriate appeal process, the committee should:

- o monitor maintenance of all landscaping, irrigation systems, trails, underpasses, bridges, staging and rest areas, lighting and other improvements;
- o review comments, suggestions and complaints by trail users, adjoining property owners and other;
- o provide feedback to citizens regarding actions taken in response to comments;
- o evaluate aesthetics aspects of future ACDC improvements (e.g., trails changes, landscaping);
- o evaluate impacts of proposals for reuse of decked areas;
- o evaluate requests by adjoining property owners for use or improvement of ACDC right-of-way;
- o monitor completion of the ACDC and recommend any desirable changes in terms of trails and aesthetics considerations;
- o provide periodic evaluation of trail use and of impacts of the ACDC on adjoining neighborhoods, city image and other factors; and
- o establish policy for ACDC-related land uses and other matters, as necessary.

IV. SITE-SPECIFIC RECOMMENDATIONS AND COMMENTS

Site-specific recommendations are presented here for each of the 14 sub-reaches defined by the Committee. Recommendations and comments are organized by issue area (decking, bridges, underpasses, landscaping, parks and schools, trails) to allow easy comparison with General Recommendations.

The first groups of recommendations in this section are for subreaches at the western end of ACDC in Phoenix and are very detailed. Construction of the channel and associated improvements is underway here, and is complete for westmost portions of the ACDC. The advanced stage of construction has allowed Committee members to see and evaluate firsthand the general types of aesthetic treatments and trails planned throughout the ACDC in Phoenix.

There is a great deal of room for improvement. The Committee hopes that the City will take positive steps to act on the site-specific recommendations and to revise design guidelines and plans, as needed.

Comments and recommendations become more general for eastern parts of the ACDC. Rather than repeat the same comments over and over (e.g., trail design standards - similar throughout ACDC), we focus on conditions and opportunities unique to that subreach. Please take the time to read through this detailed information. Similar concerns and design issues are likely to arise, when plans for eastern portions of ACDC are finalized.

For each subreach, the Committee's analysis is presented in the following format:

Summary of Recommendations

Covering/Decking

Bridges

Underpasses

Landscaping

Parks and Schools

Trails

Analysis and Conclusions

- a. Covering/Decking
- b. Bridges
- c. Underpasses
- d. Landscaping
- e. Parks and Schools
- f. Trails

A. REACH 2A: Glendale City Limits to 47th Avenue (Subreach 14, Figure 8)

1. Summary of Recommendations

a. Covering/Decking

No action recommended.

b. Bridges

Bridges do not meet minimum design standards recommended for safe bicycle and equestrian trail use (AASHTO). Either retrofit these bridges so they meet acceptable standards for all trail users or explore ways of re-routing the trail so the bridges do not have to be crossed.

c. Underpasses

No underpasses are planned or have been constructed in this area, although a "high" level of need was found in the Committee's evaluation.

Construct underpasses at both 51st Avenue and Cactus Road crossings unless one of the following options can be successfully implemented:

1. Construct trail ramps to the bottom of ACDC and provide a crossing under the intersection along the Channel bottom (usable when water not in Channel);
2. Retrofit both ACDC bridges to meet AASHTO and other standards acceptable to all user groups; improve access to the bridges as discussed in A.l.c. (both from area streets via Arizona Canal bridge and from ACDC trail to the bridges); install appropriate warning and directional signage; replace barrier gates on the 51st Avenue trail and the Cactus Road north ACDC maintenance road with gates or bollards that allow free trail user access; implement recommendations in A.l.c.
3. Provide signage directing trail users to cross the pedestrian bridge at 47th Avenue to the north side of the Channel; replace the bridge with one usable by equestrians; construct a trail along the north side of ACDC from 47th Avenue to 51st Avenue/Cactus Road, to be used for intersection crossing (this eliminates trail use of the 51st Avenue bridge); open up trail access to the north ACDC maintenance road behind the 7-11 store, replacing the security gate with one that allows free trail access and providing other improvements for trail users (e.g., put curb or other barrier next to drainage gutter on north side of road); retrofit Arizona Canal

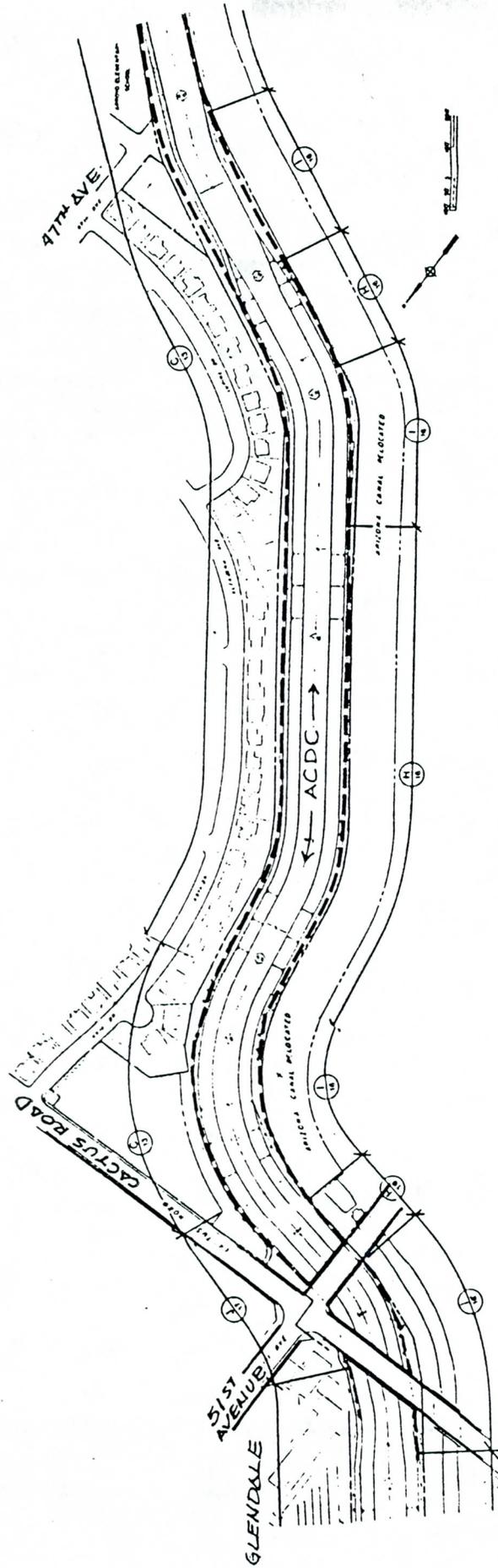


Figure 8. REACH 2A: GLENDALE CITY LIMITS TO 47TH AVENUE (SUBREACH 14)

bridge to provide wider sidewalk and ramps; install barrier and warning/directional signs at 51st Avenue; replace 51st Avenue gate with one that allows free trail access; angle trail to create acceptable horizontal radius for bridge access at 51st Avenue.

d, Landscaping

Add plant material to provide screening of the ACDC channel and a distinctive entry to Phoenix, including the following elements:

- closer spacing of ground covers
- additional shrubs near the major intersection and on the south bank of ACDC at 51st Avenue;
- groupings of trees near the major intersection and on the east side of the ACDC at 51st Avenue and the north side of ACDC on Cactus;
- consideration of a landscape theme potentially utilizing Phoenix Arts Commission resources to create a "gateway" public art project.

Implement an effective, aesthetically acceptable means of controlling bank erosion in this and other areas of the ACDC. Either raise Channel walls to decrease bank slopes or find some other method (e.g., very dense ground covers, terracing) to prevent erosion. Plans should be prepared in cooperation with the City of Phoenix Landscape Architect.

Conduct an evaluation of the ACDC irrigation system with input from the City of Phoenix and Maricopa County, to determine: effectiveness of present system; maintenance costs and requirements; long-term maintenance costs in comparison to other systems; maintenance program necessary for first-class upkeep of all ACDC landscaping and aesthetics improvements.

A plan should be prepared for this parcel in cooperation with Arroyo Elementary School, surrounding neighbors, Phoenix Arts Commission and the North Mountain Village Planning Committee to create a landscaped public art site and/or activity area to benefit trail users, the neighborhood and the school.

Have City staff review these areas and provide recommendations for specific types of landscaping or other improvements. Discuss improvements with property owners and potential incentives.

e. Parks and Schools

No actions recommended.

f. Trails

Provide lighting for the ACDC trail in this subreach:

- Low-level lighting along right-of-way from 51st Avenue to Arroyo School.
- A higher-level, security/visibility lighting in the vicinity of the school and pedestrian bridge and at the 51st Avenue/Cactus Road intersection.

Provide a convenient connection between Phoenix and Glendale trail systems. Explore suggestions in this report, with input from Cities of Phoenix and Glendale to arrive at a workable solution.

Improve the design of ACDC trail bridges and road crossings to accommodate all trail users safely and to provide a high quality recreational experience. See specific recommendations in sections dealing with bridges and underpasses for this subreach.

Retrofit the trails in this area to bring them into conformance with AASHTO standards for bicycle facilities. Of particular concern are: pathway width, provision of shoulders, separation of horse trails, signage, turning radii and bridge design standards.

2. Analysis and Conclusions

a. Covering/Decking

Overall, Subreach 14 was assigned a "low" priority for decking of the ACDC. Construction within this area is essentially complete. Potential private development pressure for use of the ACDC right-of-way is low. Opportunity for screening the ACDC with landscaping or other aesthetic treatments should be explored due to high visibility of the 51st Avenue/Glendale intersection and large numbers of motorists and trail users impacted.

RECOMMENDATIONS: None

b. Bridges

Bridges have been constructed across 51st Avenue and Cactus Road. A pedestrian bridge has been constructed at 47th Avenue, for access to Arroyo Elementary School.

Cactus Road bridge:

Width of sidewalk bike/pedestrian/horse path - 4'9"

Height of bridge railing - 42"

Height of rub rail - none

Is the pathway ramped? - yes

Edge condition - vertical barrier wall, solid concrete, 32" height, continuous along Cactus Road side.

Access: ACDC bridge to trails - unclear: no trail constructed connecting to west end of bridge; paved maintenance road on east end connects to City of Glendale trail system but access is barred by a security gate.

Does bridge and approaches provide screening of ACDC?

No. ACDC crosses at an angle so screening is difficult. Plant materials installed are not sufficient for screening (see also **d. Landscaping**).

Other - utility pole protrudes into pathway, reducing effective pathway width.

- on every visit to this bridge, very poor maintenance of the pathway was observed. Litter, other debris, dirt and glass was effectively trapped between barrier wall and bridge railing, reducing the effective width of the trail.

51st Avenue Bridge

Width of sidewalk bike/pedestrian/horse path - 4'9"

Height of bridge railing - 42 inches

Height of rub rail - none

Is the pathway ramped? - yes

Edge condition - vertical barrier wall, solid concrete, 32" height, continuous along 51st Avenue.

Access - ACDC bridge to trails - not acceptable to Committee for the following reasons:

- westbound trail users

trail intersects 51st Avenue at approximate right angle with no warning or directional signage, no barrier to prevent ride-outs into 51st Avenue, very sharp turn needed to get onto the bridge.

- eastbound trail users

very sharp turn needed to get from bridge to trail

- directional signage directing trail users as to the proper means of negotiating this complex

intersection is essential, and not provided. Confusion may lead people to attempt a mid-block crossing of 51st Avenue, thinking the trail continues along the ACDC.

- a locked security gate blocks the trail just east of 51st Avenue. Trail users cannot ride around the gate and must lift bicycles over.

Access - streets in area to ACDC trails

Via 51st Avenue

from the south - pedestrians OK; bicyclists must ride in street to avoid vertical curbs at Arizona Canal bridge (not built for trail use, would need to retrofit if use is to be recommended); horsemen - ???; handicapped persons cannot use Arizona Canal bridge due to vertical curbs - a serious barrier.

Do bridge and approaches provide screening of ACDC?

No. Landscaping near 51st Avenue is not sufficient for screening (see also **d. Landscaping**).

Other - poor maintenance conditions were observed on Committee visits to this bridge. Litter, dirt and debris were present, reducing effective pathway width and contributing to a hazardous riding situation.

COMMENT:

The 51st Avenue/Cactus intersection bridges will be heavily used by pedestrians and bicyclists for access to the City of Glendale recreation facilities and trails, to Arroyo School and to commercial uses at the intersection. Since no underpasses have been constructed here, trail users must cross at street level. The intersection is complex and confusing to people not familiar with the area.

Neither ACDC bridge meets accepted standards for trail design. AASHTO guidelines call for bridge paths to be of the same width (minimum) as the approaching pathway (10 ft. on ACDC) PLUS a two-foot horizontal clearance to obstructions such as bridge railings, walls, utility poles and curb drop-offs. ACDC bridges are less than half the width required by AASHTO standards.

These standards set a minimum bridge railing height of 4.5 feet, with a smooth rub rail at a handlebar height of 3.5 feet. ACDC bridge railings at 51st Avenue and Cactus are one foot lower than the minimum height and do not have the required rub rail.

The bridge pathways are intended for bi-directional use

by all trail users (horsemen, bicyclists, pedestrians and the handicapped). Although extensive equestrian use is not expected, any horsemen wishing to use this portion of the Sun Circle Trail would be placed in a very hazardous situation if they attempt to cross the bridges. For bicyclists, the bridges are clearly substandard and hazardous. Two bicyclists cannot pass safely on the bridges and the bicyclist's high center of gravity relative to the substandard bridge railing poses an additional danger.

Access to the ACDC trails from area streets and between trails and bridges needs to be improved. Of particular concern is the interface between the ACDC trail and the 51st Avenue bridge where a locked gate blocks the trail, there are no warning or direction signs (are these yet to come? The Committee has no information on this). The natural flow of trail travel would direct people straight out into 51st Avenue instead of making a very difficult, sharp right turn onto the bridge.

RECOMMENDATIONS:

Either retrofit these bridges so they meet acceptable standards for all trail users or explore ways of re-routing the trail so the bridges do not have to be crossed.

c. Underpasses

No underpasses are provided in this subreach.

Both 51st Avenue and Cactus were given "medium" priorities for provision of underpasses due to the short distance from ACDC to signalized intersections.

This priority would be upgraded to "high" by the Committee if ACDC bridge design and access issues cannot be resolved. Cactus Road/51st Avenue intersection is complex, very busy and potentially confusing to trail users. It is expected that use of the ACDC trail in this subreach will be heavy and include a large number of children.

RECOMMENDATION: Construct underpasses at both 51st Avenue and Cactus Road crossings unless one of the following options can be successfully implemented:

- 1. Construct trail ramps to the bottom of ACDC and provide a crossing under the intersection along the Channel**

bottom (usable when water not in Channel);

2. Retrofit both ACDC bridges to meet AASHTO and other standards acceptable to all user groups; improve access to the bridges as discussed in A.I.C. (both from area streets via Arizona Canal bridge and from ACDC trail to the bridges); install appropriate warning and directional signage; replace barrier gates on the 51st Avenue trail and the Cactus Road north ACDC maintenance road with gates or bollards that allow free trail user access; implement recommendations in A.I.C.
3. Provide signage directing trail users to cross the pedestrian bridge at 47th Avenue to the north side of the Channel; replace the bridge with one usable by equestrians; construct a trail along the north side of ACDC from 47th Avenue to 51st Avenue/Cactus Road, to be used for intersection crossing (this eliminates trail use of the 51st Avenue bridge); open up trail access to the north ACDC maintenance road behind the 7-11 store, replacing the security gate with one that allows free trail access and providing other improvements for trail users (e.g., put curb or other barrier next to drainage gutter on north side of road); retrofit Arizona Canal bridge to provide wider sidewalk and ramps; install barrier and warning/directional signs at 51st Avenue; replace 51st Avenue gate with one that allows free trail access; angle trail to create acceptable horizontal radius for bridge access at 51st Avenue.

d. Landscaping

Landscaping at major intersections

51st Avenue/Cactus Road - Landscaping at this important Phoenix gateway should be substantially improved. The ACDC is highly visible here and the landscaping, as installed, provides little or no screening.

Southeast quadrant of intersection

--On the north side of ACDC: the only landscaping for a distance of about 60 feet from the intersection are 1-gallon myoporum spaced about 10 feet apart (a ground cover) and three, 5-gallon bird of paradise bushes; going farther east, there are five, 15-gallon trees (in

approximately 210 ft.), a low berm and a sparse scattering of shrubs and ground covers (1 and 5-gallon plants spaced 10 feet apart).

- On the south side of ACDC, near 51st Avenue, slope protection, consisting of interlocking concrete pavers, is punctured at intervals of 10 to 15 feet to accommodate planter wells. Each well has one plant in it, either a 5-gallon bird of paradise or myoporum. The nearest tree is approximately 90 feet east of 51st Avenue, a 15-gallon Mondell pine. No effective visual screening of ACDC is provided. No distinctive landscape theme is established. Plant materials are small and widely spaced.

Southwest quadrant of intersection

- On the north side of ACDC no landscaping is provided. Channel wall slope is too close to intersection.
- On the south side of ACDC a mix of pines, mesquite and palo verde, 15-gallon size, are installed, along with shrubs and ground cover similar in size and spacing to the southeast quadrant. Planting at the Cactus Road frontage includes trees close to the street that may, in time, provide some screening. Trees on 51st Avenue are spaced about 35 feet apart, with three bird of paradise (5 gallon) in the 400 sq. ft. (approx.) between the nearest tree and the back of sidewalk.

Northwest quadrant of intersection

- On the north side of ACDC, landscaping near the intersection is sparse, small-size and provides neither effective screening of ACDC nor any discernable distinctive gateway theme. Landscaping within 150 feet of the intersection consists of 1-gallon myoporum (ground cover) spaced 10 feet apart and six, 5-gallon bird of paradise shrubs. Landscaping at the north bank of ACDC is within a steeply sloping embankment covered with interlocking concrete pavers. Planter wells approximately 15 feet apart each hold (or held, as some have died) one plant - either a 5-gallon shrub (bird of paradise or fairy duster) or a 15-gallon pine.
- On the south side of ACDC, landscaping is similar

in character to the south side of the southwest quadrant. There are more trees, closer to the street, which should eventually provide screening.

COMMENT: Overall, landscaping at this major gateway intersection neither provides visual screening for the ACDC nor creates a distinctive sense of entry into Phoenix. Plant sizes are small, spacing of shrubs and ground cover is sparse (e.g. myoporum spaced at 10 ft. intervals; usual spacing is 5 ft.). Trees are not positioned to provide screening (closest tree to major intersection is 70 feet away) at the 51st/Cactus intersection where motorists have greatest exposure to the Channel.

RECOMMENDATION: Add plant material to provide screening of the ACDC channel and a distinctive entry to Phoenix, including the following elements:

- closer spacing of ground covers
- additional shrubs near the major intersection and on the south bank of ACDC at 51st Avenue;
- groupings of trees near the major intersection and on the east side of the ACDC at 51st Avenue and the north side of ACDC on Cactus;
- consideration of a landscape theme potentially utilizing Phoenix Arts Commission resources to create a "gateway" public art project.

Landscaping along ACDC right-of-way, 51st Ave. to 47th Drive. Once past the "concrete slope protection" landscaping is at a generally acceptable level with regard to variety and amount of plant materials. At Arroyo Elementary School, however, intensification of landscaping materials may be appropriate, given the high visibility of ACDC from the school and the high level of use of the ACDC trails expected by school children.

There are two areas of concern that have general application throughout ACDC. These are: bank erosion and the irrigation system.

Bank erosion is severe and was observed in extensive portions of this subreach, particularly along the south bank of the Channel where there is a steep slope from the trail down to the Channel wall. It is understood that in future construction (Reach 3) the Channel walls will be raised to alleviate this problem). Deep, eroded gullies, dead plants and missing plants were noted.

Replacement of the plants will not solve the problem. Some means must be found to remedy this situation.

The irrigation system used is a water-conservative drip system. This system apparently requires a high level of maintenance; and that level of maintenance has not been provided to date. In the words of one agency staff member, "The gophers eat those black pvc irrigation lines like licorice." Consideration should be given to replacing the drip system with a more durable, low-maintenance system unless a vigorous maintenance program is implemented.

RECOMMENDATION: Implement an effective, aesthetically acceptable means of controlling bank erosion in this and other areas of the ACDC. Either raise Channel walls to decrease bank slopes or find some other method (e.g., very dense ground covers, terracing) to prevent erosion. Plans should be prepared in cooperation with the City of Phoenix Landscape Architect.

Conduct an evaluation of the ACDC irrigation system with input from the City of Phoenix and Maricopa County, to determine: effectiveness of present system; maintenance costs and requirements; long-term maintenance costs in comparison to other systems; maintenance program necessary for first-class upkeep of all ACDC landscaping and aesthetics improvements.

Landscaping nodes

An area with potential for creating a special landscape theme or neighborhood amenity is a parcel of ACDC land at the northwest corner of 47th Avenue and the ACDC. This parcel, approximately .67 acres, is directly across the street from Arroyo Elementary School. Possible uses include a trail staging area, play area or a public art site, with artwork created by school children. Ideas for use could be generated in cooperation with the neighborhood and school. Portions of 47th Avenue could be abandoned to allow a direct connection to the school.

RECOMMENDATION: That a plan be prepared for this parcel in cooperation with Arroyo Elementary School, surrounding neighbors, Phoenix Arts Commission and the North Mountain Village Planning Committee to create a landscaped public art site and/or activity area to benefit trail users, the neighborhood and the school.

Screening/Improvements to Private Properties Adjoining ACDC

It was generally agreed that some private properties in this subreach should be encouraged to provide additional landscaping or other aesthetic treatments to improve visual quality of the area for ACDC trail users and others:

- The 7-11 convenience market at the northwest corner of 51st Avenue/Cactus;
- property along the south bank of the Arizona Canal in the vicinity of Arroyo School.
- the water treatment facility south of ACDC near 47th Avenue.

RECOMMENDATION: Have City staff review these areas and provide recommendations for specific types of landscaping or other improvements. Discuss improvements with property owners and potential incentives.

Impact of ACDC Landscaping on Adjoining Properties

The Committee found that ACDC aesthetics treatments will not have negative impacts on privacy or security of adjoining uses. The general character of the ACDC landscaping does not conflict with the landscape character of surrounding neighborhoods.

Significant, Existing Vegetation Impacted by ACDC

The ACDC has been constructed in this subreach. Field investigations at the time the Committee was appointed showed no significant trees or other vegetation present.

e. Parks and Schools

Arroyo Elementary School is located at 47th Avenue in this subreach. ACDC will not result in security problems or loss of any school play yards or other facilities. There is the potential to add school-related amenities in the node noted in (d) Landscaping on the west side of 47th Avenue. Trail access is provided to the school via a pedestrian bridge.

