

AGUA FRIA

WATERCOURSE MASTER PLAN

Visual Resources Inventory & Scenic Quality Assessment Final Report

Prepared for


A109.217

September 2001

EDAW

 Kimley-Horn
and Associates, Inc.

Property of
Flood Control District of MC Library
Please Return to
2801 W. Durango
Phoenix, AZ 85009

AGUA FRIA WATERCOURSE MASTER PLAN

visual resources inventory
&
scenic quality assessment

FINAL REPORT
09/21/01





TABLE OF CONTENTS

1. INTRODUCTION	6
1.1 Background & Objectives	6
1.2 Visual Resources Inventory & Analysis	6
1.3 Intrinsic Qualities	6
2. SCOPE OF WORK	9
2.1 Planning Process	9
2.2 SMS-Based Inventory Considerations	9
2.3 Visual Resources Inventory	10
3. EXISTING VISUAL RESOURCES INVENTORY	11
3.1 Study Area Setting	11
4. LANDSCAPE CHARACTER CONTEXT	13
4.1 Overview	13
4.2 Landscape Character Types Identified	13
5. SCENIC QUALITY ASSESSMENT	28
5.1 Inventory Procedures And Approach	28
5.2 Scenic Attractiveness	28
5.3 Existing Scenic Integrity	36
5.4 Landscape Visibility	38
6. VISUAL RESOURCE INVENTORY	43
6.1 Points Of Interest	43
6.2 Viewsheds	47
7. LANDSCAPE CHARACTER DEVELOPMENT	50
7.1 The Agua Fria River Development	50
7.2 Desired Landscape Character	50
7.3 Landscape Transition Strategies	51
7.4 Use Compatibility	55

7.5	LANDSCAPE CHARACTER CONCEPT PLAN	58
7.6	CONCLUSION	65

TABLE OF FIGURES

3.1	Project Area Setting	12
4.1	Hydric Riparian Zone	15
4.2	Mesic/Xeric Riparian Zone	17
4.3	Upland Sonoran Scrub Zone	19
4.4	Ephemeral Channel Zone	21
4.5	Urban Development and Mediterranean Landscape Zone	23
4.6	Agricultural Zone	25
4.7	Sand and Gravel Mining Operations	27
5.1	Scenic Attractiveness	35
5.2	Landscape Visibility	41
6.1	Points of Interest	46
6.2	Major Viewsheds along the river	49
7.1	Combined Overlay Plan	54
7.2	Character Concept Plan	59

TABLE OF CHARTS

5.1	Contrast Rating	30
5.2	Scenic Quality Inventory	32
5.3	Perceived Character	33
5.4	Scenic Attractiveness Evaluation	34
5.5	Hierarchy of Concern Levels	39
7.1(a)	Use Compatibility Matrix	56
7.1(b)	Use Compatibility Matrix	57

APPENDIX A Visual Resource Analysis Forms

APPENDIX B Suggested Vegetation Communities
Recreational Master Plan

APPENDIX C Water Recharge Points

1. INTRODUCTION

1.1 *Background & Objectives*

The Agua Fria Watercourse Master Plan is a result of an extensive multidisciplinary effort undertaken to achieve the optimum solution for long range planning along the river. The project aims to incorporate recreational and open space opportunities into the flood control solutions for the river. Also intended is the preservation of significant cultural and natural areas along the river while maintaining a high quality of life and the utmost in safety standards.

1.2 *Visual Resources Inventory & Analysis*

As part of the Watercourse Master Plan, it is important to establish the current overall impression of the river landscape. This will assist in the formulation of flood control solutions and future planning policies that take into account the character of the river. Such an analysis will also facilitate the identification of key points along the river that are unique in terms of their scenic attraction, wildlife habitat quality, historical/cultural significance and/or recreational potential. An inventory of areas of natural scenic quality is an important step towards their integration into future planning solutions for the river corridor. Future recreational activities proposed along the river corridor will need to take into account the existing and proposed land uses, as well the different types of recreational activities, along the river corridor that best satisfy planning demands. The river Landscape Character provides an insight into the type and quality of both passive and active recreational space that can be incorporated into the Watercourse Master Plan while preserving ecologically critical zones and those areas with rich historic traditions. Ecologically less critical areas of the floodplain with little wildlife habitat as well as degraded areas that result from mining activity provide great potential for reclamation into active recreational spaces.

1.3 *Intrinsic Qualities*

The National Scenic Byway Program administered by the Federal Highway Administration has identified six intrinsic qualities that distinguish scenic byways. These qualities represent the scenic, historic, cultural, recreational, natural and archaeological aspects of scenic byways. While these were

developed in conjunction with the national highway program, they represent qualities that distinguish any scenic corridor. The Agua Fria River Corridor contains a wide variety of intrinsic qualities that contributes to the visitor's experience. In a brief summary, the intrinsic qualities of the Agua Fria River Corridor include the following:

1.3.1 Scenic Qualities

The Agua Fria River corridor has areas of spectacular scenic beauty, especially along its northern reach south of Lake Pleasant. In the otherwise dry and sparse expanses typical of the southwest, sections of the riverbed stands out in their lush vegetated state. Dramatic stands of Saguaro and Cholla dot the uplands through which the river carves its way. Panoramic mountain views are visible from almost the entire length of the river. The river corridor contains vast expanses of open land in an otherwise urban stretch providing relief from the noise, pollution and fast paced quality of urban life.

1.3.2 Recreational Qualities

The diverse landscape provides opportunities for recreational activities such as hiking, horse riding, jogging, mountain biking, and bird watching. Much of the recreational potential of the Agua Fria River Corridor is yet to be realized.

1.3.3 Natural Qualities

Exposed geologic formations exist in rich pattern and variety along the Agua Fria River corridor. The lower slopes of many hill ranges flank the river channel in its northern reach. The river floodwaters have deeply incised these rocky slopes creating eroded banks that are unique in texture and color. Stratified bands along the banks contrast with the granular quality of the riverbed and its lush vegetation. Calderwood Butte and Twin Buttes are two conspicuous hills that dominate the river corridor in the northern reach.

1.3.4 Historic and Cultural Resources

The Agua Fria River corridor is known to be replete with archaeological sites, many of which have been recorded. A special archaeological assessment carried out specifically for this project, detail 20 sites that best represent the general cultural, chronological, and functional variability of this locale. The study discusses the general activity patterns and briefly describes a series of interesting cultural resources found chiefly

along the Agua Fria River. Collectively, the sites represent cultural themes of prehistoric and historic influences. These influences include water transportation and canal systems, prehistoric villages, natural resource exploitation, rock, vehicular transportation, homesteading and commercial farming.

1.3.5 Archaeological Qualities

Many artifacts of Hohokam cultural development exist along and adjacent to the corridor. These include intricate systems of local irrigation of a predominantly agricultural society, remnants from habitations that constitute pit houses, and semi-subterranean houses. Hohokam People were also known for their prolific rock art and preoccupation with craft products of pottery, stone, bone and shell, evidence of which is seen in many interesting sites along the corridor. More detailed information regarding the historical qualities of the Project Area can be obtained from The West Valley Archeological Sites Assessment Project of Central Maricopa County, Arizona which has been completed as a part of the Agua Fria Watercourse Master Plan Study

2. SCOPE OF WORK

In January 2000 work was initiated in preparing the Landscape Character Analysis, Visual Resources Inventory and Scenic Quality Assessment. The scope of work under which this analysis was to be carried out consisted of four main areas:

- Identification of Landscape Character types along the river corridor
- Scenic quality assessment of the corridor and surrounding area
- Inventory and analysis of visual resources
- Integration of desired Landscape Character with the proposed recreational uses and flood control plan.

2.1 *Planning Process*

In order to understand the visual context of the project area, an inventory and assessment of the project vicinity was conducted using planning concepts identified in the Scenery Management System (SMS), developed by the U.S. Department of Agriculture (USDA), Forest Service (USFS)(USFS, 1995). SMS-based analyses consider both physical and social /cultural conditions and provide resource planners with information related to the broader aesthetic/visual conditions in the project vicinity. The approach and study results are discussed in the following sections.

2.2 *SMS-Based Inventory Considerations*

The aesthetic visual resource inventory procedures followed the concepts and methods of the USFS's SMS. Very simply, this process considers a range of physical conditions (natural processes and land uses) and social/cultural conditions that form our perceptions, attitudes, and expectations of the lands around us. The sequence of documentation of the principal considerations in this process is as follows:

2.2.1 Landscape Character

Starting at a broad (regional or sub-regional) scale, Landscape Character is documented to understand the visual and cultural image of a geographic area. It consists of the physical, biological, and cultural attributes that make each landscape identifiable and unique.

2.2.2 Scenic Attractiveness

Within a particular Landscape Character type, a smaller breakdown of landscape units is delineated to assess the relative scenic value of the land based on specific conditions of landform, vegetation, water, and cultural features present.

2.2.3 Scenic Integrity

Scenic Integrity is a measure of the intactness or wholeness of the Landscape Character, or, conversely, a measure of the degree of visual disruption or discordant visual relationships. Landscape modifications may range from disruptive, such as disturbance that has left the land scarred, or enhancing such as an attractive bridge over a channel.

Scenic Attractiveness and Scenic Integrity values were extensively used to assess the scenic quality of the corridor. The level of importance attached to scenic areas (Scenic Classes) were further determined in conjunction with use levels associated with each area.

2.3 ***Visual Resources Inventory***

The Visual Resources Inventory identified points of interest along the Agua Fria River Corridor that define the character and quality of the corridor that contribute to the visitors' experience. Also identified were the major view sheds along the river corridor.

The inventory process took place over two months (Jan - Feb 2000) in which a number of separate site visits were made to observe and document field conditions. In addition to site visits, interviews with public and agency representatives identified additional sites of aesthetic value. Information available from past publications as well as information from this and numerous studies carried out as part of this multidisciplinary effort was consulted extensively in the development of the Visual Resources Inventory and Scenic Assessment.

3. EXISTING VISUAL RESOURCES ASSESSMENT

3.1 Study Area Setting

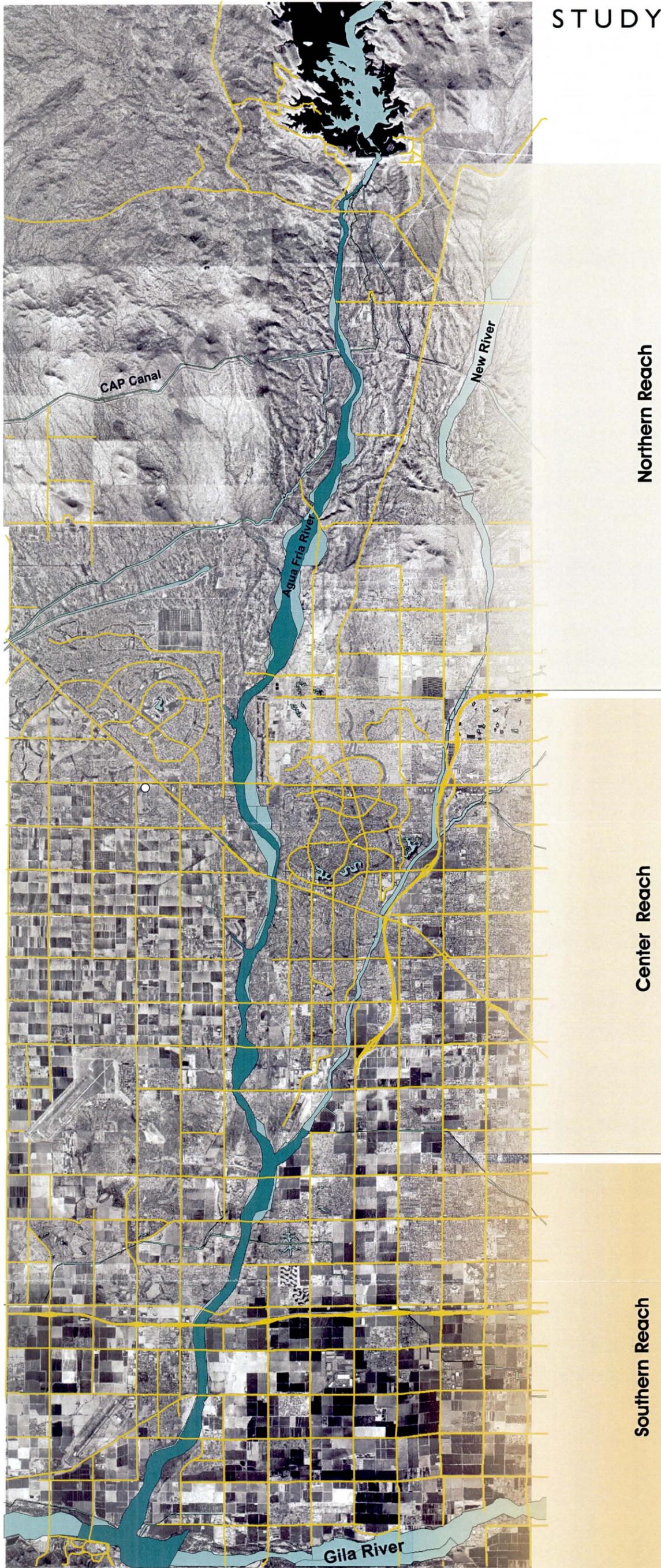
The Agua Fria River located in south central Arizona originates northeast of Prescott at an elevation of approximately 5200 feet. The river flows intermittently over rangeland and through rural community's southwards before reaching Lake Pleasant at an elevation of approximately 1695 feet. Downstream of Lake Pleasant, the dry riverbed gently meanders south where a number of shallow tributaries and the New River flow into the Agua Fria River until its confluence with the Gila River at approximately 920 feet elevation.