RECOMMENDATION: None, OK as proposed.

f. Trails

Lighting of the trail is recommended in this subreach, with low-level lighting except at the Arroyo School pedestrian bridge and at 51st Avenue/Cactus, where higher lighting levels may be appropriate for visibility and security reasons.

Trail design does not accommodate all users, as discussed earlier in the section on Bridges, the bridges at 51st Avenue and Cactus Road are not designed for safe use by equestrians, bicyclists and the handicapped . Recommendations for trail alternatives to construction of an underpass to provide safe crossing at this intersection are presented in c. Underpasses.

A steep drop-off from the edge of the ACDC trail to the edge of the Channel is found along much of the trail in this subreach. Very little (if any) shoulder is provided between the trail and a steep embankment leading to the Channel wall. A decorative "wrought iron" fence at the bottom of this slope separates embankment from Channel. As noted in General Recommendations, AASHTO standards for bicycle facilities call for a minimum 12-ft. path with two-foot shoulders on either side for shared-use, recreational facilities. The ACDC path is 10 feet in width and on the embankment side has virtually no shoulder in some areas.

Connection to other trails occurs west of Cactus Road, as the Phoenix ACDC trails connect to the Glendale trails system and extensive recreation facilities planned for the ACDC corridor. The Glendale trail approaches Phoenix along the north bank of ACDC; the Phoenix trail approaches Glendale along the south bank. (See also General Recommendations: Trails, 4.4.).

Potential staging area: An area with potential for use as a staging area is the "node" at 47th Avenue and ACDC, by Arroyo School. Limited parking for hikers and bicyclists might be provided. This area is not appropriate for equestrian staging.

RECOMMENDATION:

Provide lighting for the ACDC trail in this subreach:

- **Low-level lighting along right-of-way from 51st Avenue to Arroyo School.**
- **A higher-level, security/visibility lighting in the vicinity of the school and pedestrian bridge and at the 51st Avenue/Cactus Road intersection.**

Provide a convenient connection between Phoenix and Glendale trail systems. Explore suggestions in this report, with input

from Cities of Phoenix and Glendale to arrive at a workable solution.

Improve the design of ACDC trail bridges and road crossings to accommodate all trail users safely and to provide a high quality recreational experience. See specific recommendations in sections dealing with bridges and underpasses for this subreach.

Retrofit the trails in this area to bring them into conformance with AASHTO standards for bicycle facilities. Of particular concern are: pathway width, provision of shoulders, separation of horse trails, signage, turning radii and bridge design standards.

**B. REACH 2B: 47th Avenue to 29th Avenue (Subreach 13,
Figure 9)**

1. Summary of Recommendations

a. Covering/Decking

Covering/decking not recommended as a priority. Alternative use of more intense landscaping and other aesthetics treatments is recommended for screening and visual improvement of intersections.

b. Bridges

Bridges are not designed for safe use by bicycles, pedestrians and equestrians as part of the ACDC/Sun Circle Trail system. Either retrofit these bridges so they meet acceptable design standards for all trail users or explore ways of re-routing the trail so the bridges do not have to be crossed. (See General Recommendations for discussion of design standards.)

Increase intensity of landscaping at: city entrance on Peoria Avenue, 43rd Avenue and 35th Avenue to improve screening of ACDC.

Maintenance of portions of bridges to be traveled by trail users must be improved.

c. Underpasses

1. Replace the parallel-slat drainage grate in the bottom of the underpass with a bicycle-safe design; install the grate to be flush with the pavement.
2. Extend the pavement at the intersection of the ACDC trail and the trail leading to 35th Avenue (both sides) to provide a greater turning radius in conformance with AASHTO standards.

d. Landscaping

1. Increase plant sizes and numbers where homes face the ACDC and where landscape nodes are planned. Provide significant upgrades, especially in front of visual barrier walls on streets such as Carol and Malapai. Re-examine the types of plant materials used and make any adjustments needed to provide hardy plants that will survive freezes and summer heat with minimal maintenance.
2. Explore the possibility of public art projects, neighborhood "gateways" or distinctive landscape character at the following locations:

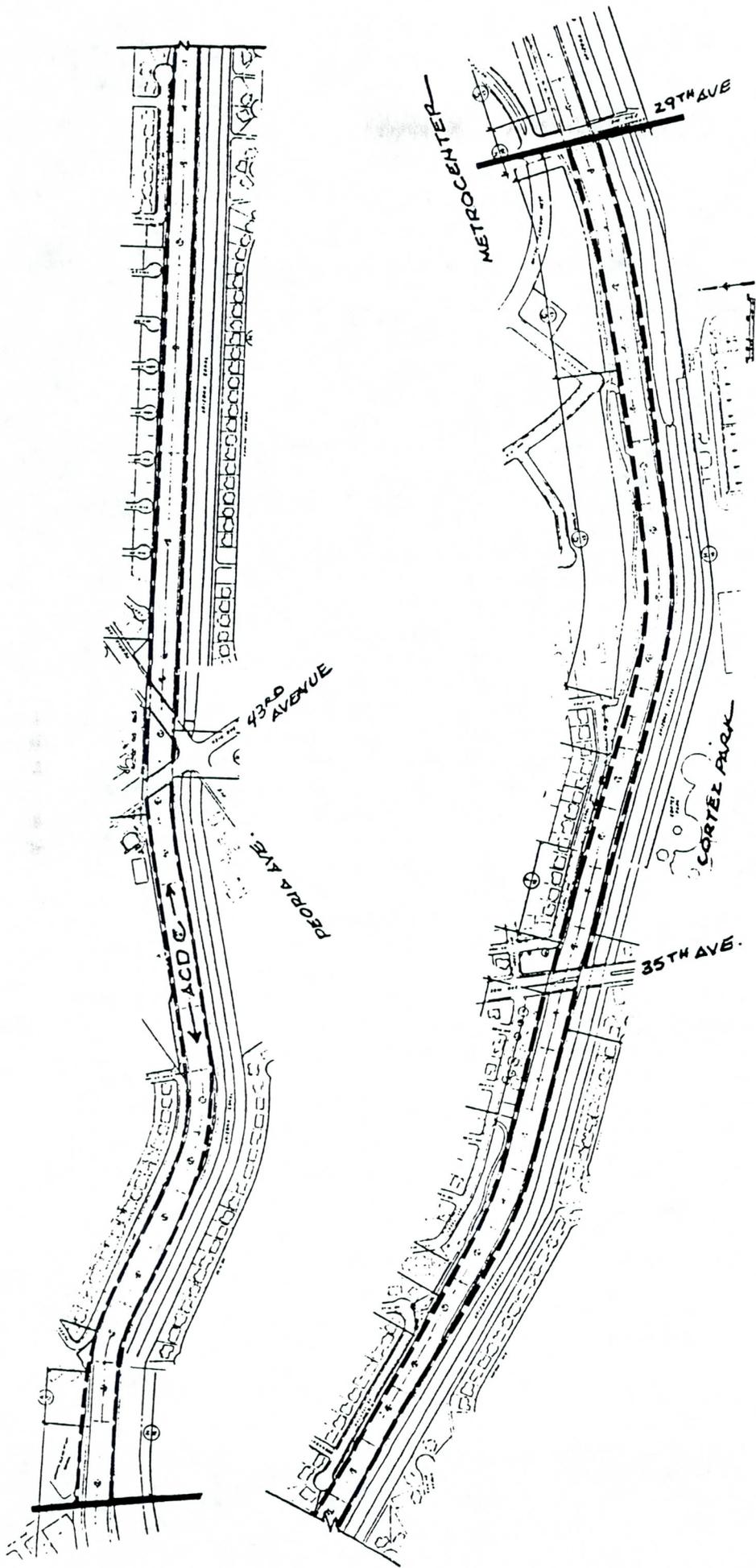


Figure 9. REACH 2B 47TH AVENUE TO 29TH AVENUE
(SURREACH 13)

- o 43rd Avenue/Peoria (northwest, northeast corners)
 - o Landscape node at Malapai/37th Drive
 - o 35th Avenue (northwest, northeast corners)
 - o Carol Avenue/33rd Avenue
3. Consider addition of landscaping on the south bank of the Arizona Canal at 43rd Avenue.
 4. Include trees and other plant materials that are typical of neighboring residential areas in the ACDC landscaping palette. Increase use of "green" ground covers such as myoporum.
 5. Add staggered visual barrier wall sections as shown in Figure 10 and connect them with wrought iron panels. Provide maintenance gates in the wrought iron panel sections, as needed. Keep walls as far away from curb as possible, while providing the required offset in wall alignments.
 6. Take immediate steps to prevent further erosion on the steep slope between barrier walls and Channel fences. Explore the possibility of creating terraced retaining walls on the downslope that will protect the visual barrier wall as well as plant materials.
 7. Implement a mosquito control program at times when there is standing water in the ACDC channel.
 8. Where homes face the ACDC provide a sidewalk on the Channel side of the street, if desired by residents.
 9. Where: streets parallel the ACDC;
where street lighting was removed during construction; or
where conditions have been created by ACDC construction that warrant a change in lighting levels
take steps to evaluate and install the amount, type and location of lighting needed for security and general illumination.
 10. Add solid, visual barrier walls to screen mechanical equipment at the east side of the 35th Avenue landscape "node."
 11. Replace the "freeway-style" guard rail at the Malapai cul-de-sac with a barrier designed for greater compatibility with the character of other improvements.

e. Parks and Schools

Improve the Arizona Canal bridge and other sidewalks leading from the ACDC trail to Cortez Park, in conformance with AASHTO and other accepted standards (such as equestrian trail standards).

f. Trails

1. Provide clearly marked trail access between the ACDC trail and the Outer Loop trail planned for 39th Avenue.
2. Widen pavement where 35th Avenue access trail meets the ACDC trail (both sides of 35th Avenue) to provide adequate turning radius.
3. Provide adequate directional and informational signage at all major street crossings.
4. Construct a staging area for trail users at or near Cortez Park (landscape node north of park or at site of present maintenance yard); provide parking, ACDC trail information, water, shade and other facilities.

2. Analysis and Conclusions

a. Covering/Decking

Overall, Subreach 13 was assigned a "medium" priority for decking of the ACDC. Construction of the ACDC channel in this subreach is almost complete. Some potential for expansion of existing shopping centers on northwest and northeast corners of Peoria and 43rd Avenues onto a decked ACDC was identified, but pressure for such expansion is low.

This is a very high visibility intersection for ACDC. As an alternative to decking, increased landscaping and other aesthetics improvements are recommended (see section **d. Landscaping**).

RECOMMENDATION: Covering/decking not recommended as a priority. Alternative use of more intense landscaping and other aesthetics treatments recommended for screening and visual improvement of intersections.

b. Bridges

The following ACDC bridges are found in this subreach:
--Peoria Avenue
--43rd Avenue
--35th Avenue

Peoria Avenue Bridges:

Width of sidewalk bike/pedestrian/horse path - 5'5"
(bridge railing to face of curb)

Height of bridge railing - 4'8"

Height of rub rail - 3'4"

Is the pathway ramped? - yes, continuation of sidewalk;
on north side of street.

Edge condition - vertical curb/drop-off to roadway

Access: ACDC bridge to trails - trail users do not cross
ACDC bridge on Peoria. The ACDC trail intersects
Peoria east of the Peoria/43rd Avenue intersection.
Trail users cross the Arizona Canal bridge to get
between ACDC and intersection. The Arizona Canal
bridge is ramped (in effect, a continuation of the
sidewalk, but width is narrow (4'10") and railing
height is lower than trail standards require (2'6"
solid concrete wall provided).

Access: Streets in area to ACDC trails

Since there is no underpass at this intersection,
access to the ACDC trails is at street level.

From north side of Peoria - trail users would
ride/walk on existing sidewalk or street to
cross at the intersection and then double back
to the trail using the Canal bridge. A
driveway is located at the east end of the
bridge for bike access, and at the Peoria/43rd
Avenue intersection.

From south side of Peoria - trail users would use
the existing street or sidewalk and Canal
bridge. Driveways are located at both ends of
the bridge (for bicyclists wishing to access the
trail from the street).

Do the bridge and approaches provide screening of
ACDC?

From Peoria, west of 43rd Avenue intersection - no;
ACDC crosses at an angle; landscaping
proposed will not provide adequate screening.

From Peoria, east of 43rd Avenue intersection -
probably OK, ACDC angles away from
intersection north of Arizona Canal.

Comments: THESE COMMENTS APPLY TO ALL
SIMILAR SITUATIONS THROUGHOUT THE
ACDC IN PHOENIX.

On the south side of Peoria, where Arizona
Canal's unpaved maintenance roads
intersect the sidewalk, the sidewalk is
covered with dirt and debris. This
situation can be hazardous to trail users.
If the sidewalk is to be designated as

part of the ACDC trail system (ACDC trail users must travel on it to get to the signalized intersection since no underpass is provided) then an intensive maintenance program must be implemented to keep the area clean or (preferred) the Arizona Canal maintenance roads should be paved for a sufficient distance back from their intersection with the sidewalk that dirt from the unpaved road does not migrate onto the trail.

Metal plates cross the ACDC bridge trail at both ends of the bridge (cover expansion joints). These are not constructed flush with the trail surface. A vertical "lip" about 1.25 inches high angles across the trail, creating a potential hazard for bicyclists. This situation was observed at several ACDC bridges and should be remedied.

43rd Avenue Bridge

Width of sidewalk bike/pedestrian/horse path - 5'5"
bridge railing to face of curb.

Height of bridge railing - 4'6"

Height of rub rail - 3'6"

Is the pathway ramped? - yes, continuation of sidewalk

Edge condition - vertical curb/drop-off

Access: ACDC bridge to trails - ACDC trail users will not need to cross ACDC bridge.

Access: streets in area to ACDC trails - via street or sidewalk using maintenance road driveways or corner curb cuts.

Do the bridge and approaches provide screening of ACDC?

Southbound on 43rd Avenue - no; landscaping not sufficient for screening.

Northbound on 43rd Avenue - potentially yes; barrier wall and landscaping at northeast corner of intersection can provide good screening with some increase in plant materials.

Comment: APPLIES TO ALL ACDC BRIDGES

Bridge was covered with broken glass, dirt and debris on the Committee's several visits. If the bridge sidewalk is to be considered part of the ACDC trail system, a high-quality program of maintenance must be implemented. The

existing situation on the bridges creates a hazard for trail users.

Directional and warning signs for trail users and motorists are needed. This is a complex intersection with heavy traffic.

35th Avenue Bridge

Width of sidewalk bike/pedestrian/horse path - 5'5" to face of curb.

Height of bridge railing - 4'4"

Height of rub rail - 4'1"

Is the pathway ramped? - yes, continuation of sidewalk

Edge condition - vertical curb/drop-off

Access: ACDC bridge and area streets to trails

Southbound, from 35th Avenue, people will cross the bridge either on the sidewalk or in the street (driveway/ramps at both ends of bridge).

Access to the ACDC trail is via a ramp at the south end of the bridge. Additional width should be provided on the south side of the ramp's intersection with the 35th Avenue sidewalk to allow a safe turning radius for bicycles. At the bottom of the ramp, additional pavement may be needed to provide safe turns from ramp to tunnel. Directional and warning signs are needed.

Northbound, from 35th Avenue, people will access the ACDC trail from a ramp that intersects the 35th Avenue sidewalk at right angles. Additional pavement width at the sidewalk and at the bottom of the ramp is needed to provide adequate turning radii for bicycles. Warning and directional signs are needed to prevent ride-outs into 35th Avenue. To get from the ACDC trail to Cortez Park, trail users are likely to use the sidewalk and Arizona Canal bridge. The Arizona Canal bridge at 35th Avenue has the same design as the ACDC bridge. It should be noted that bi-directional travel can be expected on the east Arizona Canal bridge here. This encourages bicycling against traffic and a potentially hazardous situation.

Do the bridge and approaches provide screening of ACDC?

No. Landscaping should be improved to provide screening. Consideration should be given to creating a landscape node on the west side of 35th Avenue

north of ACDC or to addition of trees near the road. On the east side of 35th Avenue, some planting on the south side of the trail should be considered in cooperation with Salt River Project to provide screening.

RECOMMENDATIONS:

Bridges are not designed for safe use by bicycles, pedestrians and equestrians as part of the ACDC/Sun Circle Trail system. Either retrofit these bridges so they meet acceptable design standards for all trail users or explore ways of re-routing the trail so the bridges do not have to be crossed. (See General Recommendations for discussion of design standards.)

Increase intensity of landscaping at: city entrance on Peoria Avenue, 43rd Avenue and 35th Avenue to improve screening of ACDC.

Maintenance of portions of bridges to be traveled by trail users must be improved.

c. Underpasses

An underpass has been constructed at 35th Avenue. No underpass has been built at the 43rd Avenue/Peoria Avenue intersection.

Both 43rd Avenue and Peoria were given "medium" priorities for provision of underpasses due to the short distance from ACDC to signalized intersections.

The underpass constructed at 35th Avenue needs only minor improvements: the drainage grate installed in the bottom of the underpass has parallel slats and is not installed flush with the pavement; and turning radii between the 35th Avenue access trail and the underpass are inadequate. If a bicyclist wishes to ride from 35th Avenue down to the ACDC trail underpass, he/she must negotiate an almost unrideably sharp turn at the intersection of the ACDC trail and the trail leading up to 35th Avenue (Figure 4, following p. 26).

RECOMMENDATIONS:

- 1. Replace the parallel-slat drainage grate in the bottom of the underpass with a bicycle-safe design; install the grate to be flush with the pavement.**
- 2. Extend the pavement at the intersection of the ACDC**

trail and the trail leading to 35th Avenue (both sides) to provide a greater turning radius in conformance with AASHTO standards.

d. Landscaping

The amount, size and type of landscaping need to be upgraded.

- o Landscaping planned at the 43rd Avenue/Peoria intersection and at 35th Avenue should be improved. Committee members rated these areas as appropriate for a "high" level of landscaping due to visibility and proximity to Cortez Park (35th Avenue).
- o Along ACDC north bank near 26th Avenue, where multi-story apartments look out over the channel; increasing number and size of trees to provide screening is recommended, with tree varieties to reflect those found in the apartment complex (olive, African sumac, bottle trees and others).
- o There was a concern expressed with the small size of plant materials (5 and 15-gallon trees, 1-gallon shrubs, typical) especially at high-visibility intersections and where homes face the ACDC. **Increasing plant sizes in these types of areas is recommended throughout the ACDC project.**
- o Landscape plans for some portions of this subreach incorporate an existing sidewalk (e.g., along Carol Avenue). There is no existing sidewalk. Neighbors here favor adding a sidewalk on the ACDC side of the street. A sidewalk may be desirable along all similar sections of the ACDC (e.g., Malapai, 46th Avenue). Residents of homes facing the ACDC should be polled; and a sidewalk provided if desired.
- o Mechanical equipment on the east side of the 35th Avenue landscape "node" (on concrete pad, near southeast corner of node) should be screened. A wrought iron enclosure has been constructed around it, but this does little to provide screening. A home faces this installation, directly across the street. A solid masonry enclosure, with gate, is suggested.

The following areas have potential for special recreation uses, public art or establishment of a neighborhood theme:

- o 43rd Avenue/Peoria -- especially the northeast and northwest corners;
- o 37th Drive/Malapai -- a small triangular parcel adjoins the ACDC and has potential for a neighborhood

- oriented recreation/rest area use.
- o 35th Avenue -- landscape "node" planned on northeast corner of ACDC/35th Avenue intersection; potential for complementary node on northwest corner to create a gateway to park/public art site/neighborhood identity;
- o 33rd Avenue/Carol Avenue -- a small triangular parcel of land adjoins ACDC at this corner; potential small rest area or neighborhood-oriented play area/open space.

Given the relatively large number of open space "nodes" in this sub-reach, and the presence of Cortez Park, perhaps a special public art corridor, or landscape theme could be established.

This portion of the ACDC was given a "medium/low" rating for provision of additional landscaping on the south bank of ACDC. The comment was made that with increasing trail use, some increased landscaping should be considered between 35th Avenue and 43rd Avenue.

The south bank of the Arizona Canal should be landscaped at the 43rd Avenue/Peoria Avenue intersection. The Canal and the Channel are both highly visible here. Landscaping enhancement could serve to screen and to redirect viewers' attention away from the ACDC structure.

Areas with high visibility from ACDC that should be encouraged to add screening, landscaping, aesthetic improvements:

- o Utility facility south of 31st Avenue/Mission Lane.

There is no significant vegetation to be removed by ACDC construction in this sub-reach. Palms and other mature trees along the right-of-way look as though they will remain.

Visual barrier walls are being constructed in this sub-reach along Malapai and Carol, where homes will face the ACDC. **Strong neighborhood concern has been expressed about these walls, about proposed landscaping and other, associated improvements:**

- o The walls, built at the top of a very steep (approximately 2:1) slope down to the Channel, have settled in some places; and the soil on the downslope has eroded, exposing the walls' footings. The heights of the walls vary (in part due to the settling, according to the

- neighbors) from about 4'3" to 5'0". Some of the walls appear to lean, and have an uneven appearance. Grouted river run rock is planned between some sections of wall and the ACDC security fence. This may help stabilize the wall. The grouted rock, however, is not planned for all areas and is not scheduled for immediate installation. It is feared that the monsoon rains may further undermine the walls and that they will become unstable.
- o The walls and planned landscaping will not provide adequate screening of the ACDC for the homes that face it. There are gaps of up to approximately 30 feet between sections of the wall; and landscaping proposed to fill the gaps appears minimal (e.g., four, 1-gallon cassia and gravel in a 25 to 30-ft. gap).

Landscaping proposed in front of the wall (facing the homes) will do little to soften the wall's impact. In front of a 130-ft. long stretch of wall along Carol Avenue, for example, only three, 1-gallon bougainvillea and "desert gravel" are shown on landscape plans. Bougainvillea is likely to freeze -- especially planted on the shady north side of a free-standing wall, as it is on Carol.

Type, size and quantity of plant materials here, and in all other situations where homes face the ACDC must be reconsidered and substantially upgraded.

- o Original design concepts for the visual barrier wall presented to the neighborhoods called for staggering wall sections to screen ACDC from view by adjoining homeowners while providing visual interest with the varied wall alignment (see Figure 10).