The Agua Fria River project area (Fig 3.1) covers approximately 32.5 river miles and extends from The New Waddell Dam south to the river's confluence with the Gila River. This stretch, which runs through Maricopa County in southwest Arizona is broadly defined in terms of reaches for the purpose of this study. The reaches directly respond to the physical appearance and cultural context of the landscapes it traverses. Along its Northern Reach south of the New Waddell Dam to Beardley Road, the visual landscape is typically characterized by mountainous terrain and Sonoran Upland vegetation. Human population is sparse and the land lies relatively undeveloped. The natural landscape dominates this reach. The Central Reach extends from Beardsley Road to the New River Confluence, through more urbanized areas. Here, master planned communities and planned recreation areas adjoin utility corridors and industrial areas. Sand and gravel mines are common in the floodplain along the middle reach of the study area. Along the Southern Reach of the study area, which extends from the New River Confluence to the Gila River confluence, agricultural areas dominate the landscape especially in the wide, fertile alluvial fans immediately to the north of the Gila River.

A majority of the main arterial roads as well as I-10 in the south and Grand Avenue in the north, cross the Agua Fria River at regular mile intervals. These crossings are both at grade with the river as well as bridged. These are highly traveled roadways that provide immediate and convenient access to the river when required. Two railroads, the Union Pacific Southern Pacific Rail Road and the Burlington Northern Santa Fe Railroad, also cross the river along Grand Avenue and along Buckeye Road respectively.

STUDY AREA SETTING

- CAREFREE HIGHWAY
- CLOUD RD
- DIXILETA DR
- DYNAMITE BOULEVARD
- JOMAX RD
- HAPPY VALLEY RD
- PINNACLE PEAK RD
- DEER VALLEY RD
- BEARDSLEY RD
- UNION HILLS DRIVE
- BELL RD
- GREENWAY RD
- THUNDERBIRD RD
- CACTUS RD
- PEORIA AVE
- DUNLAP AVE
- NORTHERN AVE
- GLENDALE AVE
- BETHANY HOME RD
- CAMELBACK RD
- INDIAN SCHOOL RD
- THOMAS RD
- MCDOWELL RD
- VAN BUREN ST
- BUCKEYE RD
- LOWER BUCKEYE RD
- BROADWAY RD



Northern Reach

Center Reach

Southern Reach

- ESTRELLA PKWY
- BULLARD AVE
- LITCHFIELD RD
- DYSART RD
- EL MIRAGE RD
- 115TH AVE
- 107TH AVE
- 99TH AVE
- 91ST AVE
- 83RD AVE
- 75TH AVE
- 67TH AVE

1 0 1 2 Miles



Figure 3.1

4. LANDSCAPE CHARACTER CONTEXT

4.1 Overview

Underlying the character and condition of a landscape are the geologic conditions and processes under which it has evolved. These factors, in combination with climate, influence the type and condition of soils and vegetative cover that develop, the types and abundance of wildlife that inhabit the land, and the use people make of it. The resulting Landscape Character, together with our individual experience base and our expectations, determine the meaning we attach to the landscape.

Landscape Character gives a geographic area its visual and cultural image, and consists of the combination of physical, biological and cultural attributes that make each landscape identifiable and unique.

The existing Landscape Character along the project area ranges from predominantly natural landscapes to those that are heavily culturally influenced. On a regional scale, the project area lies within both the Arizona Upland Region in the northern reach and the Sonoran Desert Scrub Section of the Basin and Range Physiographic Province in the middle and southern reach.

4.2 Landscape Character Types identified in the Project Corridor

Based on the extent of variation seen in the overall project area and in response to the planning and management needs of the Flood Control Department, Landscape Character studies were conducted at a smaller scale. To facilitate the Landscape Character studies, previous studies and classification systems that address riparian ecology specific to the arid western United States was relied upon extensively. In this system riparian areas were divided into a) perennial riparian, b) intermittent riparian, and c) ephemeral riparian based on their water regime and water courses. A further classification distinguishes between hydric riparian, mesic riparian, and xeric riparian plant communities to include typical vegetation found in riparian areas characteristic of the Southwest. A detailed description of the biological landscapes along the Agua Fria is included in The Biological Resources Technical Memorandum.

Seven distinct Landscape Character types were identified along the study areas and are defined as zones in the study. These zones broadly fall into a landscape structure that was either urban or natural in character. The following is a description of the physical, biological and cultural attributes of each zone that contributes to its unique identity.

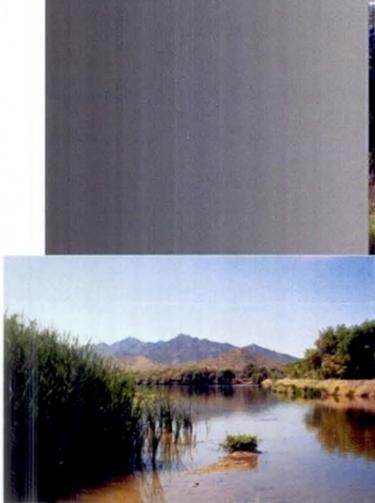
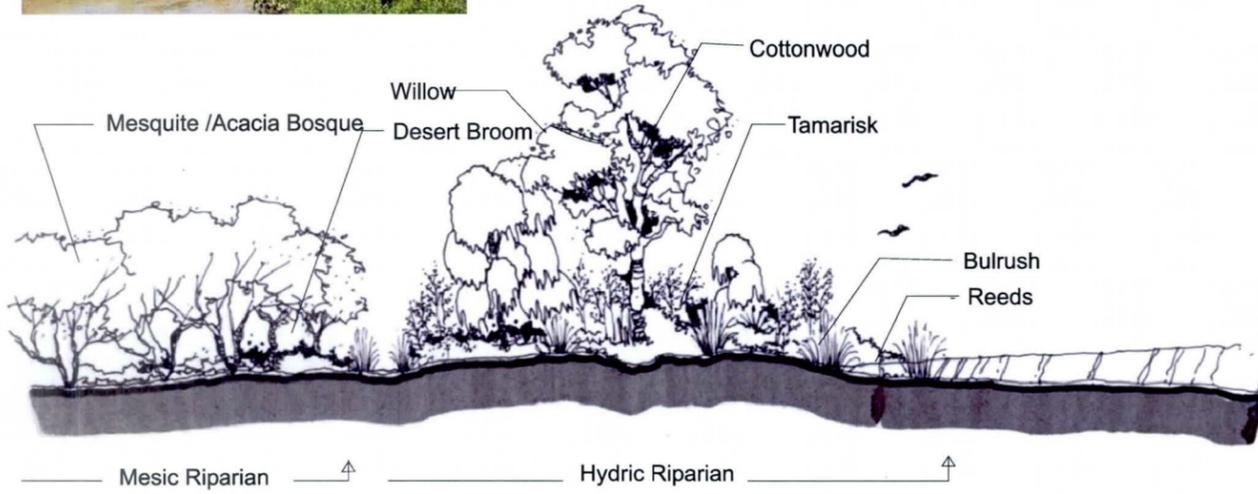
4.2.1 Zone 1. The Hydric Riparian Zone:

This zone (Fig 4.1) occurs predominantly in the northern reach where the river corridor passes through the Arizona Upland Region. Seepage from the New Waddell Dam at Lake Pleasant maintains perennial flow conditions almost year round. The rocky substrate typical of the river channel in this area prevents water percolation, hence hydric or open water and wetland conditions prevail. Associated vegetation includes hydric riparian species such as Willow and Cottonwood, Mesquite, Palo Verde, Salt Cedar, Cattails and common reeds. Such conditions were also seen to prevail at the confluence of the Agua Fria with the Gila River. Retention areas have been created along the river channel to promote the establishment of wetland areas. Varied animal tracks, bird calls and nests show evidence of increased wildlife activity in almost all such hydric riparian zones. The cultural component that contributes to this zone is the introduction of water flows in an otherwise dry riverbed. The preservation of open water areas for long periods encourage the growth of trees and higher story vegetation, resulting in wildlife habitats and increased biodiversity. The preservation of these areas is critical to the vitality of the corridor. The creation of more areas through further inflow points would be beneficial to the overall scenic development of the river.



Hydric Riparian Zone

ZONE 1 : Hydric Riparian Zone



Hydric Riparian conditions are visible where the channel flow regime is perennial and water logged conditions occur year round. These areas are found in the northern reaches of the project area, south of Lake Pleasant where a rocky substrate prevents water percolation down and also at the confluence with the Gila River recovery pond. These areas provide diverse habitat conditions and opportunities for recreational activities like nature trails and hiking. Such areas are ecologically critical areas that need to be conserved.

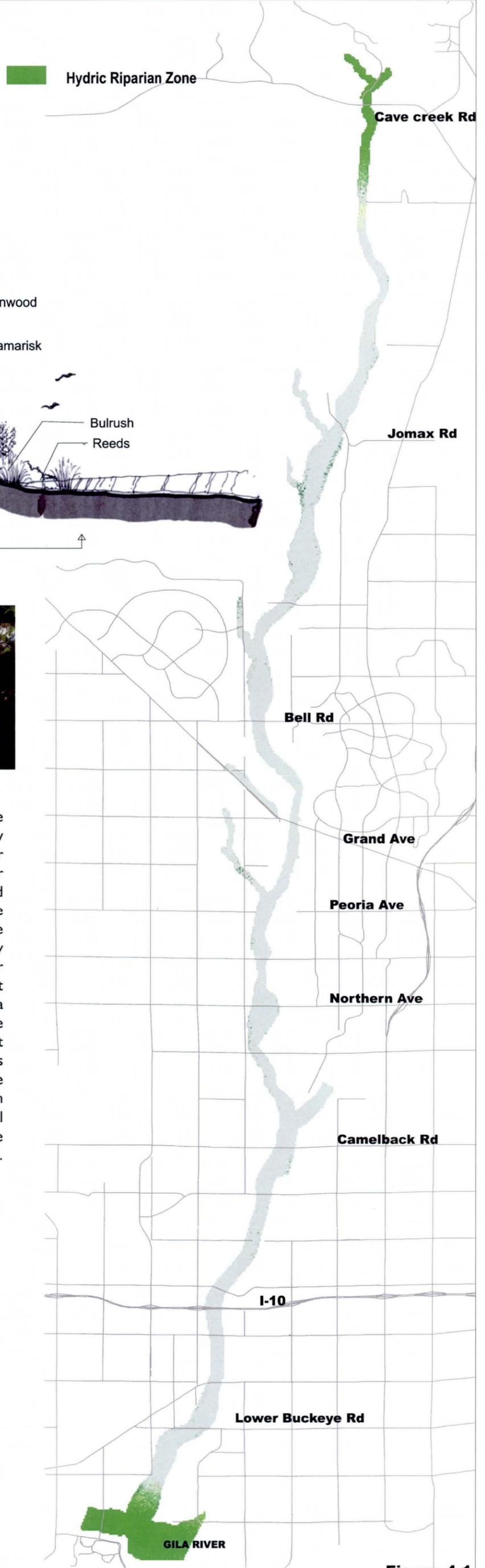


Figure 4.1

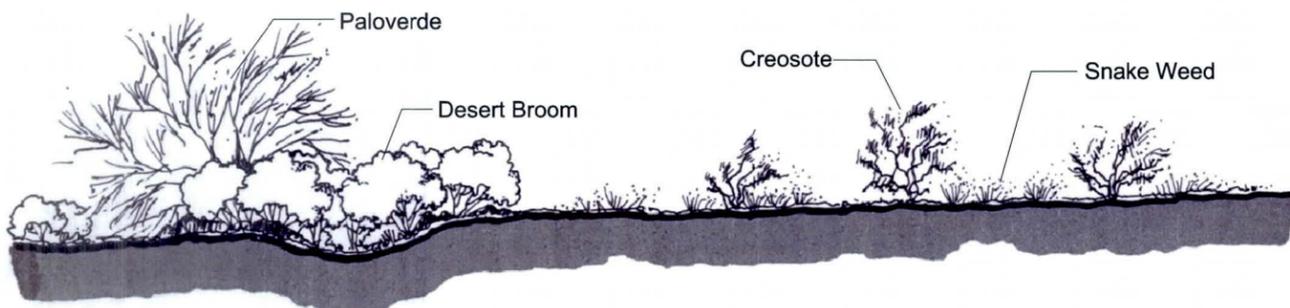
4.2.2 Zone 2. Mesic/ Xeric riparian zone:

The mesic/ xeric riparian zone (Fig 4.2) typically occurs along the channel where intermittent flow creates localized moist areas or at areas adjacent to open water where the water table is high. Riparian species such as Mesquites, Palo Verde and Ironwoods, as well as under story vegetation such as Bunch Grasses and Big Galletta, are typical of the mesic areas. This transitions to a less moist xeric character consisting of Desert Broom and Creosote with isolated occurrences of Mesquite or Palo Verde. The mesic/ xeric character is interspersed along the Agua Fria River, with very few areas appearing completely mesic. Intermittent flow conditions occur due to runoff conditions from storm sewers, canal tail waters or water recharge practices from nearby treatment plants. These isolated pockets are densely vegetated by mesic riparian vegetation in an otherwise xeric environment. Wildlife in this zone typically consists of songbirds, raptors and small mammals that use the surrounding vegetation for cover, nesting and forage.



Mesic/ Xeric Riparian Zone

ZONE 2 : Mesic/ Xeric Riparianl Zone



Xeric / Mesic riparian conditions are interspersed along the Agua Fria River and are defined by localized areas of water flow or a high water table. Intermittent flow conditions occur along the river responding to run off conditions from bridge crossings or water recharge practices from nearby treatment plants. These isolated pockets are densely vegetated by mesic riparian vegetation in an otherwise xeric environment. Mesic species include Paloverde, Mesquite, Acacia and Desert Hackberry while the xeric riparian includes Creosote, Desert Broom and Brittle Bush.