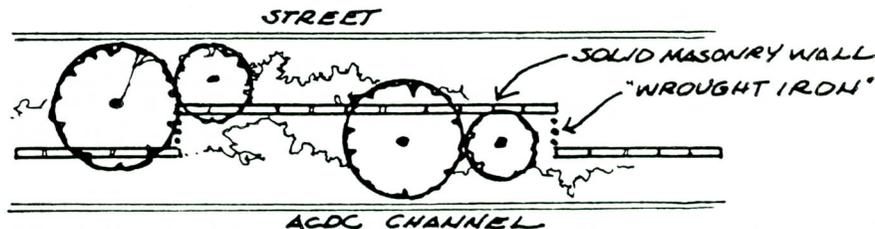


Figure 10. VISUAL BARRIER WALL TREATMENT

Neighbors indicate that they strongly prefer this staggered alignment, with wrought iron fencing connecting the wall panels as indicated above. The wall as constructed does not provide screening. Even a continuous, solid wall is preferable to the wall that is now in place.

Landscaping character planned along the ACDC is not compatible with that of adjoining areas. Cortez Park and the residential areas along this part of the ACDC are landscaped with lawns and a "green" palette of plant materials. ACDC plant materials are strongly slanted to desert trees and other arid region plants. It is suggested that trees and other plant materials reflecting those found in the existing neighborhoods and park be added at landscape nodes and where homes face the ACDC and that use of green ground covers such as myoporum be increased.

The guard rail at the Malapai cul-de-sac is of a visual character more appropriate to a freeway than to a low-traffic, low-speed neighborhood street. It is suggested that this guard rail be replaced by a railing designed for greater compatibility with the neighborhood and ACDC improvements.

There is a strong concern that ACDC improvements will create security/safety problems for homeowners where homes face the Channel. The very steep drop-off between visual barrier wall and the Channel will be a potential hazard for children. As planned, the large gaps between wall sections will allow easy access behind the walls and may result in falls and injuries on the steep slopes. Passers-by can easily get behind the walls; and there is a fear that the walls and sparse landscaping will create ideal "lurking" places. Using the staggered wall sections described earlier, connecting them with wrought iron panels and limiting access to a few, locked maintenance gates would solve this potential problem. Several people commented that their streets have become very dark since the ACDC has been constructed. Brightly lighted homes across the street were removed to allow ACDC construction, as were street lights. In some cases, street lights have not been replaced or, when replaced, have not proven adequate to light the street to former levels. Residents commented that they were having to install special security lighting; that there have been incidents of vandalism on their streets; and that they are having to leave their porch lights on all night to "feel safe." Finally, some residents reported an increase in mosquitoes that they feel is attributable to standing water in the ACDC channel.

RECOMMENDATIONS:

- 1. Increase plant sizes and numbers where homes face the ACDC and where landscape nodes are planned. Provide significant upgrades, especially in front of visual barrier walls on streets such as Carol and Malapai. Re-examine the types of plant materials**

- used and make any adjustments needed to provide hardy plants that will survive freezes and summer heat with minimal maintenance.
2. Explore the possibility of public art projects, neighborhood "gateways" or distinctive landscape character at the following locations:
 - o 43rd Avenue/Peoria (northwest, northeast corners)
 - o Landscape node at Malapai/37th Drive
 - o 35th Avenue (northwest, northeast corners)
 - o Carol Avenue/33rd Avenue
 3. Consider addition of landscaping on the south bank of the Arizona Canal at 43rd Avenue.
 4. Include trees and other plant materials that are typical of neighboring residential areas in the ACDC landscaping palette. Increase use of "green" ground covers such as myoporum.
 5. Add staggered visual barrier wall sections as shown in Figure 10 and connect them with wrought iron panels. Provide maintenance gates in the wrought iron panel sections, as needed. Keep walls as far away from curb as possible, while providing the required offset in wall alignments.
 6. Take immediate steps to prevent further erosion on the steep slope between barrier walls and Channel fences. Explore the possibility of creating terraced retaining walls on the downslope that will protect the visual barrier wall as well as plant materials.
 7. Implement a mosquito control program at times when there is standing water in the ACDC channel.
 8. Where homes face the ACDC provide a sidewalk on the Channel side of the street, if desired by residents.
 9. Where streets parallel the ACDC and where street lighting was removed during construction; or where conditions have been created by ACDC construction that warrant a change in lighting levels take steps to evaluate and install the amount, type and location of lighting needed for security and general illumination.
 10. Add solid, visual barrier walls to screen mechanical equipment at the 35th Avenue landscape "node" (east side).
 11. Replace the "freeway-style" guard rail at the Malapai cul-de-sac with a barrier designed for greater compatibility with the character of its surroundings.

e. Parks and Schools

Senita Elementary School is located near the ACDC at 39th Avenue. Cortez Park adjoins ACDC east of 35th Avenue.

No park or school facilities will be directly impacted by ACDC construction in this sub-reach.

Both park and school are expected to generate high trail use along the ACDC. To get to Cortez Park, ACDC trail users will need to ride or walk along the east side of 35th Avenue, crossing the Arizona Canal bridge. The bridge sidewalk was not designed to accommodate bi-directional bicycle/pedestrian/equestrian use and is only a six-inch curb drop away from a busy arterial. As suggested in the recommendations on bridges, improvements are needed.

RECOMMENDATIONS:

- 1. Improve the Arizona Canal bridge and other sidewalks leading from the ACDC trail to Cortez Park, in conformance with AASHTO and other accepted standards (such as equestrian trail standards).**

f. Trails

As noted in General ACDC Aesthetics Recommendations, and in comments for Sub-Reach 14, trails as planned throughout the ACDC system are substandard, given shared use by bicyclists, pedestrians and equestrians.

The Phoenix General Plan shows a connecting trail linking the existing Arizona Canal Loop trail north along 39th Avenue to the proposed Outer Loop. Access between the ACDC trail (south side of Channel) and 39th Avenue (dead-ends on north side of Channel) must be provided.

As previously discussed, the linkage between the ACDC underpass at 35th Avenue and the trail leading up to 35th Avenue is not designed to accepted standards (inadequate turning radius).

The trail crossing at 43rd Avenue is complex and disruptive to a quality recreational experience. Two signalized street crossings are required; no underpass is provided. It is hoped that ACDC trail identification and directional signage will be installed (no information available).

A staging area for trail users could be located in or adjoining Cortez Park. The landscape node planned on the north bank of ACDC at 35th Avenue or the current maintenance facility just south of the Arizona Canal would be suitable locations.

RECOMMENDATIONS:

1. Provide clearly marked trail access between the ACDC trail and the Outer Loop trail planned for 39th Avenue.
2. Widen pavement where 35th Avenue access trail meets the ACDC trail (both sides of 35th Avenue) to provide adequate turning radius.
3. Provide adequate directional and informational signage at all major street crossings.
4. Construct a staging area for trail users at or near Cortez Park (landscape node north of park or at site of present maintenance yard); provide parking, ACDC trail information, water, shade and other facilities.

**C. REACH 2C: 29th Avenue to 25th Avenue (Subreach 12,
Figure 11)**

1. Summary of Recommendations

a. Covering/Decking

No action recommended.

b. Bridges

1. Either retrofit the 29th Avenue ACDC bridge to provide safe access for all trail user groups, in conformance with AASHTO standards for bicycle facilities and with accepted standards for other trail users OR install trail bridges across the ACDC for intersection access OR construct an underpass.
2. Encourage Salt River Project to improve the Arizona Canal bridges at 29th Avenue and on both east and west I-17 frontage roads to AASHTO standards.
3. Take steps to improve access from frontage road bridges (east and west) to the ACDC trail, to eliminate potentially hazardous situations, in accordance with comments in this report.

c. Underpasses

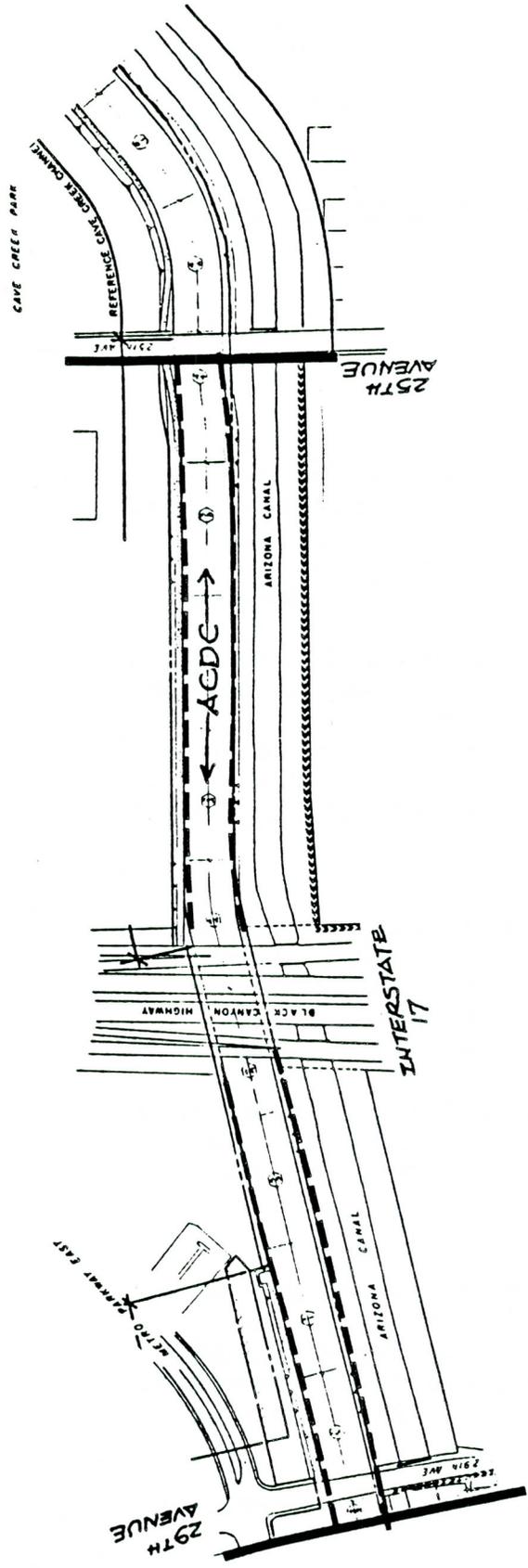
1. Construct an underpass at 29th Avenue for the ACDC trail unless access to and from the intersection of 29th Avenue and Metro Parkway can be brought into conformance with AASHTO guidelines for bicycle facilities and with accepted standards for equestrian trail design.
2. Review the design of the I-17 underpass for adequacy of lighting, turning radii from street access trails and installation of drainage grates; correct any identified deficiencies.

d. Landscaping

1. Prepare and implement a landscaping/design plan for the area between the south side of the Arizona Canal and Metro Parkway to create a gateway for the village core. Work with the Phoenix Arts Commission to determine the feasibility of siting a public art project in this area.

e. Parks and Schools

No parks or schools in this subreach. No action recommended.



**Figure 11. REACH 2C: 29TH AVENUE TO 25TH AVENUE
 (SUBREACH 12)**

f. Trails

1. Give high priority to preparing and implementing a plan for lighting the ACDC trail throughout this subreach for security and visibility purposes.
2. Trail system does not meet AASHTO standards for multi-user, shared bicycle facilities or design standards for equestrian trails (see "Bridges"); take steps to bring the trail into conformance with referenced standards.
3. Identify, design and give priority to construction of a staging area for the ACDC trail in the vicinity of 29th Avenue and Metro Parkway.

2. Analysis and Conclusions

a. Covering/Decking

Overall, this sub-reach received a "low" priority for decking. The 29th Avenue crossing, near Metro Parkway, is likely to experience high levels of trail use and may have some potential for higher-intensity uses on or adjacent to a decked ACDC. As development in this village core area nears saturation, feasibility of decking may increase. If decking occurs, development plans must provide for trail continuity and a high quality of design. Uses should be encouraged that can provide amenity for trail users (restaurants, bike shops, etc.).

RECOMMENDATION: None

b. Bridges

The following bridges are found in this sub-reach:
--29th Avenue
--Interstate 17

29th Avenue Bridge

Width of sidewalk bike/pedestrian/horse path -
west side - no sidewalk; must use street
east side - 5'5"

Height of bridge railing - west side - 5'9"
east side - 4'11"

Height of rub rail - west side - solid concrete wall to
height of 4'6"
east side - 4'9"

Is the pathway ramped? (east side only) yes, continuation
of sidewalk.

Edge condition - (east side only) vertical curb/drop-off to roadway.

Access: ACDC bridge to trails - To cross 29th Avenue on the ACDC trail, people are expected to travel north and cross at the signalized intersection of 29th Avenue and Metro Parkway. Although 29th Avenue has heavy traffic, it is a fairly narrow street. Many people may attempt a mid-block trail crossing rather than detour north. To get to the signalized crossing from the ACDC trail on the south bank of the channel, it will be necessary to cross first one side of the ACDC bridge and then the other (see below).

Crossing the west side of the ACDC bridge, people must walk or ride in the roadway. No sidewalk path is provided across the bridge; and approaches are unpaved at this time. Crossing the east side of the ACDC bridge, all types of trail users (horses, bicyclists, pedestrians) traveling in both directions are expected to share a 5'5"-wide sidewalk. This sidewalk width is typical of ACDC bridges. **It falls seriously short of the AASHTO standard for multi-use bicycle facilities and of equestrian bridge standards. Bi-directional bicycle/multi-use travel on a sidewalk adjoining a roadway is hazardous and encourages wrong-way riding, a violation of State law.**

Access: streets in area to ACDC trail

From MetroCenter (southbound on 29th Avenue) - people must ride or walk in the roadway across the ACDC bridge.

To MetroCenter (northbound on 29th Avenue) - access to the ACDC trail is via the Arizona Canal bridge. This bridge has a 5'5" wide sidewalk (similar to the eastside ACDC bridge sidewalk) and a 3'3"-high bridge railing (approximately 25" high rub rail). The bridge railing here does not meet AASHTO standards for bicycle facilities.

Do the bridge and approaches provide screening of ACDC?

Southbound on 29th Avenue - probably; the solid concrete bridge wall cuts off most channel views from roadway.

Northbound on 29th Avenue - bridge and Arizona Canal provide moderate screening. Views likely to be focussed on MetroCenter (straight ahead and traffic signal). At times, however,

traffic backs up from the intersection at Metro Parkway, so people may have time to contemplate the vistas offered by ACDC at length. Many out-of-town visitors come to MetroCenter; and the ACDC bridge is a major gateway.

Interstate 17 Bridge

An underpass is provided, so people traveling along the ACDC trail will not have to cross at street level.

It is doubtful that motorists' aesthetic experience of I-17 driving will be negatively impacted by views of the ACDC.

Access: to ACDC trail from west frontage road (one-way, southbound travel only).

MetroCenter lies north of the ACDC trail along the frontage road; to the south is another major shopping center. While it is expected that most people will come south on the frontage road to get to the ACDC trail, it should be anticipated that others will ride against traffic, north from the shopping center, to access the trail.

To get to the ACDC trail (west side of freeway) from the south: People will cut through the shopping center parking lot and cross the Arizona Canal bridge on the sidewalk before turning west to connect to the ACDC trail. This experience involves four potential hazards:

- o Arizona Canal bridge sidewalk is 4'6" width, substandard for a bi-directional, multi-user trail.
- o The north end of the sidewalk ends abruptly in a vertical curb (hard to see, unexpected, since other sidewalks there are ramped).
- o Bridge railing is 2'10" high, with no smooth rub rail, almost two feet lower than the AASHTO standard
- o There is an unpaved stretch between the Arizona Canal sidewalk and an asphalt ramp leading up to the ACDC bridge.

To get to the ACDC trail (west side of freeway) from the north: People heading south on the frontage road will either walk or ride onto the ACDC bridge sidewalk or continue in the roadway before turning west onto the trail. This involves

the following:

- o Pedestrians will have to walk on a rough, unpaved open area next to the roadway; no sidewalks have been constructed approaching the ACDC from the north;
- o A bicyclist wishing to ride up on the bridge sidewalk from the frontage road has to contend with
 - an 18"-high metal guardrail that blocks access to the rough, pot-hole pocked asphalt ramp on the north end of the ACDC bridge;
 - a 60"-wide bridge sidewalk (substandard for multi-use trails);
 - a 3'5" bridge railing (rub rail at 2'5", not smooth/gaps) substandard per AASHTO;

Access: to ACDC trail from east frontage road (one-way northbound travel only).

It is expected that most trail traffic will come from the south, with the flow of traffic and will use the I-17 frontage road. There is no sidewalk in the immediate vicinity of the ACDC bridge/access trail.

To get to the ACDC trail (east side of freeway) from the south: People will ride or walk up the frontage road, across the Arizona Canal bridge and then turn east onto the ACDC trail. The Canal bridge has no sidewalk; rather, a 27-inch high metal guard rail extends across the bridge between traffic and the bridge railing. This forces pedestrians or bicyclists farther out into the frontage road.

To get to the ACDC trail (east side of freeway) from the north: Some people may commute using the ACDC trail system and may need to go between the office park or hotel to the east and the trail. They will need to cross the ACDC bridge, or ride into the frontage road and then north. The bridge has a 5 ft.-wide sidewalk (approximately) and a 3'7"-high railing, with a rub rail at 31". The bridge, then, does not meet trail design standards and bicyclists using the bridge sidewalk will face a potentially hazardous situation.

RECOMMENDATIONS:

1. **Either retrofit the 29th Avenue ACDC bridge to provide safe access for all trail user groups, in conformance with AASHTO standards for bicycle facilities and with accepted standards for other trail users OR install trail bridges across the ACDC for intersection access OR construct an underpass.**
2. **Encourage Salt River Project to improve the Arizona Canal bridges at 29th Avenue and on both east and west I-17 frontage roads to AASHTO standards.**
3. **Take steps to improve access from frontage road bridges (east and west) to the ACDC trail, to eliminate potentially hazardous situations, in accordance with comments in this report.**

c. Underpasses

An underpass has been/is being constructed at Interstate 17. No underpass is planned at 29th Avenue.

The Committee gave 29th Avenue a "low" overall rating for underpass provision, since the signalized intersection at Metro Parkway is fairly close to the ACDC trail. To cross, trail users must go over the ACDC bridge to the intersection, across the street, back over the ACDC bridge to the trail (see comments under 29th Avenue bridge evaluation). It is expected that many will attempt a mid-block crossing here, depending on traffic. Unless the ACDC bridge can be retrofitted to achieve design that conforms to trail standards, an underpass should be considered.

The underpass at I-17, it is assumed, is being designed to a standards similar to that at 35th Avenue. Width, height and approaches are generally adequate. Turning radii for bicyclists entering the underpass from intersecting street access trails must be in conformance with AASHTO standards (Chapter 2); as should bicycle-safe drainage grates be installed flush with the pavement. Of particular concern here is provision of adequate lighting. The Interstate 17 trail underpass is a long one and good illumination must be provided for visibility and security purposes.

RECOMMENDATIONS:

1. **Construct an underpass at 29th Avenue for the ACDC trail unless access to and from the intersection of 29th Avenue and Metro Parkway can be brought into conformance with AASHTO guidelines for bicycle**

facilities and with accepted standards for equestrian trail design.

2. Review the design of the I-17 underpass for adequacy of lighting, turning radii from street access trails and installation of drainage grates; correct any identified deficiencies.

d. Landscaping

Landscaping proposed in this subreach is generally appropriate. Areas where additional landscaping (or increased plant sizes) are needed include:

- o on the south side of the channel at 29th Avenue, a "gateway" area where cars back up from the Metro Parkway signal.

Areas with potential for recreation or neighborhood open space theme establishment include:

- o 29th Avenue "gateway" to MetroCenter core. This high-visibility, high-traffic area could be the site of a public artwork or changing exhibit area expressing the idea of "gateway" to the village core.

Priority for providing additional landscaping on the south bank of the ACDC in this subreach.

- o 29th Avenue was given a HIGH priority due to visibility, high traffic and importance as entrance to the village core.

Priority for providing additional landscaping on the south side of the Arizona Canal in this sureach.

- o 29th Avenue was given a MEDIUM priority. Addition of landscaping should be considered as part of an overall landscape/design plan for the 29th Avenue/Metro Parkway "gateway" area.

Significant existing vegetation will **not** be removed for ACDC construction in this subreach.

Areas where ACDC may affect security or privacy for adjoining homes:

- NONE -- no homes adjoining ACDC in this subreach.

Is landscaping character generally compatible with that of adjoining areas?

Yes.

RECOMMENDATIONS:

1. **Prepare and implement a landscaping/design plan for the area between the south side of the Arizona Canal and Metro Parkway to create a gateway for the village core. Work with the Phoenix Arts Commission to determine the feasibility of siting a public art project in this area.**

e. Parks and Schools

No parks or schools are located in this subreach.

RECOMMENDATIONS: None

f. Trails

Trail lighting

It is expected that trails in this subreach will experience heavy use, primarily due to the proximity of MetroCenter and of Cave Creek Park (immediately east of Subreach 12). Given this, and the fact that the trails pass through relatively isolated areas (business park, back sides of shopping center), trail lighting between 29th Avenue and 25th Avenue should be given high priority.

Adequacy of trails to accommodate all types of users (pedestrians, bicyclists, equestrians, handicapped)

See "General Recommendations" section of this report for comments on overall trail design standards. As designed and partially constructed, the ACDC trail does not meet accepted standards for bi-directional, shared-use trails. As noted earlier, in comments on the 29th Avenue bridges, the 29th Avenue trail crossing may present hazards for many users.

Connections to other trail systems in this subreach.

The Phoenix General Plan shows a planned bicycle and equestrian trail extending north from the ACDC trail through MetroCenter along approximately 28th Avenue to the Outer

Loop. As discussed earlier, the 29th Avenue bridge must be crossed to access the ACDC trail from the north; and this bridge is substandard in terms of design for multi-user trails.

Potential location for staging area:

- o At or near the 29th Avenue intersection.
Heavy trail use is expected in this village core area. Parking convenient to the trails, drinking fountains, shade, benches and waste receptacles as a minimum should be provided.

RECOMMENDATIONS:

1. Give high priority to preparing and implementing a plan for lighting the ACDC trail throughout this subreach for security and visibility purposes.
2. Trail system does not meet AASHTO standards for multi-user, shared bicycle facilities or design standards for equestrian trails (see "Bridges"); take steps to bring the trail into conformance with referenced standards.
3. Identify, design and give priority to construction of a staging area for the ACDC trail in the vicinity of 29th Avenue and Metro Parkway.

**D. REACH 2C: 25th Avenue to Cave Creek Wash/Reach 3
boundary (Subreach 11, Figure 12)**

1. Summary of Recommendations

a. Covering/Decking

1. Consider addition of visual barrier walls and dense landscape screening along the south edge of Cave Creek Park.

b. Bridges

1. Provide an improved linkage between the ACDC trail and Cave Creek Park at 25th Avenue.
2. Consider modification of the Arizona Canal bridge to increase railing height and other design features to AASHTO/equestrian trail standards.

c. Underpasses

No action recommended.

d. Landscaping

1. Relocate any mature, specimen trees along ACDC within Cave Creek Park or along the ACDC trail.
2. Consider increased plant sizes at 25th Avenue and along the south edge of Cave Creek Park.

e. Parks and Schools

1. Design and construct an ACDC trail staging area at or near 25th Avenue, in the southwest corner of Cave Creek Park.
2. Provide a pedestrian/bicyclist/equestrian overpass west of the confluence of Cave Creek Wash and the ACDC, to provide access between the ACDC trail and Cave Creek Park.

f. Trails

1. Design and construct the intersection of the ACDC trail and the Cave Creek Wash trail to achieve safety and trail continuity for all trail users. As a guide use AASHTO standards for bicycle facilities and other generally accepted standards for equestrian facilities.
2. Provide trail lighting throughout this subreach, adequate for trail illumination and security.

****SEE ALSO comments under "Parks and Schools," general
comments on adequacy of trail design, previous
recommendation for staging area at 25th Avenue.**

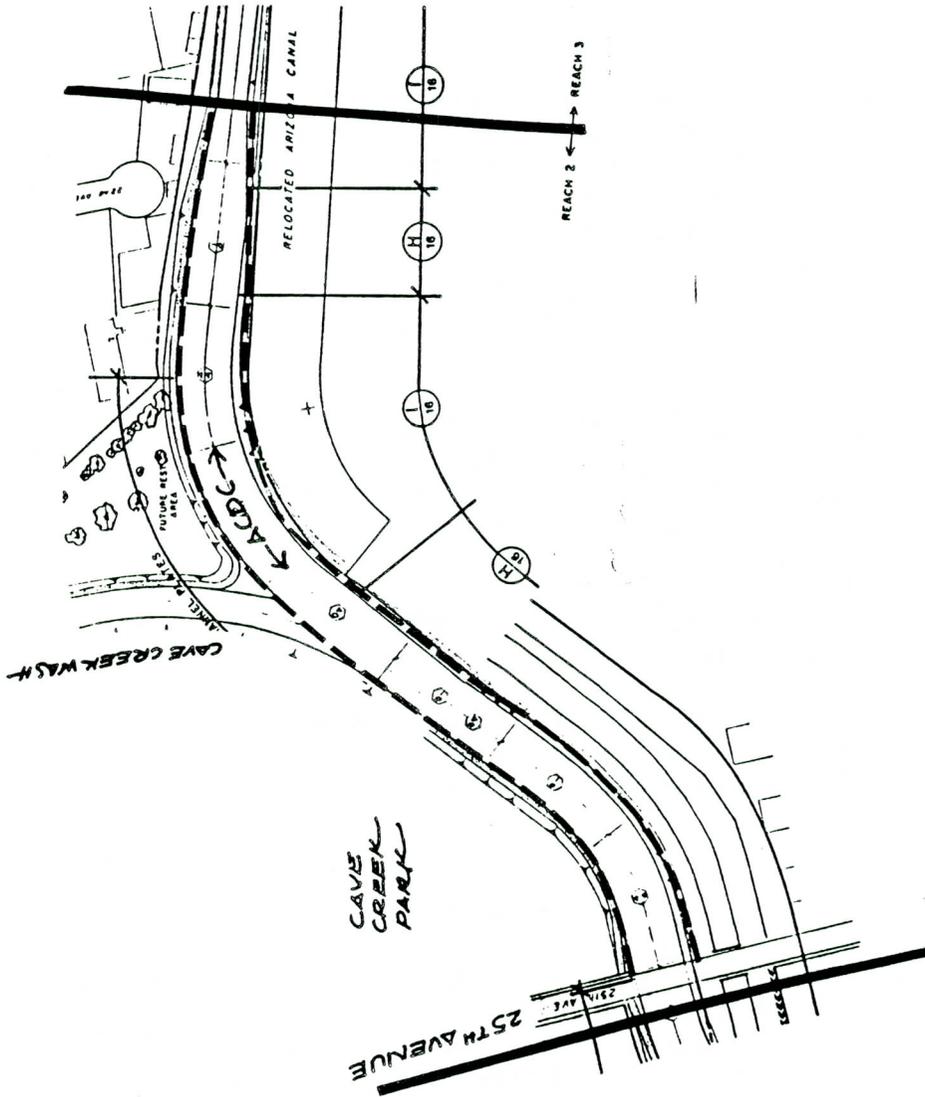


Figure 12. REACH 2D: 25TH AVENUE TO CAVE CREEK WASH/REACH 3 BOUNDARY (SUBREACH 11)

2. Analysis and Conclusions

a. **Covering/Decking**

This area was rated "high" priority for decking over the ACDC from aesthetic and safety standpoints. The channel runs along the south edge of Cave Creek Park and is likely to attract large numbers of trail users. There was Committee concern as well about safety for children playing in the park. It was felt that views of ACDC from the park would not make a significant contribution to a high-quality recreational experience.

There are, however, constraints to decking here that cannot be ignored. This is the confluence of the ACDC with Cave Creek Wash and an extensive area is taken up by the intersection of the channels. To have the desired safety and aesthetic impacts, ACDC decking would have to extend over a very large area. There is, further, only limited potential for cost-effective multiple use of a decked area.

Alternatives to decking should be explored here.

RECOMMENDATION:

- 1. Consider addition of visual barrier walls and dense landscape screening along the south edge of Cave Creek Park.**

b. **Bridges**

In this subreach, the only ACDC bridge is at 25th Avenue.

25th Avenue Bridge

Width of sidewalk bike/pedestrian/horse path - 5'8"

Height of bridge railing - 4'4"

Height of rub rail - 4'2"

Is the pathway ramped? - yes, but sidewalk is discontinuous approaching the bridge:

Edge condition - vertical curb; drop-off to roadway

Access: ACDC Bridge to trails - trail crosses 25th Avenue at street level (no underpass) at a midblock location. People traveling east or west along the trail will not have to cross the bridge.

Access: ACDC Bridge to area streets -

West side of bridge

- o sidewalk is a continuation of bridge sidewalk, extending south from the bridge.
- o no sidewalk north of the bridge
- o curb cuts/driveways both north and south of the bridge on the west side.

East side of bridge

- o sidewalk not continuous south of Arizona Canal bridge on east side of street.
- o Arizona Canal bridge not in conformance with trail design standards (AASHTO, etc.): rail height is 3'1".
- o there is no sidewalk and no curb cuts/driveways on the north end of the ACDC bridge (riders on the bridge sidewalk will have to bump across a rough field or drop off a vertical curb into the street).

At 25th Avenue, the Committee felt that ACDC-proposed landscaping would provide adequate screening at bridge approaches. The surrounding business park is well-landscaped; and makes a contribution to this screening.

RECOMMENDATIONS:

1. **Provide an improved linkage between the ACDC trail and Cave Creek Park at 25th Avenue.**
2. **Consider modification of the Arizona Canal bridge to increase railing height and other design features to AASHTO/equestrian trail standards.**

c. Underpasses

An underpass is not provided at 25th Avenue. The Committee gave the 25th Avenue crossing a "low" priority for addition of an underpass, primarily due to relatively low traffic volumes and a narrow roadway. If the street is widened or traffic increased substantially, addition of an underpass might be warranted.

RECOMMENDATIONS:

None.

d. Landscaping

Landscaping was found to be appropriate in general character to the surrounding area. There was the suggestion that additional and/or larger plant materials be used along the park and at 25th Avenue.

Are there areas for establishing a neighborhood "theme", public art site or recreation area on the ACDC?

No. ACDC adjoins Cave Creek Park, which should adequately

serve local recreation needs. There are no homes or neighborhoods along ACDC in this subreach. Landscaping at the Park and surrounding business park should be primary "theme-definers."

The spillway area design was not available at the time of Committee evaluation. There was concern that it might need screening.

There may be some mature trees in the spillway area and on the south side of the Canal that may be impacted by construction and Canal relocation. These trees should be relocated within the park or along the trail.

RECOMMENDATIONS:

1. Relocate any mature, specimen trees along ACDC within Cave Creek Park or along the ACDC trail.
2. Consider increased plant sizes at 25th Avenue and along the south edge of Cave Creek Park.

e. Parks and Schools

Cave Creek Park is located along the north side of ACDC for most of this subreach. The Park master plan shows a "future aquatics center" next to ACDC at 25th Avenue, a bicycle path along the south side of the park and unspecified open space uses.

Staging area:

Design of the aquatics center parking area and adjoining open space to serve as a staging area for trail users should be explored. Addition of drinking fountains, shade, waste receptacles and other amenities is appropriate.

Access to the park:

For ACDC trail users traveling along the south bank of the channel, access to Cave Creek Park is planned only at 25th Avenue. The park master plan shows pedestrian overpasses spanning Cave Creek Wash at two locations by the park, but no overpasses linking the park with the ACDC trail.

RECOMMENDATIONS:

1. Design and construct an ACDC trail staging area at or near 25th Avenue, in the southwest corner of Cave Creek Park.
2. Provide a pedestrian/bicyclist/equestrian overpass west of the confluence of Cave Creek Wash and the ACDC, to

provide access between the ACDC trail and Cave Creek Park.

f. Trails

Connection to other trails:

A trail is planned along Cave Creek Wash, extending north from the ACDC. The design relationship between these two trails is unclear. Steps should be taken to prepare a design for the trail intersection that will insure clarity of direction, safety and continuity for all trail users.

Trail lighting:

The trail here is expected to experience heavy use. It extends through isolated areas. Lighting would enhance security for trail users.

RECOMMENDATIONS:

1. Design and construct the intersection of the ACDC trail and the Cave Creek Wash trail to achieve safety and trail continuity for all trail users. As a guide use AASHTO standards for bicycle facilities and other generally accepted standards for equestrian facilities.
2. Provide trail lighting throughout this subreach, adequate for trail illumination and security.

**SEE ALSO comments under "Parks and Schools," general comments on adequacy of trail design, previous recommendation for staging area at 25th Avenue.

**E. REACH 3: Cave Creek Wash/West Reach 3 Boundary to Hatcher
(Subreach 10, Figure 13)**

1. Summary of Recommendations

a. Covering/Decking

No action recommended.

b. Bridges

1. Design and construct the ACDC bridge (or retrofit) to trail design standards referenced in this report.
2. Evaluate the Arizona Canal bridge design for suitability for trail use and take any necessary steps to improve it.
3. Provide dense groves of trees at and approaching the 19th Avenue ACDC crossing, to screen views of the channel.

c. Underpasses

No action recommended.

d. Landscaping

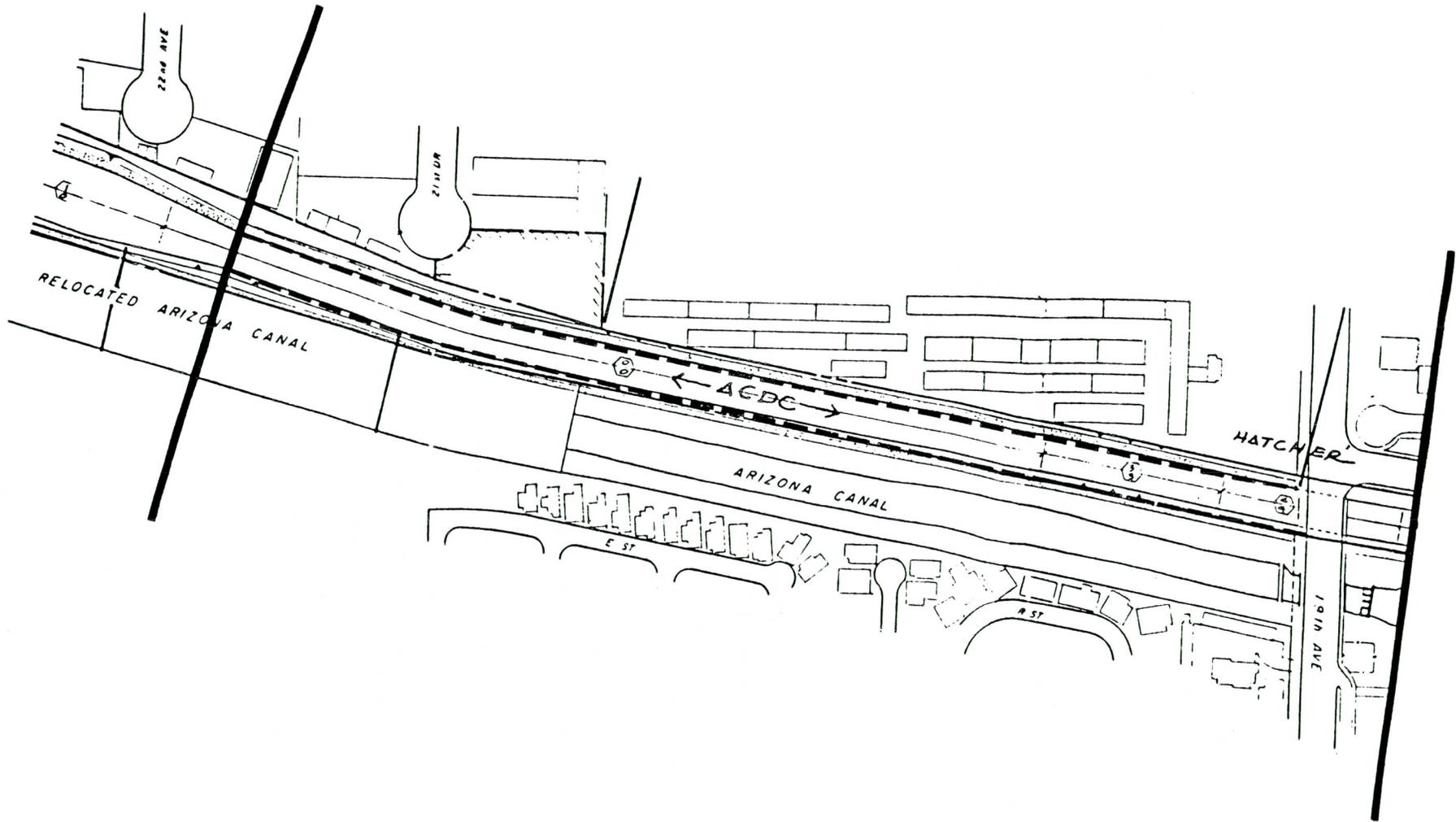
1. As needed, increase plant sizes and revise plant palette to provide dense screening of "eyesore" uses visible from the ACDC trail.
2. Encourage adjoining property owners to remove clutter and improve maintenance of areas visible from the ACDC trail.

e. Parks and Schools

No parks or schools in this subreach; no recommendations.

f. Trails

1. Trails should meet AASHTO and other accepted standards for design of bicycle, equestrian, handicapped-use facilities.
2. Explore the possibility of eliminating the north-side maintenance road in this subreach to allow room for additional landscape screening and/or of realigning the ACDC trail in cooperation with Salt River Project to provide space for additional plantings between the south bank of the Channel and the trail.



**Figure 13. REACH 3: CAVE CREEK WASH/REACH 3
BOUNDARY TO HATCHER ROAD (SUBREACH 10)**

2. Analysis and Conclusions

a. Covering/Decking

This subreach was given a "low" priority for decking of the channel. The ACDC in this area is lined with industrial uses. Potential for cost-effective use of a decked area for non-recreational/open space/aesthetics reasons was found to be low, due to general availability of vacant or redevelopable land in the immediate area.

RECOMMENDATIONS:

None

b. Bridges

Subreach 10 includes a bridge over the ACDC at 19th Avenue.

NOTE: details of bridge design were not available at the time the Committee completed its survey work. It is assumed that design is similar to bridges already constructed, but that sidewalks will be at a width of 8 feet.

Will trail users be required to use the bridge to get across 19th Avenue?

Yes. No underpass is provided here. Trail users will have to go north of the bridge to 19th Avenue/Hatcher to cross at the signal.

Does the bridge meet design standards for all trail users?

None of the bridges constructed to date meet AASHTO or equestrian trail design standards (see "General Recommendations").

Do the bridge and associated landscaping screen the ACDC?

Difficult to tell at this stage. Suggest increasing plant sizes at/near the intersection. This intersection is visually chaotic, with a clutter of signs, industrial and commercial buildings and parking. ACDC will not exactly be brutalizing a serenely composed urban landscape here. Addition of groupings of large trees may both screen the ACDC and improve the overall appearance of the area.

RECOMMENDATIONS:

1. Design and construct the ACDC bridge (or retrofit) to trail design standards referenced in this report.
2. Evaluate the Arizona Canal bridge design for suitability for trail use and take any necessary steps to improve it.

3. Provide dense groves of trees at and approaching the 19th Avenue ACDC crossing, to screen views of the channel.

c. Underpasses

No underpasses are proposed in this subreach.

A "medium" priority for provision of an underpass at 19th Avenue was assigned by the Committee due to proximity to a signalized intersection.

RECOMMENDATION:

None

d. Landscaping

Proposed type, size of landscape materials in this subreach should be increased to screen out "eyesore" uses along the ACDC trail. The ACDC passes through an area of small-scale industrial uses, with storage yards, marginal uses and unsightly clutter in many places. Although landscaping need not be particularly elaborate here, it should be dense and provide effective screening.

Should additional landscaping be provided on the south bank of ACDC or Arizona Canal here?

Not required, unless needed for screening.

Opportunities for public art sites, establishment of neighborhood or community theme or gateway/other open space or recreation opportunities.

Possible theme treatment at 19th Avenue/Hatcher intersection, but this is of relatively "low" priority.

No significant, existing trees will be removed for ACDC construction in this subreach.

RECOMMENDATIONS:

1. As needed, increase plant sizes and revise plant palette to provide dense screening of "eyesore" uses visible from the ACDC trail.
2. Encourage adjoining property owners to remove clutter and improve maintenance of areas visible from the ACDC trail.

e. Parks and Schools

No parks or schools are located in this subreach.

f. Trails

There are no connections to other trails within this subreach.

There are no potential staging areas for the trail in this subreach.

RECOMMENDATIONS:

1. Trails should meet AASHTO and other accepted standards for design of bicycle, equestrian, handicapped-use facilities.
2. Explore the possibility of eliminating the north-side maintenance road in this subreach to allow room for additional landscape screening and/or of realigning the ACDC trail in cooperation with Salt River Project to provide space for additional plantings between the south bank of the Channel and the trail.

**F. REACH 3: Hatcher Road to Dunlap Avenue (Subreach 9,
Figure 14)**

1. Summary of Recommendations

a. Covering/Decking

1. Explore the feasibility of future decking within the 7th Avenue/Dunlap/ACDC triangle; take steps to preserve the option of future decking.
2. In design of the transition between decked and undecked portions of the Channel, take into account the need to prevent unauthorized access under the deck.

b. Bridges

1. Carry out an evaluation of the 7th Avenue trail crossing to determine the most convenient and safest strategy for crossing. Implement any improvements needed (signage, signals, etc.).
2. Design ACDC bridges to trail design standards referenced in this report; retrofit/improve Arizona Canal bridges as needed to conform with these standards.
3. Provide additional screening of the ACDC bridge approaches, particularly on Dunlap Avenue.

c. Underpasses

1. Study and implement means of increasing safety for trail users at the 7th Avenue ACDC crossing. Consider construction of an underpass at a future date, if trail traffic warrants.

d. Landscaping

1. Inventory all existing, mature trees along the ACDC within this subreach that may not yet have been removed for construction. Box and relocate or replace these trees. Where mature trees were previously removed due to ACDC construction, add mature, specimen-quality trees of similar varieties to landscaping plans for the area.
2. Provide upgraded landscaping along the ACDC, including the south bank of the Channel, and along the Arizona Canal to screen "eyesore" uses and provide amenity and character.
3. Work with the Phoenix Arts Commission, Village Planning Committee and other groups to identify and design "gateway" or other theme landscape treatments at the 7th Avenue/Dunlap area of ACDC.
4. Incorporate use of theme trees identified as part of

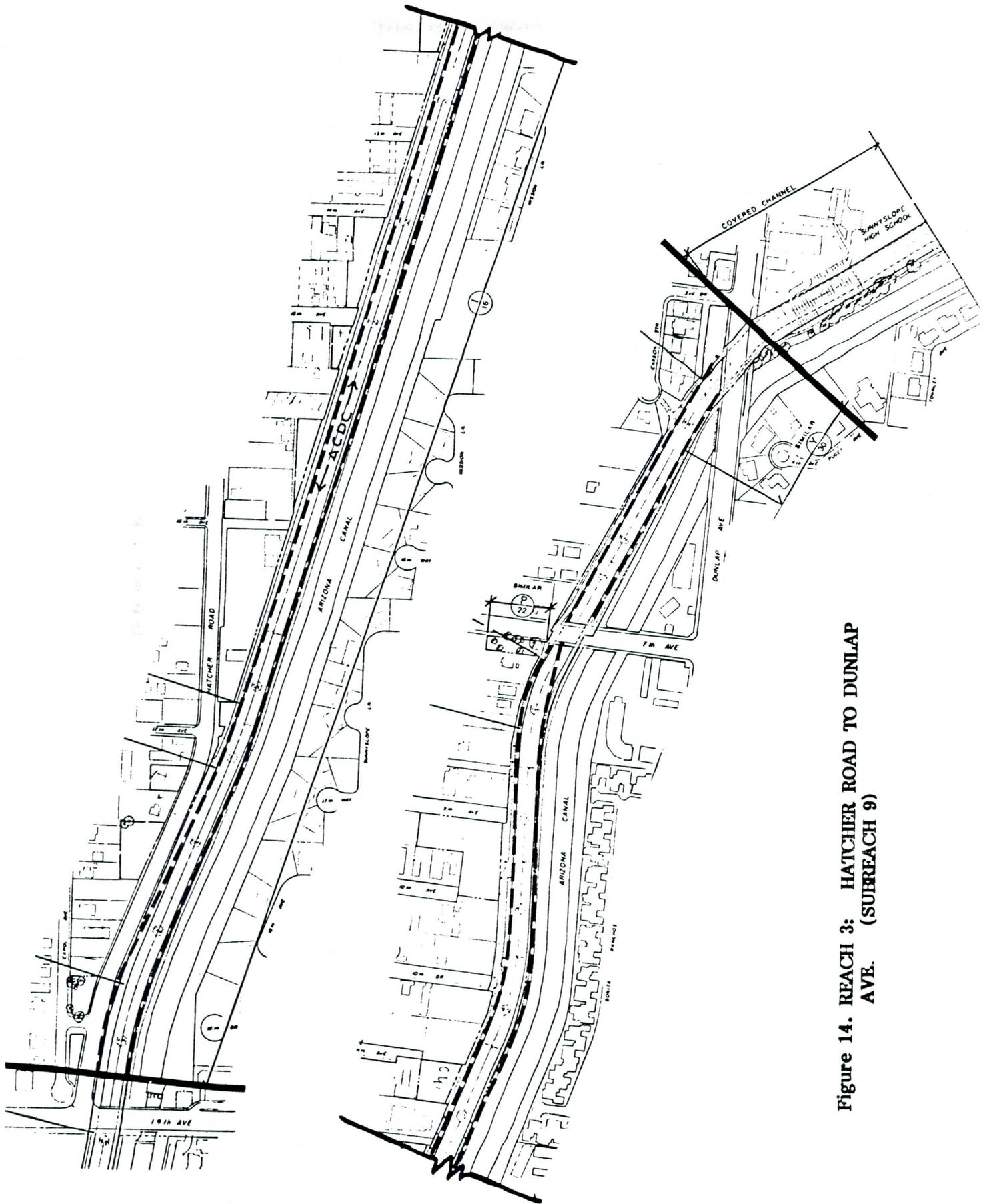


Figure 14. REACH 3: HATCHER ROAD TO DUNLAP AVE. (SUBREACH 9)

Sunnyslope's Specific Plan process into landscaping of this subreach.

e. Parks and Schools

1. Consider addition of small turfed sitting/rest areas along the ACDC trail by the school and park as an amenity for trail users.

f. Trails

1. Inventory potential locations for a staging area for trail users in the 7th Avenue/Dunlap area. Consider possible use of the park and of "excess" ACDC land. Once inventory is completed, take steps to achieve construction of the staging area.