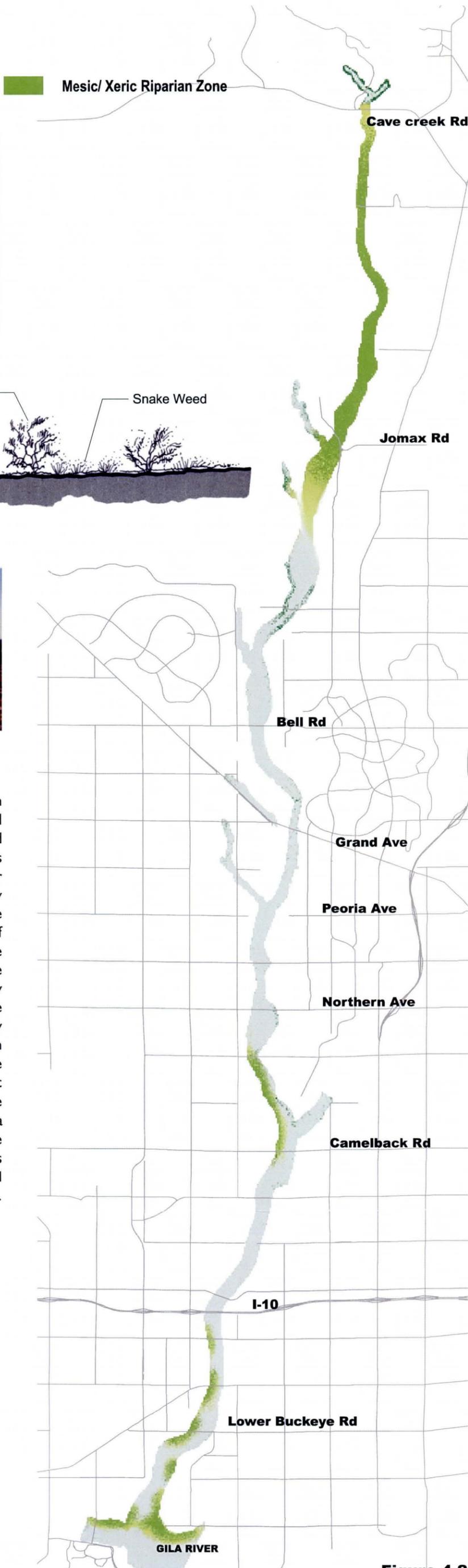


Figure 4.2

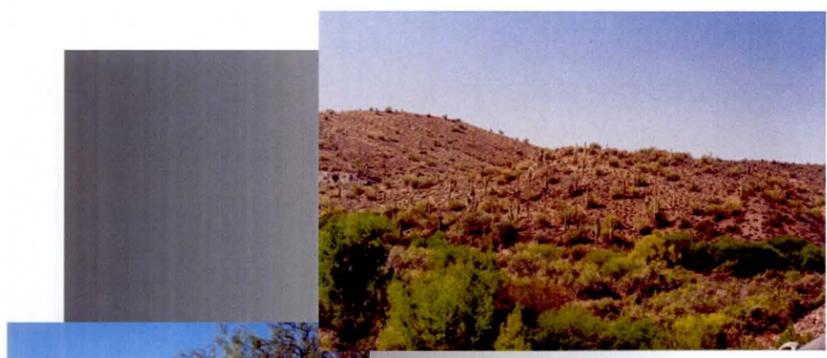
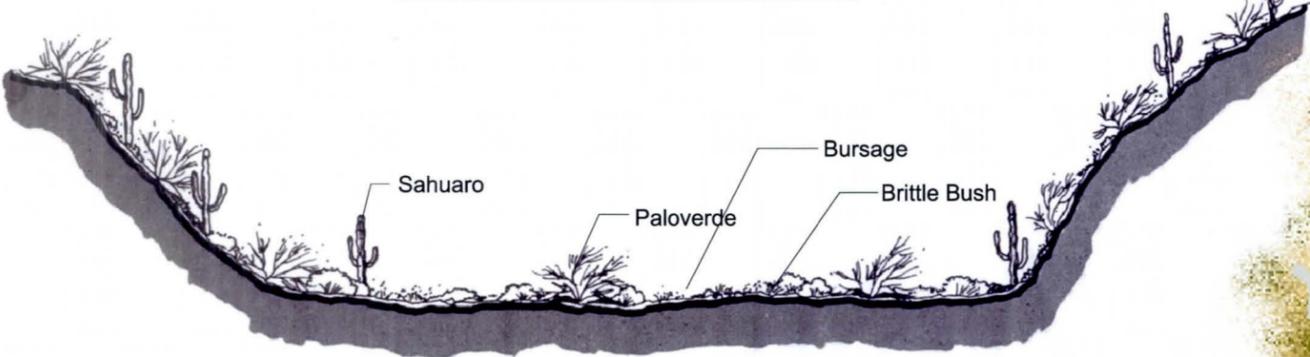
4.2.3 Zone 3. Upland Scrub Zone:

This zone (Fig 4.3) occurs along the northern reaches of the project area where the river runs through the Arizona Upland Region. A striking feature in this zone is the surrounding rocky hill slopes and mountains that define the channel. Saguaro and Palo Verde typical of Upland Sonoran Scrub vegetation occupy the hill slopes in a uniform pattern creating a dramatic background for the river corridor. The channel itself is deeply incised, exposing stratified rocky banks of varied textures created by years of erosion. Along the northern reach, where the river runs through the Arizona Uplands, vast networks of washes discharge into the river channel. Here, fairly dense stands of shrub Palo Verde, Mesquite and Desert Broom uniformly cover the channel bed. A mesic character is more dominant and uniform due to the increased water flow into the channel. Higher elevations and precipitation coupled with minimal human impact to the area contribute to the character of this zone.



Upland Scrub Zone

ZONE 3 : Upland Scrub Zone



This zone occurs along the Northern reaches of the project area where the river runs through the Arizona Upland Region. It is characterized by a deeply incised channel with high rocky banks. Multiple drainage ways in dendritic patterns lead into the river. The dry hill slopes flanking the river are typically dominated by the Upland Sonoran Scrub community, consisting of scattered Sahuaro interspersed with Foothill Paloverde clumps. Under story vegetation includes Bur-sage, Brittle Bush and Snake Weed.