2. Analysis and Conclusions

a. Covering/Decking

This subreach received a medium-to-low priority rating for addition of decking. Except at the Dunlap and 7th Avenue intersections, the ACDC has low visibility and impacts (aesthetically) relatively few people. Landscape screening represents an alternative to decking for aesthetic reasons.

Some Committee members felt that the City should, in the future, explore the feasibility of decking within the triangle formed by 7th Avenue, Dunlap Avenue and the ACDC due to proximity to the park and Sunnyslope High School and long-term potential for multiple-use of the decked area. This is an area of relatively high trail use. Many children use the canal banks to get to and from school.

Concern was expressed about the transition between decked and undecked portions of ACDC. The Committee was unclear about the details of transition design and worried about whether or not children would be able to get under the decked area.

RECOMMENDATION:

1. **Explore the feasibility of future decking within the 7th Avenue/Dunlap/ACDC triangle; take steps to preserve the option of future decking.**
2. **In design of the transition between decked and undecked portions of the Channel, take into account the need to prevent unauthorized access under the deck.**

b. Bridges

Bridges in this subreach are located at:

7th Avenue
Dunlap Avenue

People traveling east/west along the ACDC trail will not necessarily have to use the bridges. An underpass is provided at Dunlap. At 7th Avenue, most people will probably attempt a mid-block crossing, since the ACDC trail/street intersection is not close to a signalized intersection.

People traveling to or from the ACDC trail from area streets will either ride in the roadway or ride/walk on the sidewalks to get to the trail. If used as part of the ACDC trail system, the bridges (Canal and channel) should be designed or upgraded to conform to applicable standards, as described in this report. The Dunlap Avenue bridge is next to Sunnyslope High School and is expected to get heavy use by pedestrians and bicyclists.

Does the bridge and associated approach landscaping provide adequate screening of ACDC?

No. Westbound Dunlap Avenue traffic will get an especially long view of the Channel while slowing for the signal at the 7th Avenue/Dunlap intersection.

RECOMMENDATIONS:

1. Carry out an evaluation of the 7th Avenue trail crossing to determine the most convenient and safest strategy for crossing. Implement any improvements needed (signage, signals, etc.).
2. Design ACDC bridges to trail design standards referenced in this report; retrofit/improve Arizona Canal bridges as needed to conform with these standards.
3. Provide additional screening of the ACDC bridge approaches, particularly on Dunlap Avenue.

c. Underpasses

An underpass is provided on Dunlap Avenue.

NO underpass is provided at 7th Avenue.

Priority for provision of an underpass at 7th Avenue was rated by the Committee at "medium to high". It is approximately 400 ft. to the nearest signalized crossing; and many people will cross mid-block, a potentially hazardous situation.

RECOMMENDATION:

1. **Study and implement means of increasing safety for trail users at the 7th Avenue ACDC crossing. Consider construction of an underpass at a future date, if trail traffic warrants.**

d. Landscaping

Landscaping should be upgraded (size, number of plants) within this subreach.

- o to screen "eyesore" areas
- o to increase amenity in vicinity of 7th Avenue/Dunlap intersection.

Areas with potential for open space, public artworks, recreation.

7th Avenue/Dunlap intersection - gateway to Sunnyslope; several small "leftover" parcels have potential for these uses.

Additional landscaping should be provided on south banks of ACDC and Arizona Canal, as necessary to screen "eyesore" uses adjoining the ACDC corridor. There are several two-story homes next to the ACDC in this subreach. Providing tree screening could lessen the ACDC's visual impact from second-story areas.

Significant vegetation to be removed:

A number of mature mesquite trees (north and south of Dunlap), pines, an "old, tall tree" near the northwest corner of 7th Avenue/Dunlap were identified by the Committee. These trees may have been removed during construction since the Committee's survey was conducted.

RECOMMENDATIONS:

1. **Inventory all existing, mature trees along the ACDC within this subreach that may not yet have been removed for construction. Box and relocate or replace these trees. Where mature trees were previously removed due to ACDC construction, add mature, specimen-quality trees of similar varieties to landscaping plans for the area.**
2. **Provide upgraded landscaping along the ACDC, including the south bank of the Channel, and along the Arizona Canal to screen "eyesore" uses and provide amenity and character.**

3. Work with the Phoenix Arts Commission, Village Planning Committee and other groups to identify and design "gateway" or other theme landscape treatments at the 7th Avenue/Dunlap area of ACDC.
4. Incorporate use of theme trees identified as part of Sunnyslope's Specific Plan process into landscaping of this subreach.

e. Parks and Schools

Sunnyslope High School and a small park are located on the south side of Dunlap, at the ACDC crossing. Mountain View Park is located approximately 1/2 mile north of the ACDC on 7th Avenue.

The ACDC will be covered in the vicinity of the high school.

All park and school facilities and landscaped areas impacted by ACDC will be replaced.

RECOMMENDATIONS:

1. Consider addition of small turfed sitting/rest areas along the ACDC trail by the school and park as an amenity for trail users.

f. Trails

Trails planned in this subreach are similar to those in other areas. The primary concern here is with adequacy of design standards.

RECOMMENDATIONS:

1. Inventory potential locations for a staging area for trail users in the 7th Avenue/Dunlap area. Consider possible use of the park and of "excess" ACDC land. Once inventory is completed, take steps to achieve construction of the staging area.

**G. REACH 3: Dunlap Road to Central Avenue (Subreach 8,
Figure 15)**

1. Summary of Recommendations

a. Covering/Decking

1. City staff should take a close look at design of transitions between covered and uncovered portions of the ACDC to evaluate:
 - o potential hazard to children and pets
 - o potential hazard to trail users
 - o adequacy of proposed maintenance programsThe City should work closely with the Corps and the Flood Control District to effect any needed design revisions.

b. Bridges

No bridges in this subreach/no recommendations.

c. Underpasses

No underpasses in this subreach/no recommendations.

d. Landscaping

1. Increase plant sizes, particularly at Dunlap and Central Avenue intersections and other high-visibility areas.
2. Encourage inclusion of the northwest corner of Central/ACDC in planning studies as a site for public art, gateway or special landscape treatment. Move toward agreement on a design and implementation for this area.
3. Inventory all remaining significant mature trees. Preserve, relocate or replace them with trees of similar size and type.

e. Parks and Schools

No action recommended.

f. Trails

1. Provide lighting for the ACDC trail in this subreach.
2. Review trail plans for conformance to design standards for all user groups and make any changes needed to bring the trails into conformance.

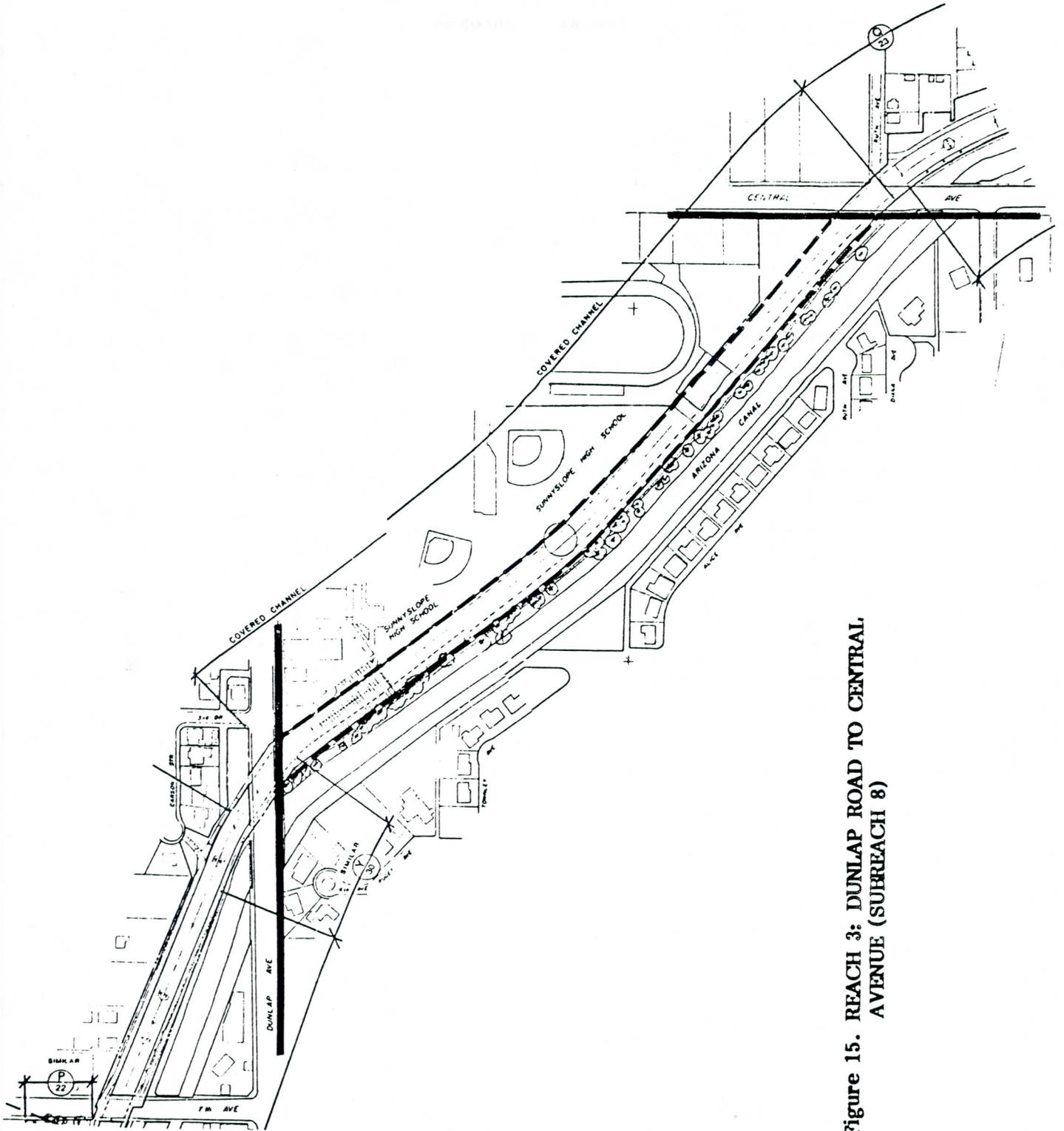


Figure 15. REACH 3: DUNLAP ROAD TO CENTRAL AVENUE (SUBREACH 8)

2. Analysis and Conclusions

a. **Covering/Decking**

The ACDC within this subreach will be a covered channel. Committee members were concerned about safety in transition areas between covered and uncovered portions of the Channel.

RECOMMENDATION:

1. **City staff should take a close look at design of transitions between covered and uncovered portions of the ACDC to evaluate:**
 - o potential hazard to children and pets
 - o potential hazard to trail users
 - o adequacy of proposed maintenance programs**The City should work closely with the Corps and the Flood Control District to effect any needed design revisions.**

b. **Bridges**

There are no bridges in this subarea.

c. **Underpasses**

There are no underpasses or major street intersections in this subreach.

d. **Landscaping**

Landscaping proposed is generally compatible with the character of the area. The covered portion of the Channel is to be turfed, to match adjoining school and park grounds. Plant sizes, again, are small. Theme trees adopted by the Sunnyslope Specific Plan Committee should be incorporated into the ACDC landscaping plans, particularly at major street intersections and other high-visibility locations.

The northwest corner of Central and the ACDC is a potential "gateway"/public art/recreation/theme open space site. Special design treatment here should reflect unique character of the area, in keeping with stated planning objectives.

"High" priority was assigned by the Committee to preservation of mesquite trees by Herberger Park and of the pines at Dunlap. If these trees are in the way of ACDC construction, they should be relocated. The mesquites can definitely be

relocated. If they have been removed prior to action on this report's recommendations, they should be replaced with mature, specimen trees as close as possible to the size of the trees removed.

RECOMMENDATIONS:

1. **Increase plant sizes, particularly at Dunlap and Central Avenue intersections and other high-visibility areas.**
2. **Encourage inclusion of the northwest corner of Central/ACDC in planning studies as a site for public art, gateway or special landscape treatment. Move toward agreement on a design and implementation for this area.**
3. **Inventory all remaining significant mature trees. Preserve, relocate or replace them with trees of similar size and type.**

e. Parks and Schools

Sunnyslope High School and Herberger Park are located in this subreach, along the north side of the ACDC.

School and park facilities and lawn areas removed for construction of the ACDC will be replaced, on the covered portion of the Channel.

RECOMMENDATIONS:

None

f. Trails

Trail lighting: Heavy trail use is expected in this area. The trail provides direct access to both the high school and park. Lighting for the trail should be installed for security and illumination purposes.

Staging area: A staging area has been planned at Herberger Park II.

RECOMMENDATIONS:

1. **Provide lighting for the ACDC trail in this subreach.**
2. **Review trail plans for conformance to design standards for all user groups and make any changes needed to bring the trails into conformance.**

H. REACH 3: Central Avenue to Dreamy Draw/East Boundary of Reach 3 (Subreach 7, Figure 16).

1. Summary of Recommendations

a. Covering/Decking

1. Give a HIGH priority to future decking/covering of this portion of the ACDC. Take steps, as needed, to design the Channel now to allow future decking.
2. Initiate a pilot program in this subreach, decking the ACDC to create a much-needed linear park with potential for compatible multiple-use at major streets.
3. As an interim measure, install increased numbers and sizes of trees to create a dense canopy that will soften views of the ACDC from second-story homes and generally add to the aesthetics of the Channel for residents and trail users.

b. Bridges

1. Review bridges and link trails for conformance to AASHTO standards for bicycle facilities and to equestrian trail design standards; remedy any identified deficiencies.
2. Study the Central Avenue crossing of the trail and make recommendations for signage, markings, signalization or other improvements to increase safety for trail users.

c. Underpasses

1. (Same as #2, previous page) Study the Central Avenue crossing of the trail and make recommendations for signage, markings, signalization or other improvements to increase safety for trail users.

d. Landscaping

1. Provide increased/intensified landscaping in this subreach, appropriate to surrounding residential areas.
2. Include plant materials that relate to established neighborhood landscape character or to theme plantings adopted as part of the Specific Plan process for this area.
3. Where homes face the ACDC, provide an improved visual barrier wall and associated landscaping, taking into account comments and recommendations for Subreach 13.
4. Prepare plans for "gateways" or other distinctive aesthetic treatments at Northern, 7th Street and Central

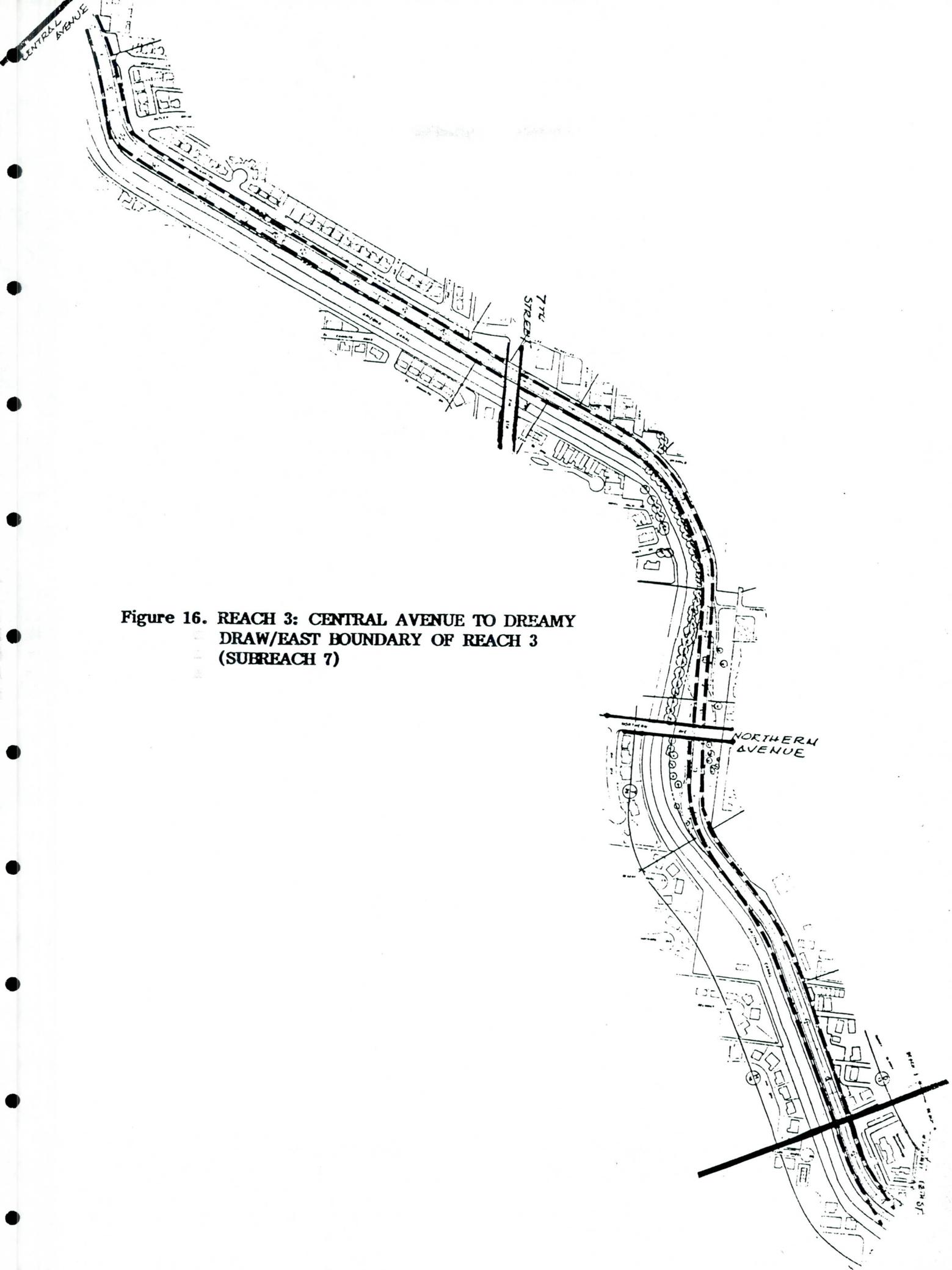


Figure 16. REACH 3: CENTRAL AVENUE TO DREAMY DRAW/EAST BOUNDARY OF REACH 3 (SUBREACH 7)

Avenue.

5. Add landscaping along south bank of ACDC, between the trail and the Channel. Explore possible realignment of the trail in cooperation with Salt River Project if necessary to accomplish this.
6. Where mesquite, palms and other mature trees are removed to allow construction of ACDC, it is strongly recommended that specimen trees of similar varieties be installed, of sizes as close to those of the trees removed as possible.
7. Take steps to protect the privacy and security of homes along the ACDC through barrier fencing or landscaping (see Figure 7, following p. 57).
8. Provide parking for trail users within the staging area planned at Northern Avenue, to discourage parking on neighborhood streets and private property in the area.

e. Parks and Schools

No parks or schools within this subreach/no action recommended.

f. Trails

1. Take steps to discourage access to the north ACDC maintenance road for trail users, and provide security fencing where the road adjoins residential areas.
2. Improve trail design in conformance with design standards referenced in this report, including upgrading of canal bridges that will be used for access to the ACDC trail.
3. Explore the possibility of maintaining the existing Arizona Canal trail as an alternate trail route in this heavy-use area.

2. Analysis and Conclusions

a. Covering/Decking

This area received a "high" priority rating for Channel covering. It is a sensitive area, with well-used trails and strong neighborhood character. There are many children here; and they frequently use the trail (Arizona Canal trail) to go to school. Multi-story homes and apartments look out over the ACDC. Although joggers and bicyclists may have hours of exposure to the Channel as they travel along it, residents have exposure of a more permanent (and expensive) kind.

Covering the channel would provide real safety benefits as well as improving the overall aesthetics of the area.

The only alternatives to covering identified by the Committee were extensive landscape screening (creating a tree canopy) and fencing.

Ideas about potential for multiple use of a covered ACDC varied among Committee members but there was general consensus that the covering was a high priority because it would create much-needed expansion of park and recreation facilities in the area. This central Phoenix area is predominantly residential and has been noted in recent planning reports (e.g., village plans) as seriously lacking in neighborhood parks. Covering the Channel would create a welcomed linear park. The possibility of a pilot project that would involve decking the ACDC for safety and recreational purposes, creating a true linear park, was discussed.

Residents wonder why something as expensive as the Papago Freeway can be undergrounded to create a park through an area where relatively few people live when the Army Corps of Engineers and the City say they cannot underground a much simpler drainage channel to protect established neighborhoods with many children.

RECOMMENDATIONS:

1. Give a **HIGH** priority to future decking/covering of this portion of the ACDC. Take steps, as needed, to design the Channel now to allow future decking.
2. Initiate a pilot program in this subreach, decking the ACDC to create a much-needed linear park with potential for compatible multiple-use at major streets.
3. As an interim measure, install increased numbers and sizes of trees to create a dense canopy that will soften views of the ACDC from second-story homes and generally add to the aesthetics of the Channel for residents and trail users.

b. Bridges

Three bridges are located in this subreach:

- o Central Avenue
- o 7th Street
- o Northern Avenue

Please review earlier comments (Subreaches 12, 13, 14) for

recommendations based on bridges previously constructed.

Since underpasses are provided at 7th Street and at Northern, trail users will not need to cross the ACDC bridges here unless entering or exiting the ACDC trail from adjoining streets. At Central Avenue, no underpass is planned, and trail users must negotiate a difficult, unsignalized crossing. Most will probably opt to ride or walk straight across Central (at a mid-block location) to continue down the trail. If they go to the nearest intersection, they will cross the ACDC bridge to get there.

Bridges in this subreach are to be constructed with 8-ft. wide sidewalks, an improvement over bridges farther west. Bridge design needs to be evaluated in the context of AASHTO standards for bicycle facilities and of equestrian trail design standards, and any deficiencies remedied.

The City should also look at how bicyclists will access the ACDC trail if they are approaching from area streets. Comfortable radii of curvature, in particular, should be provided at link trail intersections, along with directional and warning signs.

The ACDC bridges and associated landscaping, as planned, should provide reasonable screening for the Channel from street views.

RECOMMENDATIONS:

1. **Review bridges and link trails for conformance to AASHTO standards for bicycle facilities and to equestrian trail design standards; remedy any identified deficiencies.**
2. **Study the Central Avenue crossing of the trail and make recommendations for signage, markings, signalization or other improvements to increase safety for trail users.**

c. Underpasses

Underpasses are provided at 7th Street and at Northern Avenue. No underpass is planned at Central Avenue, which was given a "medium/high" priority for underpass provision. This crossing is a considerable distance from any signalized intersection, so trail users must negotiate a mid-block crossing. Central Avenue is very close to Sunnyslope High School and it is anticipated that the trail will be used extensively by students. Steps should be taken to head off a

potentially hazardous situation at this trail crossing.

RECOMMENDATIONS:

1. (Same as #2, previous page) Study the Central Avenue crossing of the trail and make recommendations for signage, markings, signalization or other improvements to increase safety for trail users.

d. **Landscaping**

Is landscaping planned at a level (size, type, number of plants) appropriate to the area?

No. Landscaping should be intensified through this predominantly residential area. Increased numbers and/or sizes of plants are needed. Use of landscape materials that relate to established neighborhood landscape character should be considered. Input from residents of the area indicated desire for tall trees, low landscaping underneath and a "non-desert" look. Landscaping should have a slightly more urban, or "old Phoenix" look here.

Problems reported in Subreach 13 in situations where homes face the ACDC should be reviewed and improved designs used where there are similar situations here (e.g., Las Palmaritas). In particular, the visual barrier walls and steep slopes behind them should be reconsidered. Perhaps terraced retaining walls can help stabilize the slopes.

Major intersections with potential for recreation, open space or neighborhood theme establishment:

- o Northern Avenue crossing (staging area planned)
- o 7th Street - north side of Channel, gateway
- o Central Avenue - north side of Channel, gateway

Village interest is strong. Great opportunities were identified for neighborhood parks and landscape gateways here.

HIGH priority was assigned to providing additional planting on the south bank of the ACDC due to heavy trail use.

Significant mature vegetation will be removed for construction of the ACDC. Strong neighborhood concern has been expressed about removal of trees in this area.....but by the time City Council reviews this report, most of the trees will be gone. Eucalyptus trees at Northern Avenue will remain, but the grove of mesquites and other trees in the Bud Brown's Barn area are slated for removal. Additional mesquite and some palms are located between Harmont and Griswold Streets; and mature shade trees are located on the Channel side of Las

Palmaritas. These trees are important to neighborhood character. If they are removed, they should be replaced with specimen plantings as close to the removed trees as possible. The Committee recognizes that the cost of this will not be small, but feels strongly that it is important to adjoining residents and to the amenity of the trail system.

Concern was expressed regarding possible decrease in security and privacy due to the ACDC construction. The suggestion of removing the north side maintenance road was made or of taking other steps to prohibit access to the road where it is next to homes (e.g., barrier landscaping, serious gates barring access to the road). Many people have only chain link fences at their rear property lines, so the ACDC trail and maintenance road may decrease the privacy and security of their homes and yards.

Residents in this subreach have been very vocal about the negative aesthetic impacts of ACDC on their neighborhoods. They feel (with reason) that the open Channel will seriously damage the character of attractive, stable neighborhoods for both trail users and residents. Specific areas providing input have been:

1. Sundance Apartment residents
2. Torre Blanca homeowners
3. Bud Brown's Barn
4. Owners and residents of Pueblo Hermosa
5. Las Palmaritas homeowners
6. Other residents on both sides of the Channel.

There was a concern about potential for trail users' parking on private property or neighborhood streets. Although a staging area is planned at Northern Avenue, no parking is included.

RECOMMENDATIONS:

- 1. Provide increased/intensified landscaping in this subreach, appropriate to surrounding residential areas.**
- 2. Include plant materials that relate to established neighborhood landscape character or to theme plantings adopted as part of the Specific Plan process for this area.**
- 3. Where homes face the ACDC, provide an improved visual barrier wall and associated landscaping, taking into account comments and recommendations for Subreach 13.**
- 4. Prepare plans for "gateways" or other distinctive aesthetic treatments at Northern, 7th Street and Central**

Avenue.

5. Add landscaping along south bank of ACDC, between the trail and the Channel. Explore possible realignment of the trail in cooperation with Salt River Project if necessary to accomplish this.
6. Where mesquite, palms and other mature trees are removed to allow construction of ACDC, it is strongly recommended that specimen trees of similar varieties be installed, of sizes as close to those of the trees removed as possible.
7. Take steps to protect the privacy and security of homes along the ACDC through barrier fencing or landscaping (see Figure 7, following p. 57).
8. Provide parking for trail users within the staging area planned at Northern Avenue, to discourage parking on neighborhood streets and private property in the area.

e. Parks and Schools

No parks or schools adjoin ACDC in this subreach.

RECOMMENDATIONS: None

f. Trails

Trail design standards referenced earlier (AASHTO, equestrian trails) should be applied to this area. This is an area of very heavy trail use.

A number of people were concerned about using the north ACDC maintenance road as a trail. Since the "official" ACDC trail is on the south bank of the Channel, steps should be taken to discourage access to the north maintenance road, and to provide security fencing where it passes next to homes.

The existing trail on the south bank of the Arizona Canal was seen as preferable to the ACDC trail by some people due to afternoon shade from existing trees. The desire to keep this trail intact as an alternate route was expressed.

Connection to other trails:

The Murphy Bridle Path extends south from the Arizona Canal to Bethany Home Road. Although no longer used extensively by horsemen, the path has heavy use by walkers, joggers and

some bicyclists. Good access to/from the ACDC trail from this path should be provided.

Canal bridge sidewalks do not meet referenced trail design standards and should be improved to allow safe access to the ACDC trails from area streets.

RECOMMENDATIONS:

1. **Take steps to discourage access to the north ACDC maintenance road for trail users, and provide security fencing where the road adjoins residential areas.**
2. **Improve trail design in conformance with design standards referenced in this report, including upgrading of canal bridges that will be used for access to the ACDC trail.**
3. **Explore the possibility of maintaining the existing Arizona Canal trail as an alternate trail route in this heavy-use area.**

I. REACH 4: Western Reach 4 Boundary to State/14th Street
(Subreach 6, Figure 17)

1. Summary of Recommendations

a. Covering/Decking

1. Give a HIGH priority to future decking/covering of this portion of the ACDC. Take steps, as needed, to design the Channel now to allow future decking.
2. As an interim measure, install increased numbers and sizes of trees to create a dense canopy that will soften views of the ACDC from second-story homes and generally add to the aesthetics of the Channel for residents and trail users.

b. Bridges

1. Bridges used for access to/from the ACDC trail (ACDC bridge and Canal bridge) should meet AASHTO and other accepted standards for all types of trail users.
2. Steps should be taken to enhance visibility of the 12th Street ACDC trail crossing with special lighting, signage and pavement markings.

c. Underpasses

1. For reasons of safety and trail continuity, it is strongly recommended that an underpass be constructed at 12th Street.

d. Landscaping

1. Design landscaping in this subreach with upgraded plant sizes, spacing to provide screening where needed and use of plant materials consistent with neighborhood character. Intensify landscape treatments at 12th Street, where homes face the ACDC and where multi-story homes are located adjacent to the Channel.
2. Explore possibility of planning special landscaping, recreation or public art treatments reflecting neighborhood character at 12th Street and along Orangewood/State Street/14th Street.
3. Where mesquite and other mature trees are impacted by construction of the ACDC, it is strongly recommended that they be preserved in place. If this cannot be done, the trees should be relocated within the same general area. An inventory should be prepared identifying and locating all significant trees in the ACDC corridor for this subreach.

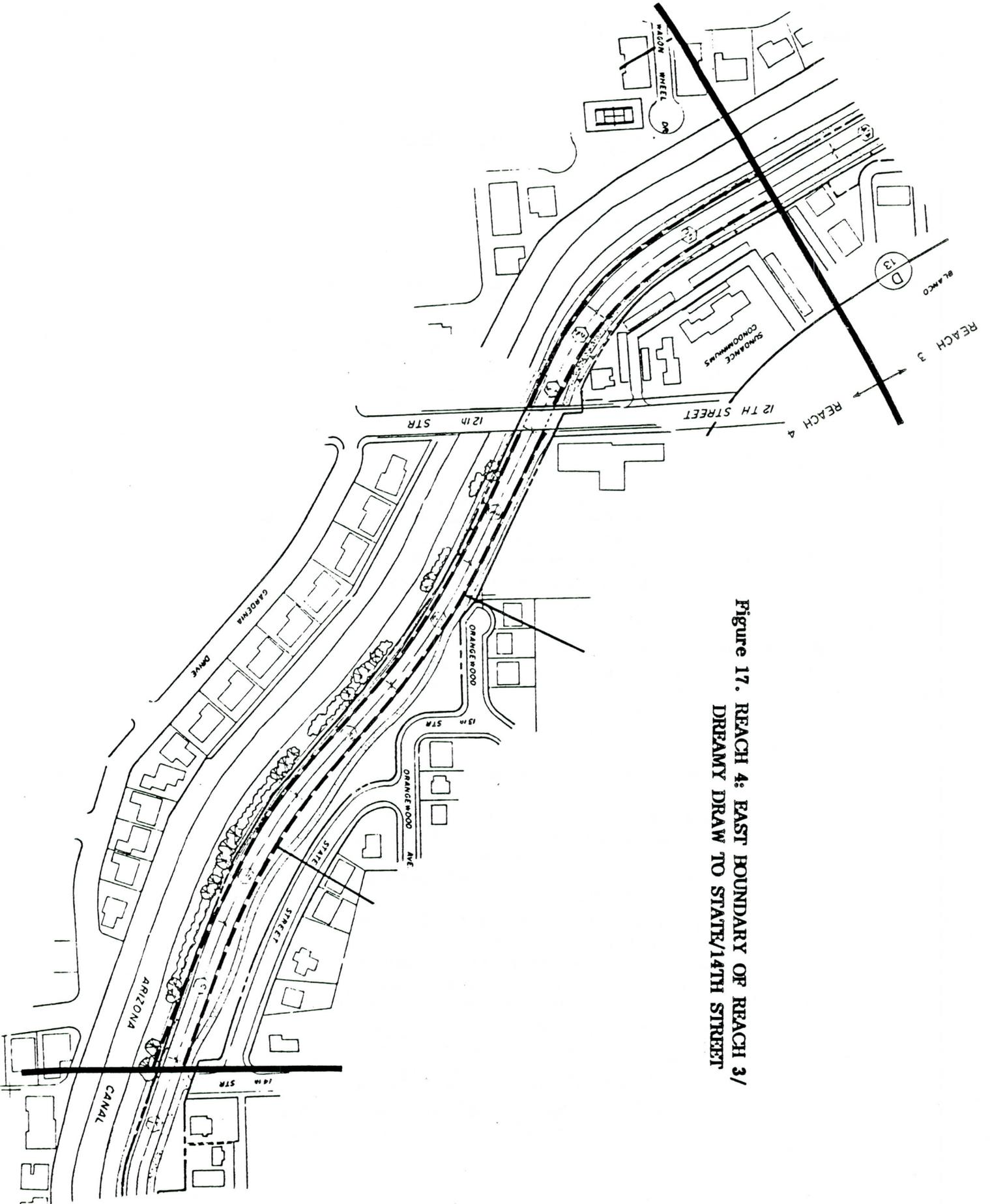


Figure 17. REACH 4: EAST BOUNDARY OF REACH 3/
DREAMY DRAW TO STATE/14TH STREET

4. Increase the amount of landscaping provided on the south bank of the ACDC. Explore possible realignment of the trail to provide additional area for landscaping.
5. Take steps to protect the privacy of homes along the ACDC and to assure a high level of security (see also recommendations for Subreach 7).
6. Design the ACDC landscaping to include "green" (but water conservative) ground covers and a mix of shrubs and trees that reflect the character of existing landscaping in adjoining neighborhoods.

e. Parks and Schools

No parks or schools in this subreach; no recommendations.

f. Trails

1. Use of the north ACDC maintenance road as an "official" trail should not be encouraged unless measures are taken to protect security and privacy for homes along this road; to provide access between the north and south trails (perhaps via pedestrian/trail bridges); and to upgrade all bridges and stretches of road that must be crossed to get from the north maintenance road to underpasses or marked trail crossings at major streets.

2. Analysis and Conclusions

a. Covering/Decking

Overall, Subreach 6 was assigned a "high" priority for decking of the ACDC for the following reasons:

- o Many children live in the area, and decking would increase safety;
- o There is very heavy trail use in this area, even with the limited trail facilities available today;
- o ACDC has high visibility for trail users and for multi-story homes along the Channel;
- o A large group of people, therefore (adjacent residents and trail users), must look at ACDC for extended periods of time (as opposed to motorists, who cross ACDC quickly and may have only a momentary view).

If the ACDC were to be decked in this subreach, the decked area could be combined with adjoining "leftover" parcels of land to create much-needed neighborhood play areas, mini-parks or open space (e.g., along State Street and Orangewood Drive).

RECOMMENDATIONS:

1. Give a HIGH priority to future decking/covering of this portion of the ACDC. Take steps, as needed, to design the Channel now to allow future decking.
2. As an interim measure, install increased numbers and sizes of trees to create a dense canopy that will soften views of the ACDC from second-story homes and generally add to the aesthetics of the Channel for residents and trail users.

b. Bridges

Within the subreach, a bridge is located at 12th Street.

People traveling east or west along the ACDC trail will not need to use the bridge to cross 12th Street. No underpass is provided at this midblock crossing. Since there are no signalized intersections nearby, people will have to wait for a break in traffic and dash across 12th Street to continue down the trail on the other side.

People wanting to go to or from 12th Street and the ACDC trail may need to walk or ride on the ACDC bridge sidewalk and the Arizona Canal bridge sidewalk:

From the south - people will cross the Canal bridge.

This bridge, as it exists, has a narrow sidewalk on the west side of the street and no sidewalk on the east side. Bridge railing height and design is substandard for trail use. The Canal bridge should be improved to design standards for trails referenced in this report.

From the north - people will cross the ACDC bridge.

This bridge should be designed to accommodate all types of ACDC trail users, per suggested standards.

It was noted that this trail crossing has poor visibility from 12th Street. Warning signs, pavement markings, special lighting and other methods should be used to alert motorists to the presence of the trail and to alert trail users to potentially heavy cross-traffic.

RECOMMENDATIONS:

1. **Bridges used for access to/from the ACDC trail (ACDC bridge and Canal bridge) should meet AASHTO and other accepted standards for all types of trail users.**

2. Steps should be taken to enhance visibility of the 12th Street ACDC trail crossing with special lighting, signage and pavement markings.

c. **Underpasses**

No underpasses are proposed in this subreach.

A HIGH overall priority for underpass provision at 12th Street was given by the Committee due to heavy trail use, high traffic volumes on 12th Street (12th Street is a significant barrier to trail continuity) and distance from a signalized intersection (approximately 1/2 mile).

RECOMMENDATION:

1. **For reasons of safety and trail continuity, it is strongly recommended that an underpass be constructed at 12th Street.**

d. **Landscaping**

Although final landscaping plans have not yet been prepared for Reach 4, concept plans were reviewed to give the Committee an idea of the type of landscaping intended. It was possible to compare landscape "modules" shown on concept plans with final (or pre-final) plans developed for similar modules in other parts of the ACDC.

With this in mind, the Committee found that sizes, spacing and types of plant materials (in some cases) were not sufficient to provide screening. In this high-trail use part of the ACDC, extending through a predominantly residential area, improved landscaping is strongly recommended. Proposed landscaping was cited by Committee members as being "very sparse," with 5- and 15-gallon trees and widely spaced shrubs.

Plant materials should especially be increased in size and (possibly) number at 12th Street, where homes face the ACDC and where multi-story homes are located adjacent to the Channel.

Areas where there is potential for special "theme" open space, recreation, public art and landscaping:

- o Along Orangewood/State Street/14th Street
- o At the 12th Street crossing

A high priority was assigned to providing additional landscaping on the south bank of the ACDC in this subreach due to heavy projected trail use and high visibility of the trail.

High priority was assigned to preserving the mature mesquite trees found in this subreach on the north side of the Channel.

In some areas, construction of the ACDC and related trail use may decrease privacy and security for homes adjacent to the Channel. This is particularly true where homes face the channel and where the north-side maintenance road is likely to be used as a trail (e.g., State Street, Sundance Condominiums).

ACDC landscape character is not consistent with the type of landscaping in adjoining neighborhoods. The arid-region style ACDC plantings will contrast sharply with the "green" style of landscaping found in adjoining residential areas. Although high-water use plant materials are not recommended, it may be possible to use denser planting of "green" ground covers such as myoporum and to add trees and shrubs similar to those used in existing neighborhoods to the ACDC plant palette.

RECOMMENDATIONS:

1. **Design landscaping in this subreach with upgraded plant sizes, spacing to provide screening where needed and use of plant materials consistent with neighborhood character. Intensify landscape treatments at 12th Street, where homes face the ACDC and where multi-story homes are located adjacent to the Channel.**
2. **Explore possibility of planning special landscaping, recreation or public art treatments reflecting neighborhood character at 12th Street and along Orangewood/State Street/14th Street.**
3. **Where mesquite and other mature trees are impacted by construction of the ACDC, it is strongly recommended that they be preserved in place. If this cannot be done, the trees should be relocated within the same general area. An inventory should be prepared identifying and locating all significant trees in the ACDC corridor for this subreach.**
4. **Increase the amount of landscaping provided on the south bank of the ACDC. Explore possible realignment of the trail to provide additional area for landscaping.**
5. **Take steps to protect the privacy of homes along the**

ACDC and to assure a high level of security (see also recommendations for Subreach 7).

6. Design the ACDC landscaping to include "green" (but water conservative) ground covers and a mix of shrubs and trees that reflect the character of existing landscaping in adjoining neighborhoods.

e. **Parks and Schools**

No parks or schools are found in this subreach.

RECOMMENDATIONS: None

f. **Trails**

Previously made comments on trail design standards also apply to this subreach.

There are no connections to other trail systems in this subreach.

The intended use of the north maintenance road along the ACDC should be clarified. From concept plans, it looks as though the north road is planned for trail use. If this is the case, then questions arise about security and privacy for adjoining homes and about access between north and south trails at major street crossings.

RECOMMENDATION:

1. Use of the north ACDC maintenance road as an "official" trail should not be encouraged unless measures are taken to protect security and privacy for homes along this road; to provide access between the north and south trails (perhaps via pedestrian/trail bridges); and to upgrade all bridges and stretches of road that must be crossed to get from the north maintenance road to underpasses or marked trail crossings at major streets.