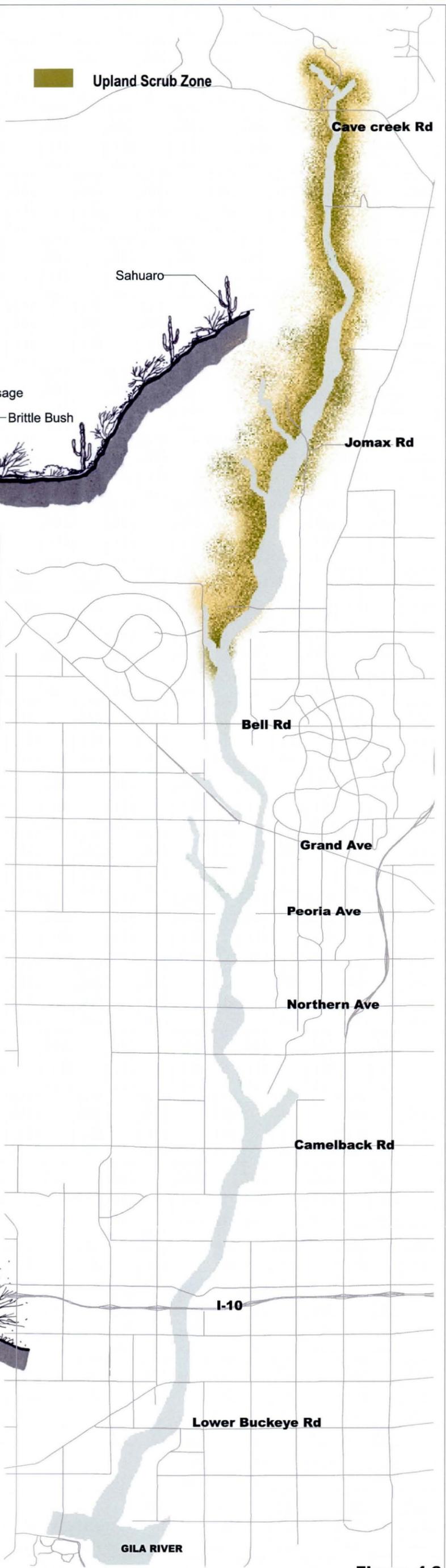
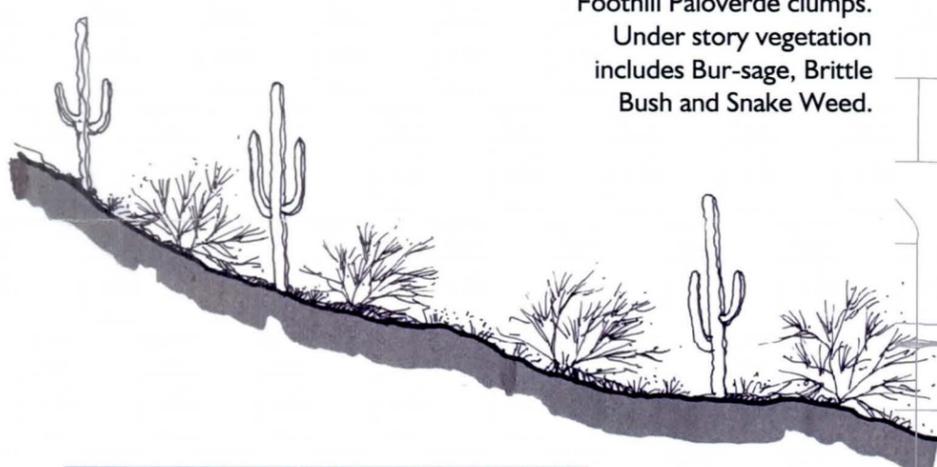


Figure 4.3

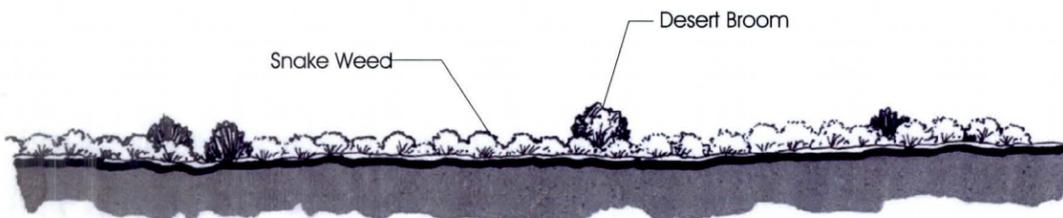
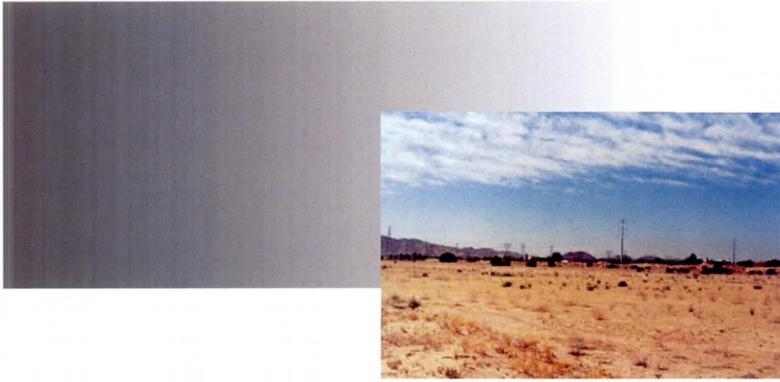
4.2.4 Zone 4. Ephemeral Channel Zone:

Water flow in the Agua Fria River is typically ephemeral, responding directly to rainfall or other drainage conditions. Most of the middle reach of the project area falls within the ephemeral channel zone (Fig 4.4). The water conditions are poor and the rocky soil drains quickly resulting in vegetation that is low growing and sparse. Channel vegetation includes a mixture of Snakeweed, Saltbush, Bursage, Creosote and small trees like Acacia and Curly Mesquite. Common wildlife includes songbirds and small mammals. Broad floodplains and poorly defined banks characterize the channel in this zone. Short intense precipitation events create flash flood conditions that frequently rearrange channel flow patterns and remove what little vegetation that has managed to establish.



Ephemeral Channel Zone

ZONE 4 : Ephemeral Channel Zone



Ephemeral channel vegetation occurs along sections of the Agua Fria characterized by broad floodplains and poorly defined channel banks. Water flow is ephemeral, responding directly to rainfall or other drainage conditions. Vegetation in these zones is sparse and includes scattered stands of Snake Weed with occasional clumps of Desert Broom.

This zone occurs predominantly along the lower reaches of the Agua Fria adjacent to the Urban areas.