J. REACH 4: 14th Street to 19th Street/Squaw Peak Parkway
(Subreach 5, Figure 18)

1. Summary of Recommendations

a. Covering/Decking

1. Give high priority to consideration of future decking in the 16th Street/Glendale Avenue/ACDC triangle. If decking is provided here, set aside adequate area for landscape buffering of the homes at Monteil (adjacent to the north) and maintain trail continuity.
2. Also consider for future decking the remaining portions of this subreach due to heavy project trail use, proximity of residences and limited right-of-way for provision of trail amenities.

b. Bridges

1. Increase landscaping at bridge approaches on Glendale and on 16th Streets to screen the Channel from street view.
2. Design ACDC bridges and improve connecting Arizona Canal bridges in conformance with previously referenced standards.

c. Underpasses

1. Add trail bridges across the Arizona Canal on north and south sides of Glendale Avenue to provide safe access to underpasses.

d. Landscaping

1. Design landscaping to include plant materials and general character representative of those found in adjoining neighborhoods.
2. Increase the size and number of plant materials to create a level of landscaping quality appropriate to the high visibility of this area, to the ACDC's exposure from adjacent homes and to trail users.
3. Prepare and implement design plans for special aesthetic treatment of the 16th Street/Glendale/ACDC triangle to create, for example, a gateway, theme landscaping, public art site, trail rest area or similar amenity.
4. Plan for additional landscaping on south banks of the ACDC and Arizona canal in the vicinity of the 16th Street/Glendale intersection.
5. Where mesquite and other mature trees are impacted by

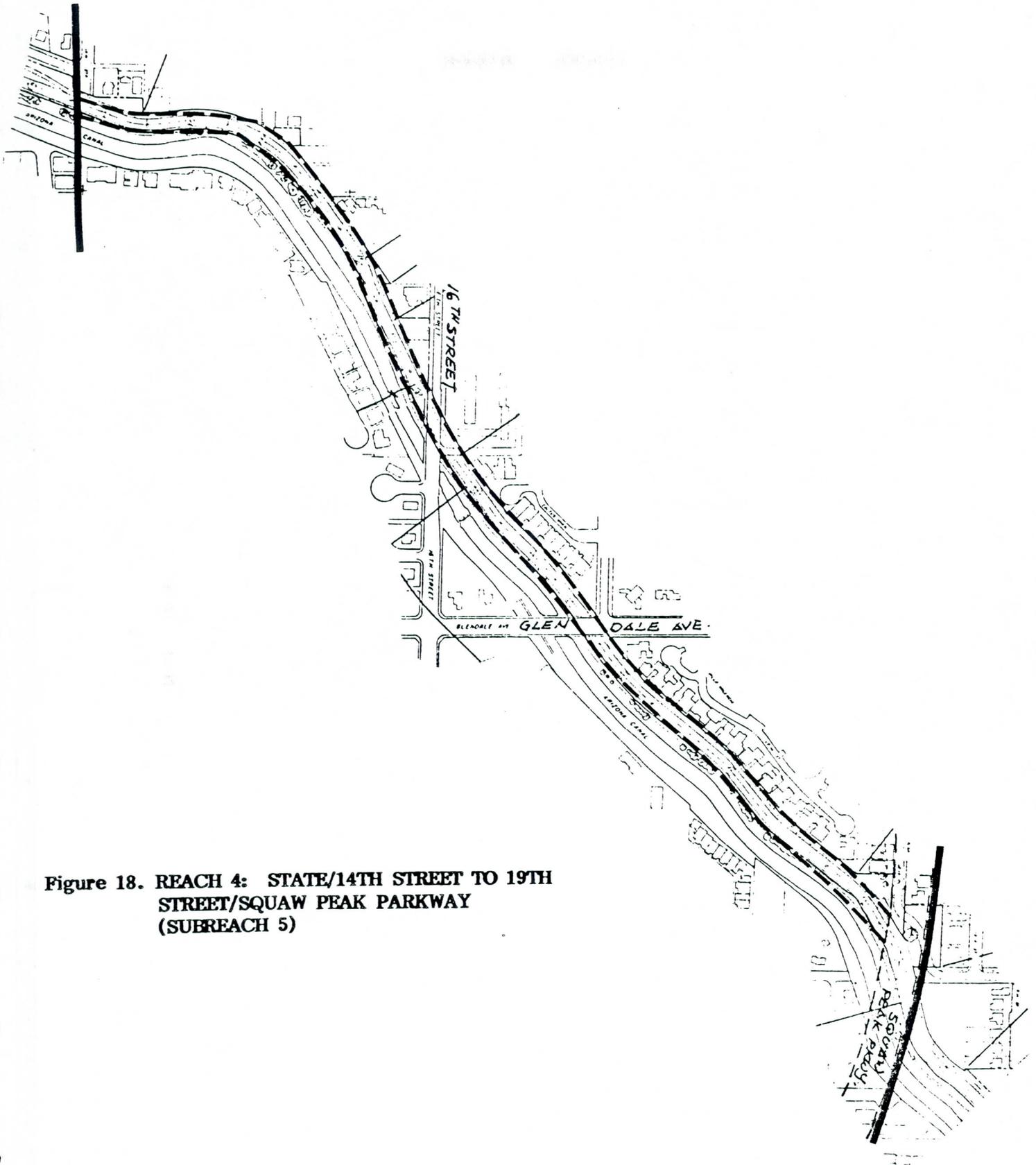


Figure 18. REACH 4: STATE/14TH STREET TO 19TH STREET/SQUAW PEAK PARKWAY (SUBREACH 5)

construction of the ACDC, it is strongly recommended that they be preserved in place. If this cannot be done, the trees should be relocated within the same general area or replaced with trees of the same variety and as close to the original size as possible. An inventory should be prepared identifying and locating all significant trees in the ACDC corridor for this subreach.

6. Eliminate the north ACDC maintenance road between 16th Street and Glendale Avenue. Provide a dense landscape buffer between the north side of the Channel and adjoining homes. Work with homeowners to achieve a satisfactory landscaping scheme and to explore the possibility of their participation in maintenance (if necessary).

e. Parks and Schools

No parks or schools in this subreach/no recommendations.

f. Trails

1. Plan and construct a trail rest area in the vicinity of the Glendale/16th Street/ACDC triangle (water, shade, trail information, other amenities).
2. Design the ACDC trails in conformance with accepted standards for trail design (AASHTO, for bicycles), taking into account all user types, potential shared use and conflicting needs.

2. Analysis and Conclusions

a. Covering/Decking

The following ratings were assigned for decking priorities:

- o 14th Street to Glendale Avenue --- High priority
- o Glendale Avenue to 19th Street --- Medium priority

Both areas experience very heavy trail use.

Highest priority was assigned to the triangle formed by the ACDC and Arizona Canal at the northeast corner of 16th Street and Glendale. The ACDC will be highly visible here. Decking the "triangle" can create opportunity for new uses at this corner and provide sufficient area for high-quality buffering of homes at Monteil. Problems of trail access to the existing underpass on the south side of the Arizona Canal could partially be resolved by decking here.

RECOMMENDATIONS:

1. Give high priority to consideration of future decking in the 16th Street/Glendale Avenue/ACDC triangle. If decking is provided here, set aside adequate area for landscape buffering of the homes at Monteil (adjacent to the north) and maintain trail continuity.
2. Also consider for future decking the remaining portions of this subreach due to heavy project trail use, proximity of residences and limited right-of-way for provision of trail amenities.

b. Bridges

Three bridges are located in this subreach:

- o Glendale Avenue
- o 16th Street
- o Squaw Peak Parkway.

The Glendale Avenue and 16th Street ACDC and Arizona Canal bridges may be crossed by trail users coming to or leaving the ACDC trail and using the Glendale Avenue underpass on the south side of the Arizona Canal. It is important that these bridges be designed in conformance with AASHTO standards for bicycle facilities and/or equestrian trail standards, whichever is more restrictive. The ACDC trail is part of the Sun Circle Trail, a National Recreation Trail that can be expected to be used by equestrians as well as by bicyclists and pedestrians. All users' needs must be considered.

Landscape screening of the ACDC from bridge approaches should be improved through use of additional and larger plant materials. This is particularly true for the west side of 16th Street (southbound traffic; may back up at signal) and for the north side of Glendale (westbound traffic often backs up at signal).

RECOMMENDATIONS:

1. Increase landscaping at bridge approaches on Glendale and on 16th Streets to screen the Channel from street view.
2. Design ACDC bridges and improve connecting Arizona Canal bridges in conformance with previously referenced standards.

c. Underpasses

An existing underpass is located on the south side of the Arizona Canal at Glendale Avenue. A new underpass is to be constructed at 16th Street, on the south side of ACDC. The ACDC trails will pass under the Squaw Peak Parkway bridge through a broad, open area.

Getting from the ACDC trail to the Glendale underpass and back again will not be an easy task, under the present design scenario. Trail users going west on the ACDC will have to ride against traffic either in the Glendale Avenue roadway or on the ACDC and Arizona Canal bridge sidewalks and then down a ramp and around a sharp turn into the underpass. The Arizona Canal bridge sidewalk is narrow, with relatively low railings and is substandard for intended trail use (bi-directional travel, horses, bicycles, pedestrians, handicapped). After passing through the underpass to the north side of Glendale, the trail user will have to get to the north side of the Arizona Canal and on to the ACDC trail and the 16th Street underpass. This will involve more riding against traffic and using bridges (if on Glendale) or crossing to 16th Street and going north and looping around to the underpass. Short of relocating the Glendale underpass, a possible way to simplify this situation and improve safety is to:

- o add a trail bridge across the Arizona Canal east of the Glendale crossing;
- o add a trail bridge across the Arizona Canal in the Glendale/ACDC/16th Street triangle.

Although it appears that the Glendale underpass has recently been "remodeled", getting to it still remains a basic problem for trail users. Many may try a dangerous midblock crossing (as they now do) rather than negotiate the complex series of maneuvers (some of them almost as dangerous) to use the underpass.

RECOMMENDATION:

- 1. Add trail bridges across the Arizona Canal on north and south sides of Glendale Avenue to provide safe access to underpasses.**

d. Landscaping

This subreach includes high visibility for the ACDC and several stretches where homes adjoin the Channel. According to conceptual plans available to the Committee, relatively modest levels of arid region landscaping are proposed. The Committee feels that landscaping here should be intensified (increased in size, number of plants/spacing) and should

include a plant palette reflective of surrounding neighborhoods.

The Glendale/16th Street/ACDC triangle represents a significant opportunity for special aesthetic treatment. This could take the form of a public art project, trail rest area, theme landscaping or gateway.

Additional landscaping should be provided on the south banks of both ACDC and the Arizona Canal in the vicinity of the 16th Street/Glendale intersection. This is a high visibility area, seen from many angles and with homes adjoining ACDC on its north side. Special treatment is appropriate here.

There are existing mesquite trees along the north side of the ACDC alignment east of Glendale Avenue. These trees should be saved if at all possible.

Within the 16th Street/Glendale/ACDC triangle, the ACDC may have a negative impact on privacy and security for Monteil homeowners. This is in part due to the presence of the north maintenance road. Due to very limited right-of-way in this area, the road and minimal landscaping are planned next to the Monteil homes. **Homeowners have expressed a strong concern about this situation.** Removal of the north maintenance road for the short stretch between Glendale and 16th Street and addition of a dense landscape buffer would discourage access to and greatly enhance the area. Monteil homeowners who talked to the Committee indicated that they would be willing to participate in landscaping costs and maintenance if necessary to achieve desired buffering.

RECOMMENDATION:

1. **Design landscaping to include plant materials and general character representative of those found in adjoining neighborhoods.**
2. **Increase the size and number of plant materials to create a level of landscaping quality appropriate to the high visibility of this area, to the ACDC's exposure from adjacent homes and to trail users.**
3. **Prepare and implement design plans for special aesthetic treatment of the 16th Street/Glendale/ACDC triangle to create, for example, a gateway, theme landscaping, public art site, trail rest area or similar amenity.**
4. **Plan for additional landscaping on south banks of the ACDC and Arizona canal in the vicinity of the 16th Street/Glendale intersection.**

5. Where mesquite and other mature trees are impacted by construction of the ACDC, it is strongly recommended that they be preserved in place. If this cannot be done, the trees should be relocated within the same general area or replaced with trees of the same variety and as close to the original size as possible. An inventory should be prepared identifying and locating all significant trees in the ACDC corridor for this subreach.
6. Eliminate the north ACDC maintenance road between 16th Street and Glendale Avenue. Provide a dense landscape buffer between the north side of the Channel and adjoining homes. Work with homeowners to achieve a satisfactory landscaping scheme and to explore the possibility of their participation in maintenance (if necessary).

e. **Parks and Schools**

No parks or schools are located in this subreach.

RECOMMENDATIONS: None

f. **Trails**

This is one of the highest trail-use areas in the ACDC corridor. Bicyclists, hikers, joggers, walkers, horsemen, roller-skaters of all ages and types can be found here in great numbers. For the sake of their safety and of the quality of the recreational experience, the Committee strongly urges improvement of the ACDC trail design to bring it into conformance with standards applicable to all user groups. The trail needs of horsemen, bicyclists, joggers and the handicapped all must be taken into account. These needs sometimes conflict and resolution of these conflicts will require creativity and common sense.

Connections to other trails in this subarea include:

- o The Perl Charles Trail (1A), extending north from the ACDC on 16th Street to the Mountain Preserve (see "General Recommendations: Trails").

Potential staging or rest areas:

Granada Park (Subreach 4) is located nearby and well-equipped to serve as a major staging area in this general vicinity. A trail rest area, however, with water, shade, waste receptacles and trail information should be

considered in or near the Glendale/16th Street/ACDC triangle (close to Perl Charles Trail intersection).

RECOMMENDATIONS:

1. Plan and construct a trail rest area in the vicinity of the Glendale/16th Street/ACDC triangle (water, shade, trail information, other amenities).
2. Design the ACDC trails in conformance with accepted standards for trail design (AASHTO, for bicycles), taking into account all user types, potential shared use and conflicting needs.

K. REACH 4: 19th Street/Squaw Peak Parkway to 24th Street
(Subreach 4, Figure 19)

1. Summary of Recommendations

a. Covering/Decking

1. Consider future decking within this subreach for the safety of trail and park users and to mitigate the visual impact of the ACDC for nearby residents.

b. Bridges

1. Design and construct the ACDC bridges in this subreach in accordance with trail design standards referenced in this report.
2. Improve the existing Canal bridges so they meet the same design standards as the ACDC bridges (see #1).
3. Design landscaping at bridge approaches to screen the ACDC channel from street view.

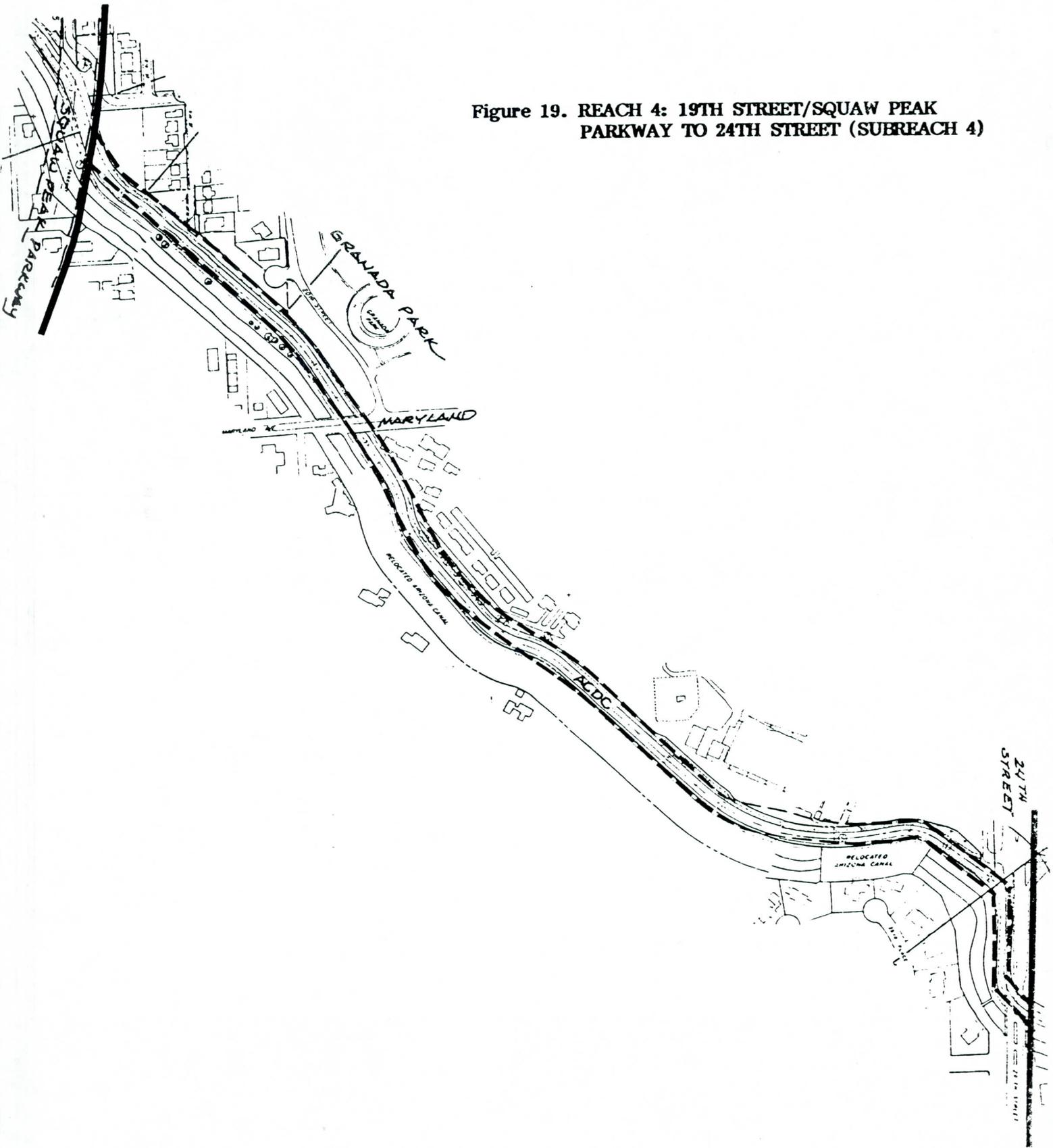
c. Underpasses

1. Design the underpass at 24th Street and associated approaches in conformance with trail design standards referenced in this report.

d. Landscaping

1. Develop landscape plans to provide a "high" level of landscaping within this subreach.
2. Include plant materials that reflect the landscape character of adjoining neighborhoods and of Granada Park in ACDC landscaping.
3. Study and take advantage of opportunities for theme landscaping, public art sites and other amenities in cooperation with the Village Planning Committee, Phoenix Arts Commission and other groups.
4. Work with Salt River Project to find a way to increase landscaping on the south bank of the ACDC, between the trail and the Channel.
5. Where mesquite and other mature trees are impacted by construction of the ACDC, it is strongly recommended that they be preserved in place. If this cannot be done, the trees should be relocated within the same general area or replaced with trees of the same variety and as close to the original size as possible. An inventory should be prepared identifying and locating all significant trees in the ACDC corridor for this subreach.
6. Steps should be taken during preparation of landscaping

Figure 19. REACH 4: 19TH STREET/SQUAW PEAK
PARKWAY TO 24TH STREET (SUBREACH 4)



plans for this part of the ACDC to work with neighbors to provide buffers, ensuring private and security for home owners and other residents.

e. Parks and Schools

1. Take aggressive steps to improve the appearance of ACDC in this area through higher-quality landscaping, public artworks, creation of a "gateway" at Maryland, possible decking of the Channel and other means.

f. Trails

1. Support the enhancement of staging areas for trail users at Granada Park.
2. Provide a detailed review of trail designs for this area to assure that the needs of all user groups are met, in conformance with standards referenced in this report.

2. Analysis and Conclusions

a. Covering/Decking

The subreach was assigned a high priority for covering/decking. This a high trail use area, including Granada Park and connecting to the Arizona Biltmore area. The Channel will be prominently visible from the park and from homes adjoining it.

RECOMMENDATION:

1. **Consider future decking within this subreach for the safety of trail and park users and to mitigate the visual impact of the ACDC for nearby residents.**

b. Bridges

Bridge provided in this subreach are:

- o Maryland Avenue
- o 24th Street

As in other subreaches, the bridges as previously designed are substandard for the mix of trail users expected on the ACDC. People will use both ACDC bridge and Canal bridge to get to the ACDC trails and from the trails to Granada Park and homes in the area. It is important that both Canal and ACDC bridges be designed to standards that take into account the

needs of all trail users -- equestrians, bicyclists, pedestrians and the handicapped.

Landscaping at bridge approaches should be designed to screen the ACDC channel from street view.

RECOMMENDATION:

1. **Design and construct the ACDC bridges in this subreach in accordance with trail design standards referenced in this report.**
2. **Improve the existing Canal bridges so they meet the same design standards as the ACDC bridges (see #1).**
3. **Design landscaping at bridge approaches to screen the ACDC channel from street view.**

c. Underpasses

No underpass is planned at Maryland Avenue.

An existing underpass will be incorporated into the ACDC trail at 24th Street.

Traffic on Maryland is relatively light; and the Committee did not assign a high priority to providing an underpass at this crossing.

The underpass at 24th Street (existing) will be used as part of the ACDC trail system. No plans were discussed with the Committee illustrating how the 24th Street underpass will function, since it will cross 24th Street within a decked portion of the ACDC. The crossing and associated approaches from 24th Street should conform to AASHTO standards for bicycle facilities and to accepted equestrian trail standards.

RECOMMENDATION:

1. **Design the underpass at 24th Street and associated approaches in conformance with trail design standards referenced in this report.**

d. Landscaping

The Committee found a "high" level of landscaping to be appropriate within this subreach, although conceptual landscaping plans for the ACDC do not reflect this "high" level. When final landscaping plans are developed, they should include generally increased plant sizes, review of plant materials to replace frost-sensitive plants and to add plants that reflect the landscape character of adjoining

neighborhoods and Granada Park.

Opportunities for public artworks, for theme landscaping, gateways or special recreation/open space amenities:

- o Granada Park
- o Maryland Avenue crossing (gateway to the park)
- o 24th Street crossing, in decked area

HIGH priority was assigned to provision of additional landscaping between the trail and the ACDC channel (south bank of the channel).

Mesquite and palo verde trees in the vicinity of Granada Park may be impacted by ACDC construction. These trees should be saved in place or relocated within the same general area.

The security and privacy of patio homes and the retirement home adjoining the ACDC may be impacted. The specific situations of affected properties should be examined, and recommendations made for mitigation.

RECOMMENDATIONS:

1. **Develop landscape plans to provide a "high" level of landscaping within this subreach.**
2. **Include plant materials that reflect the landscape character of adjoining neighborhoods and of Granada Park in ACDC landscaping.**
3. **Study and take advantage of opportunities for theme landscaping, public art sites and other amenities in cooperation with the Village Planning Committee, Phoenix Arts Commission and other groups.**
4. **Work with Salt River Project to find a way to increase landscaping on the south bank of the ACDC, between the trail and the Channel.**
5. **Where mesquite and other mature trees are impacted by construction of the ACDC, it is strongly recommended that they be preserved in place. If this cannot be done, the trees should be relocated within the same general area or replaced with trees of the same variety and as close to the original size as possible. An inventory should be prepared identifying and locating all significant trees in the ACDC corridor for this subreach.**
6. **Steps should be taken during preparation of landscaping plans for this part of the ACDC to work with neighbors to provide buffers, ensuring private and security for home owners and other residents.**

e. Parks and Schools

Granada Park is located within this subreach, at 20th Street.

Granada Park is an important recreational amenity for this part of Phoenix. It is an attraction to children, bicycle clubs and other potential trail users. No recreational facilities will be lost at Granada Park as a result of ACDC construction.

RECOMMENDATION:

1. **Take aggressive steps to improve the appearance of ACDC in this area through higher-quality landscaping, trails, public artworks, creation of a "gateway" at Maryland, possible decking of the Channel and other means.**

f. Trails

Granada Park is currently used as a major staging area for the Arizona Canal trail. This use should be maintained and enhanced as the ACDC trail is developed.

Trails here, as elsewhere, must be designed to a high standard, in accordance with referenced plans.

RECOMMENDATIONS:

1. **Support the enhancement of staging areas for trail users at Granada Park.**
2. **Provide a detailed review of trail designs for this area to assure that the needs of all user groups are met, in conformance with standards referenced in this report.**

L. REACH 4: 24th Street to 32nd Street (Arizona Biltmore)
(Subreach 3, Figure 20)

1. Summary of Recommendations

a. Covering/Decking

1. Install a dense landscape buffer between the ACDC trail and the Channel. Work with Salt River Project as needed for trail realignment to provide an area large enough to accommodate ample buffer plantings.

b. Bridges

1. Increase landscaping levels at and approaching the 32nd Street bridge to provide screening for the Channel.
2. Design or retrofit bridges to previously referenced trail standards to maximize safety for all trail users.

c. Underpasses

1. Provide an underpass at 32nd Street.

d. Landscaping

1. Upgrade landscaping of undecked portions of the ACDC, using the character of Arizona Biltmore plantings as a theme (eucalyptus, tall shade trees, more "urban" plantings).
2. Work with Salt River Project to find a way to increase landscaping on the south bank of the ACDC, between the trail and the Channel.
3. Where mature trees and other significant plant materials are impacted by construction of the ACDC, it is strongly recommended that they be preserved in place. If this cannot be done, the trees should be relocated within the same general area or replaced with trees of the same variety and as close to the original size as possible. An inventory should be prepared identifying and locating all significant trees in the ACDC corridor for this subreach.
4. Work with homeowners along the north side of the ACDC Channel to design and install security fencing, screening and other improvements to increase privacy and security.

e. Parks and Schools

No parks or schools in this subreach/no recommendations.

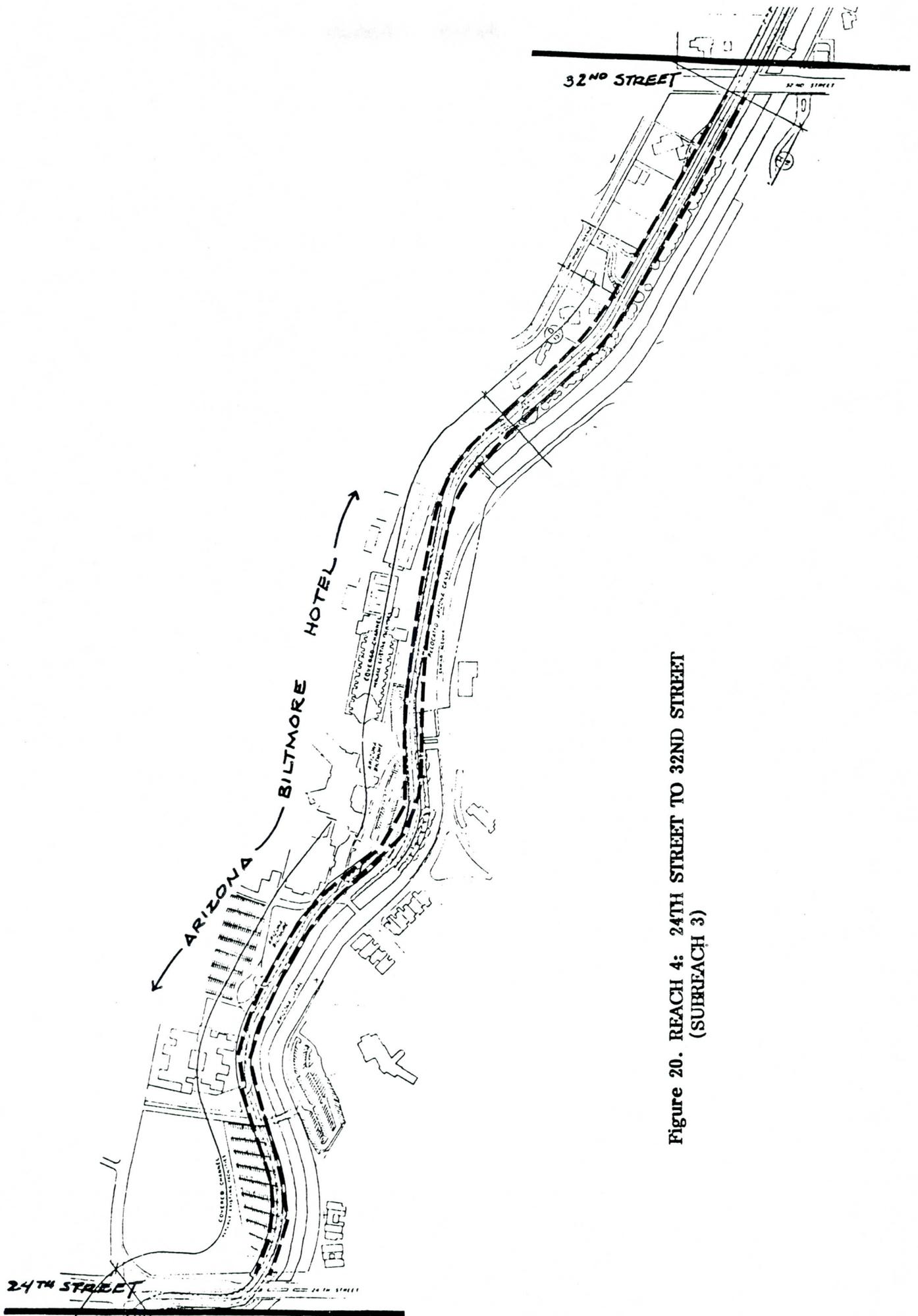


Figure 20. REACH 4: 24TH STREET TO 32ND STREET
 (SUBREACH 3)

f. Trails

1. Take any necessary steps to assure construction of a continuous trail between 24th Street and 32nd Street, accessible to the public.
2. Develop a plan for the connection to the Mountain Preserve trail planned at approximately 28th Street (north of ACDC) including, if necessary, a trail bridge to provide access to the ACDC trail.

2. Analysis and Conclusions

a. Covering/Decking

Decking is planned for most of this subreach, extending from 24th Street east to the east end of the Arizona Biltmore Hotel property. Given the very high use of trails in this area and, therefore, high visibility of the ACDC to walkers, bicyclists, joggers and others, the Committee assigned a high priority to continuing the decking all the way to 32nd Street. Recognizing, however, that homes will not front on the ACDC and that visibility for non-trail users will be low, the alternative of dense landscape screening was discussed.

RECOMMENDATION:

1. **Install a dense landscape buffer between the ACDC trail and the Channel. Work with Salt River Project as needed for trail realignment to provide an area large enough to accommodate ample buffer plantings.**

b. Bridges

A bridge is located in this subreach at 32nd Street

Previously made comments regarding bridge design standards for trail use, retrofitting of Arizona Canal trails and other improvements also apply here.

Landscaping proposed in concept plans at and approaching the bridge does not reflect the importance of this intersection. Landscaping levels should be increased, mitigating the visual impact of the ACDC Channel.

RECOMMENDATIONS:

1. Increase landscaping levels at and approaching the 32nd Street bridge to provide screening for the Channel.
2. Design or retrofit bridges to previously referenced trail standards to maximize safety for all trail users.

c. **Underpasses**

No underpass is provided for the ACDC trail at 32nd Street.

The Committee assigned a HIGH priority to adding an underpass at 32nd Street. This is one of the highest trail-use areas on the ACDC and 32nd Street is a wide street, without safety medians and with high volumes of fast-moving traffic. The underpass is important to providing trail continuity and safety.

RECOMMENDATION:

1. Provide an underpass at 32nd Street.

d. **Landscaping**

Within the decked portion of the ACDC, landscaping (it is assumed) will be similar to that already established in the Arizona Biltmore area.

For undecked portions, landscaping shown on concept plans is minimal and should be upgraded. Mature oleander hedges will be removed with ACDC construction and should be replaced (if possible) with new hedges. Additional trees, shrubs and groundcovers should be provided, using the character of Arizona Biltmore Estates landscaping as a theme.

There is no substantive opportunity within this subreach for creating a rest stop, neighborhood recreation area or similar amenity.

Additional landscaping should be provided on the south bank of the ACDC, to provide screening between the Channel and trail.

Mature trees and other plantings will be removed as part of ACDC construction. These plant materials are important to area character and should be preserved or relocated **if at all possible.**

Homes on the north side of the ACDC may be impacted by ACDC in terms of loss of privacy or perceived decrease in security. Steps should be taken to mitigate this situation.

RECOMMENDATIONS:

1. Upgrade landscaping of undecked portions of the ACDC, using the character of Arizona Biltmore plantings as a theme (eucalyptus, tall shade trees, more "urban" plantings).
2. Work with Salt River Project to find a way to increase landscaping on the south bank of the ACDC, between the trail and the Channel.
3. Where mature trees and other significant plant materials are impacted by construction of the ACDC, it is strongly recommended that they be preserved in place. If this cannot be done, the trees should be relocated within the same general area or replaced with trees of the same variety and as close to the original size as possible. An inventory should be prepared identifying and locating all significant trees in the ACDC corridor for this subreach.
4. Work with homeowners along the north side of the ACDC Channel to design and install security fencing, screening and other improvements to increase privacy and security.

e. Parks and Schools

There are no parks or schools in this subreach.

RECOMMENDATIONS:

None

f. Trails

See previous comments on trail design standards.

The Committee felt strongly that a continuous trail, accessible to the public, must be provided between 24th Street and 32nd Street.

Connections to other trails in area:

- o A planned trail will provide access to the Mountain Preserve at approximately 28th Street. This trail parallels ACDC from 28th Street to 32nd Street and then extends east to 44th Street. Lateral trails are planned extending south from the ACDC along 32nd and 44th Streets.

RECOMMENDATIONS:

1. Take any necessary steps to assure construction of a continuous trail between 24th Street and 32nd Street, accessible to the public.
2. Develop a plan for the connection to the Mountain Preserve trail planned at approximately 28th Street (north of ACDC) including, if necessary, a trail bridge to provide access to the ACDC trail.

M. REACH 4: Stanford Drive Area (Subreach 2, Figure 21)

1. Summary of Recommendations

a. Covering/Decking

No action recommended.

b. Bridges

No bridges in this subreach/no recommendations.

c. Underpasses

No underpasses in this subreach/no recommendations.

d. Landscaping

1. Landscaping of the ACDC in this subreach should reflect the native desert character prevalent in the area.
2. Design and construct aesthetics improvements at the 32nd Street crossing in cooperation with the Phoenix Arts Commission and other appropriate agencies to create a gateway, public art site or distinctive landscape theme statement.
3. Where mature trees and other significant plant materials are impacted by construction of the ACDC, it is strongly recommended that they be preserved in place. If this cannot be done, the trees should be relocated within the same general area or replaced with trees of the same variety and as close to the original size as possible. An inventory should be prepared identifying and locating all significant trees in the ACDC corridor for this subreach.

e. Parks and Schools

No parks or schools in this subreach/no recommendations.

f. Trails

1. Provide a staging area in or near this subreach that will accommodate parking for trail users as well as shade, water and other amenities. If necessary, provide a trail bridge for access to the staging area.
2. Design and construct trails to standards referenced previously in this report.

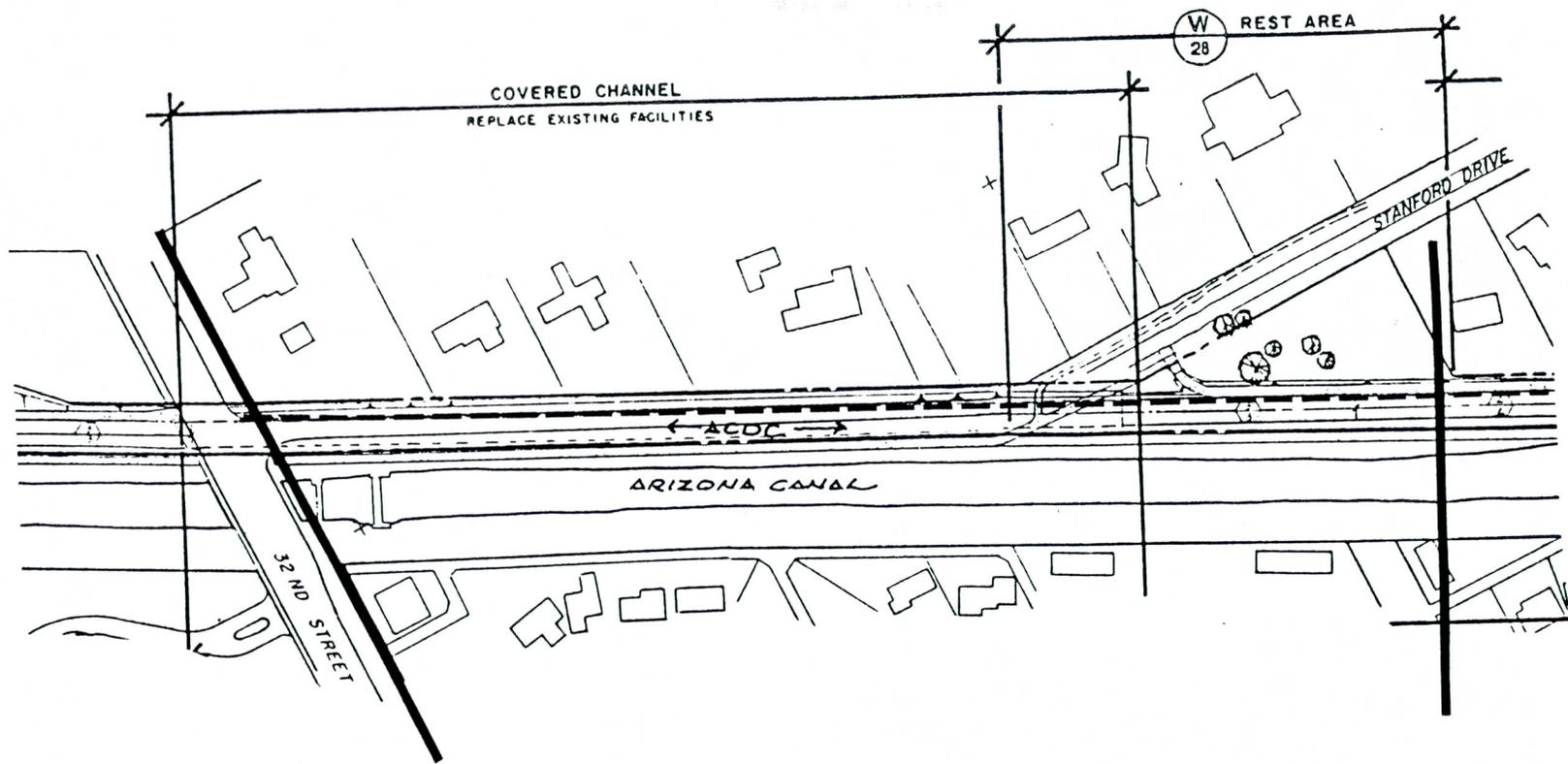


Figure 21. REACH 4: STANFORD DRIVE AREA
(SUBREACH 2)

2. Analysis and Conclusions

a. Covering/Decking

Covering is provided for this entire subreach.

b. Bridges

There are no bridges in this subreach.

c. Underpasses

There are no underpasses or major street crossings in this subreach.

d. Landscaping

No information was available about plans for landscaping on/along the covered ACDC. A strong native desert landscape character is found in the Stanford Drive area; and it is expected that ACDC landscaping will reflect that character

Area with potential for theme landscaping, gateway, public art site or other aesthetic amenity:

- o 32nd Street crossing -- very important gateway (but very limited area available)

RECOMMENDATIONS:

1. Landscaping of the ACDC in this subreach should reflect the native desert character prevalent in the area.
2. Design and construct aesthetics improvements at the 32nd Street crossing in cooperation with the Phoenix Arts Commission and other appropriate agencies to create a gateway, public art site or distinctive landscape theme statement.
3. Where mature trees and other significant plant materials are impacted by construction of the ACDC, it is strongly recommended that they be preserved in place. If this cannot be done, the trees should be relocated within the same general area or replaced with trees of the same variety and as close to the original size as possible. An inventory should be prepared identifying and locating all significant trees in the ACDC corridor for this subreach.

e. Parks and Schools

There are no parks or schools within this subreach.

f. Trails

A staging area with parking for trail users must be provided in or near this subreach. The canal banks are very heavily used as trails; and many people park on vacant land around the 32nd Street/Stanford Drive intersection. With construction of the ACDC, this parking will be removed. People will be likely to park on nearby residential streets unless an adequate staging area is constructed.

Concept plans show a rest area on Stanford Drive, to serve the trail system. Since the main ACDC trail is on the south bank of the Channel, it is unclear how trail users will cross to the rest area on the north side of the Channel.

RECOMMENDATIONS:

1. Provide a staging area in or near this subreach that will accommodate parking for trail users as well as shade, water and other amenities. If necessary, provide a trail bridge for access to the staging area.
2. Design and construct trails to standards referenced previously in this report.

**N. REACH 4: Stanford Drive to Cudia City Wash/39th Street,
Eastern Terminus of ACDC (Subreach 1, Figure 22)**

1. Summary of Recommendations

a. Covering/Decking

No recommended action.

b. Bridges

No bridges in this subreach/no recommendation.

c. Underpasses

No underpasses or major street crossings/no recommendation

d. Landscaping

1. Upgrade landscaping to be installed in this subreach.
2. Use landscaping to provide a screening buffer between the school and the sediment basin.
3. Prepare a detailed design study of the terminus of ACDC at Stanford Drive near 40th Street, exploring opportunities for special aesthetic treatment -- public artworks, trail information, trail rest area, "gateway", distinctive landscape theme.
4. Review plant materials to be used in this area for compatibility with the "desert" character of the area.

e. Parks and Schools

No additional action recommended (see d.3, above).

f. Trails

1. Prepare a detailed trail design plan for this area in conjunction with landscaping plans for the eastern terminus of the ACDC. Trails should conform to previously cited design standards; and means of accessing the ACDC trail system should be made clear.

2. Analysis and Conclusions

a. Covering/Decking

This subreach received a "moderate" priority for covering/decking. It consists mostly of a broad sediment basin; and decking is not feasible.

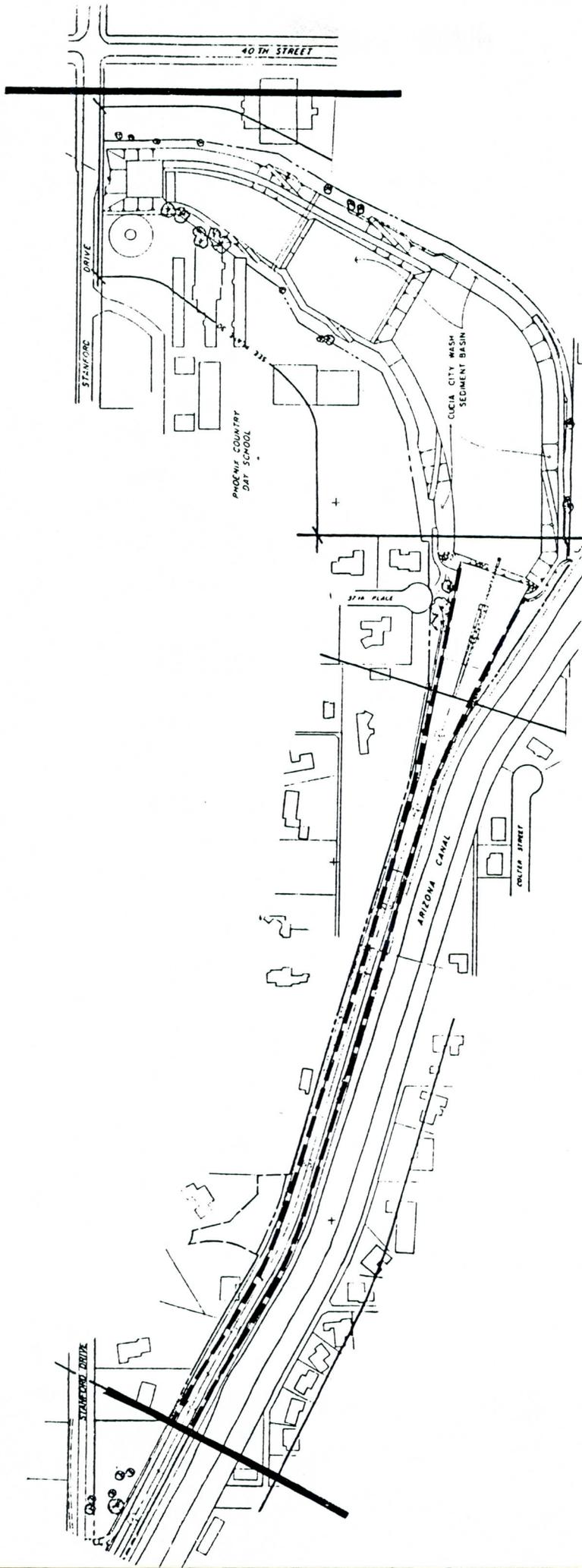


Figure 22. REACH 4: STANFORD DRIVE TO CUDIA
 CITY WASH/39TH STREET, EASTERN
 TERMINUS OF ACDC (SUBREACH 1)

b. Bridges

There are no ACDC bridges in this subreach.

c. Underpasses

There are no underpasses or major street crossings (which might require an underpass) in this subreach.

d. Landscaping

Based on review of landscaping concept plans, some upgrading of plant materials (size, number, etc.) should be provided. In particular, additional trees are needed.

The relationship between ACDC/sediment basin construction at the adjoining school is unclear at this time. Depending on treatment of the sediment basin, a substantial landscape buffer/screen between basin and school may be required. The terminus of ACDC adjacent to the school should be studied; and detailed landscaping plans prepared showing a high quality of aesthetic treatment.

The start of the ACDC at Stanford Drive near 40th Street is an opportunity for a "gateway" of sorts, with distinctive landscape theme, public artwork and trail information.

RECOMMENDATIONS:

1. Upgrade landscaping to be installed in this subreach.
2. Use landscaping to provide a screening buffer between the school and the sediment basin.
3. Prepare a detailed design study of the terminus of ACDC at Stanford Drive near 40th Street, exploring opportunities for special aesthetic treatment — public artworks, trail information, trail rest area, "gateway", distinctive landscape theme.
4. Review plant materials to be used in this area for compatibility with the "desert" character of the area.

e. Parks and Schools

Phoenix Country Day School is located at Stanford Drive, west of 40th Street at the eastern terminus of the ACDC.

As noted earlier ("Landscaping" section) the design treatment

of ACDC relative to the adjacent school was not clear to the Committee. Additional study should be carried out as previously suggested.

f. Trails

Available concept plans do not show exactly how the ACDC trail originates in this area. Trail users will probably access the ACDC either along the Arizona Canal, from 40th Street and Camelback Road or from Stanford Drive near 40th Street.

See earlier comments regarding trail design standards and provision of a rest area in or near this subreach.

RECOMMENDATIONS:

1. **Prepare a detailed trail design plan for this area in conjunction with landscaping plans for the eastern terminus of the ACDC. Trails should conform to previously cited design standards; and means of accessing the ACDC trail system should be made clear.**