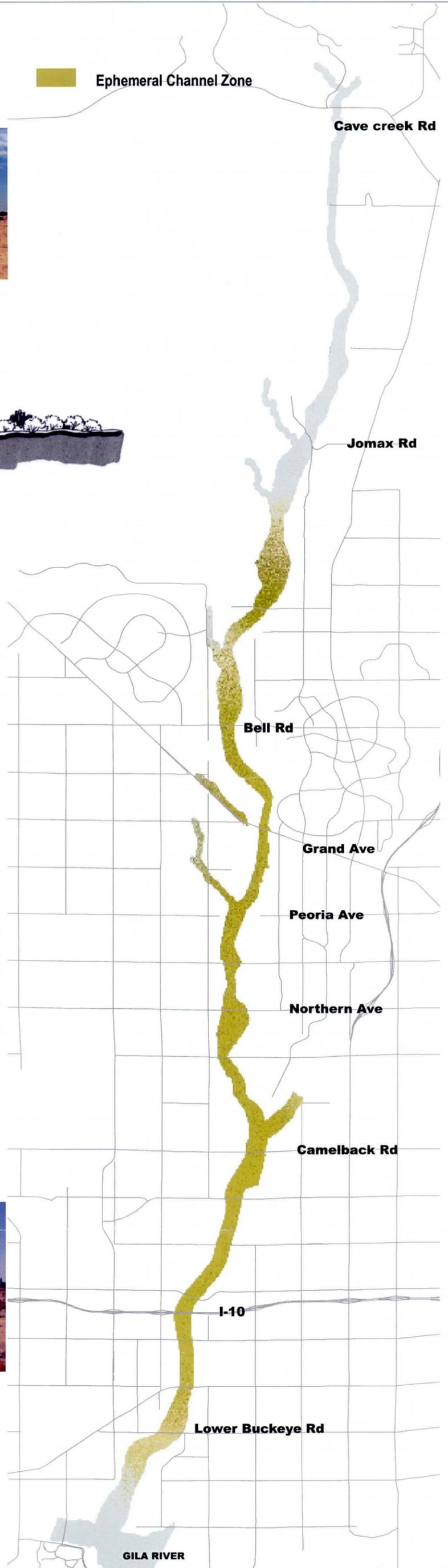


Figure 4.4

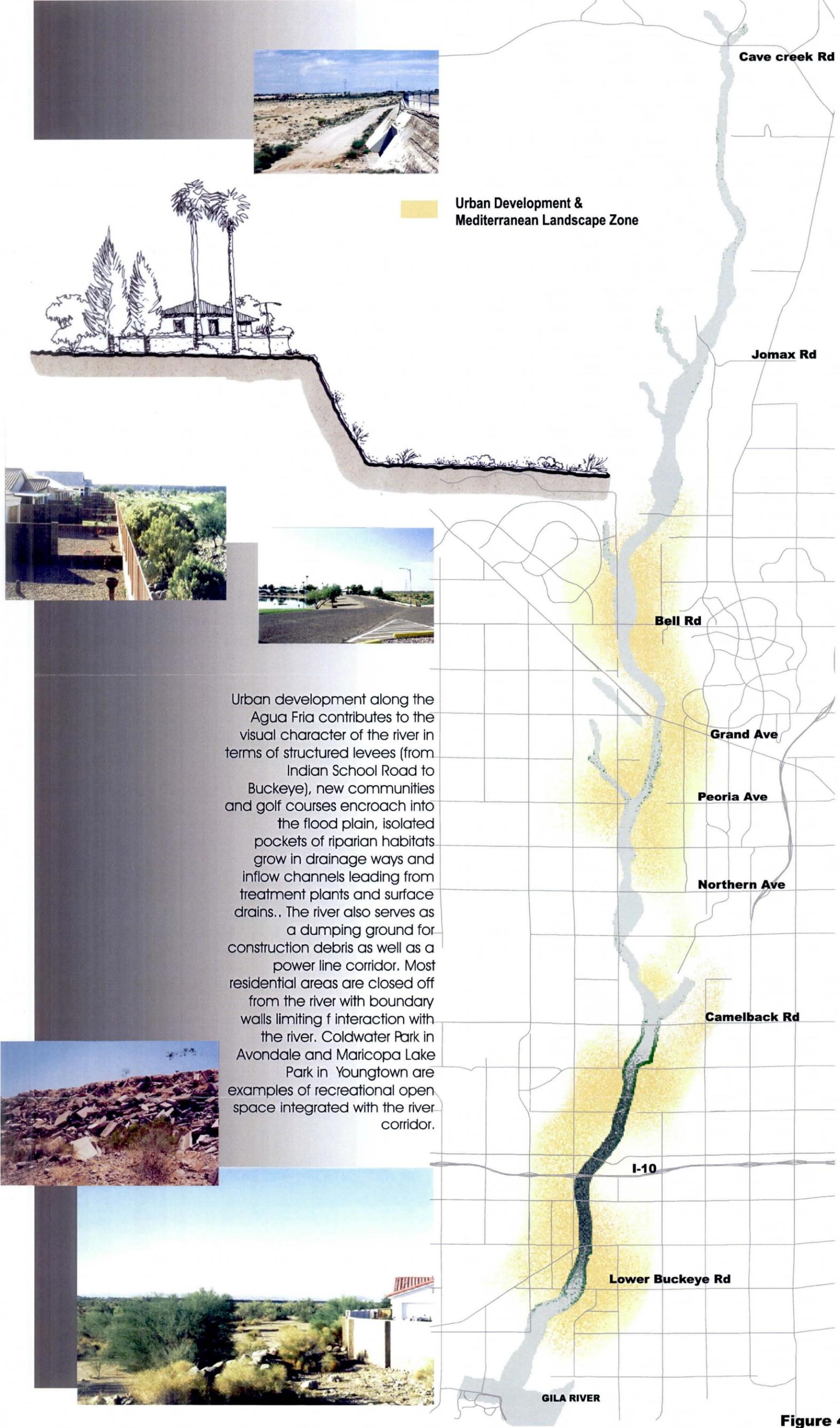
4.2.5 Zone 5. Urban Development and Mediterranean Landscape

Urban development along the Agua Fria River has occurred along the river from prehistorical times to present day. This zone (Fig 4.5) represents a character along the river that is heavily culturally influenced. Several archeological sites belonging to the both the classic and pre-historic periods occur along the project area. Cultural remnants of pre-historic and historic societies and their artifacts provide visual interest and a sense of cultural history to the landscape. These are assets that need to be preserved by their integration into the Master Plan and its implementation. The built character of the urban areas is varied and the planting is an eclectic collection of both indigenous and introduced species. Residential communities, industrial areas and power corridors dominate river bank development. Most community developments appear cluttered and disorganized, however, some attempts have been made to integrate planned recreational areas with the river corridor such as Coldwater Park, Maricopa Lake Park and a few trails and golf courses. Other present day urban developments that detract from the visual character of the river include structural levees along the southern reach of the river, railroad crossings, bridges, drop structures and power lines.



Urban Development & Mediterranean Landscape Zone

ZONE 5 : Urban Development and Mediterranean Landscape Zone



Urban development along the Agua Fria contributes to the visual character of the river in terms of structured levees (from Indian School Road to Buckeye), new communities and golf courses encroach into the flood plain, isolated pockets of riparian habitats grow in drainage ways and inflow channels leading from treatment plants and surface drains. The river also serves as a dumping ground for construction debris as well as a power line corridor. Most residential areas are closed off from the river with boundary walls limiting interaction with the river. Coldwater Park in Avondale and Maricopa Lake Park in Youngtown are examples of recreational open space integrated with the river corridor.

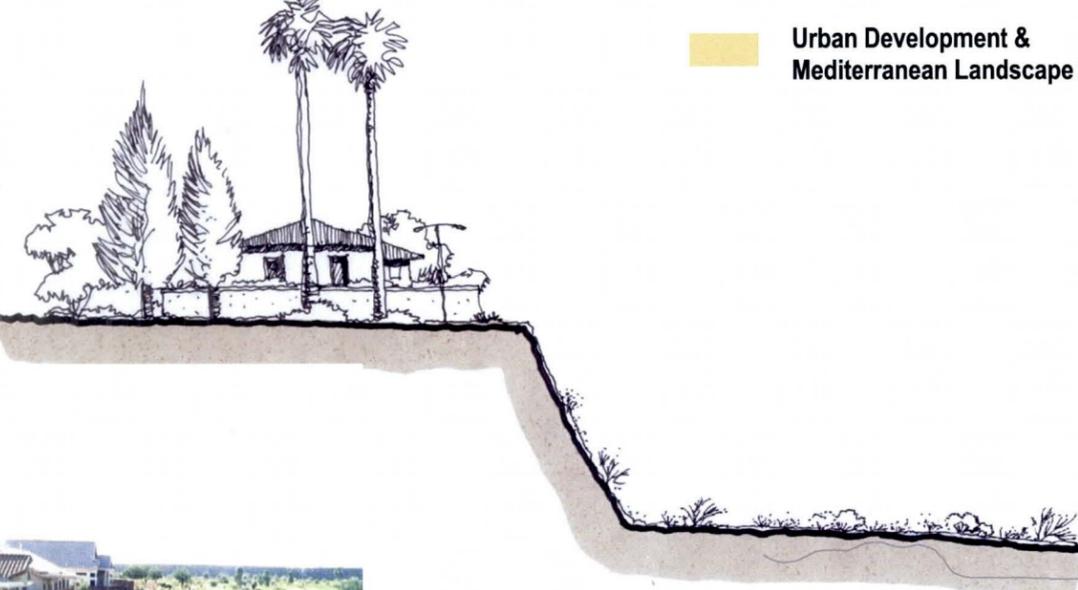
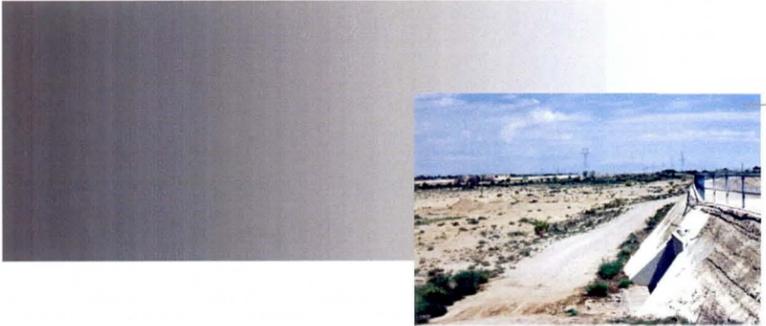


Figure 4.5

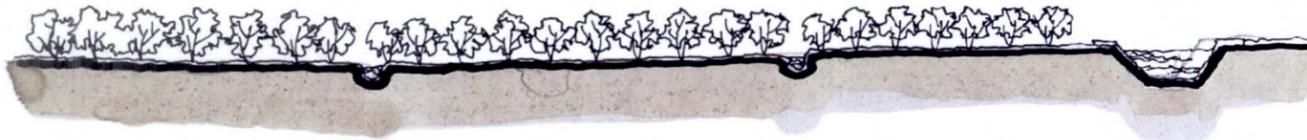
4.2.6 Zone 6. Agricultural Zone:

Along the southern reach of the project area the land character becomes rural. Vast alluvial floodplains extend along this reach where the Agua Fria River meets with the Gila River. These lands are highly prone to flooding and unsuitable for development without flood protection devices. Agricultural fields dominate this zone (Fig 4.6). The Estrella Mountains to the south form a spectacular background to the wide green stretches of farmland. Crops include cotton, alfalfa and corn. An irrigation canal network keeps these fields irrigated. The confluence of the Gila River provides ponding of canal tail waters that have become home to aquatic wildlife like fish and small amphibians. Songbirds, raptors, shore birds as well as large and small mammals also inhabit the area.



Agricultural Zone

ZONE 6 : Agriculture Zone



The Agua Fria provides rich aluvial soils and flat lands along its floodplain encouraging agricultural use along its banks. Cash crops such as cotton, alpha alpha grow in the southern reaches close to the Gila river and citrus orchards grow in the northern reaches. New mines and community development are now being planned for these areas.

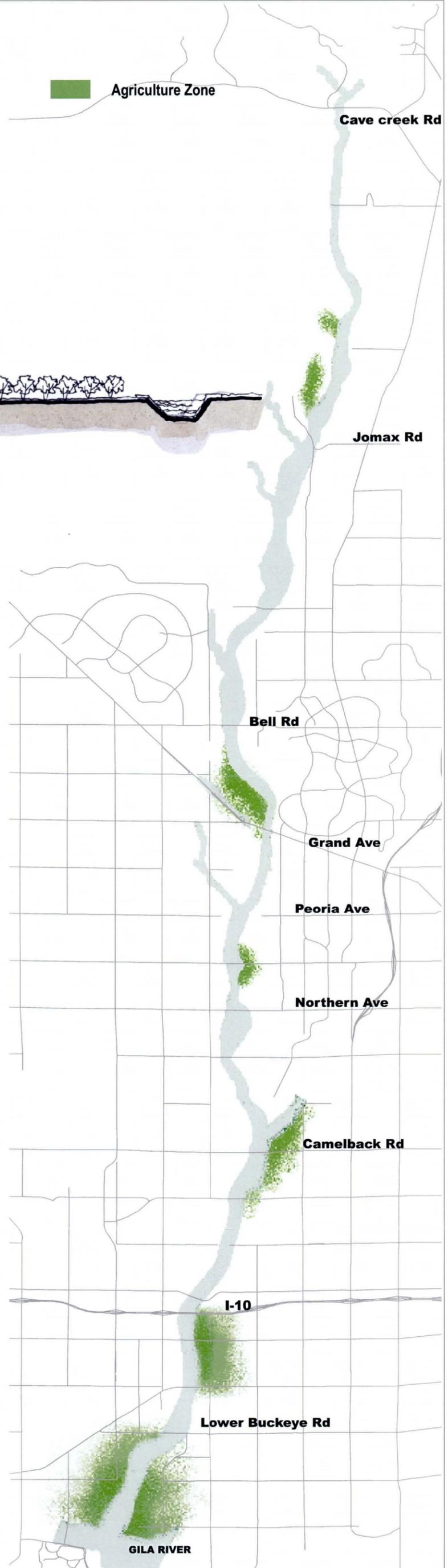


Figure 4.6

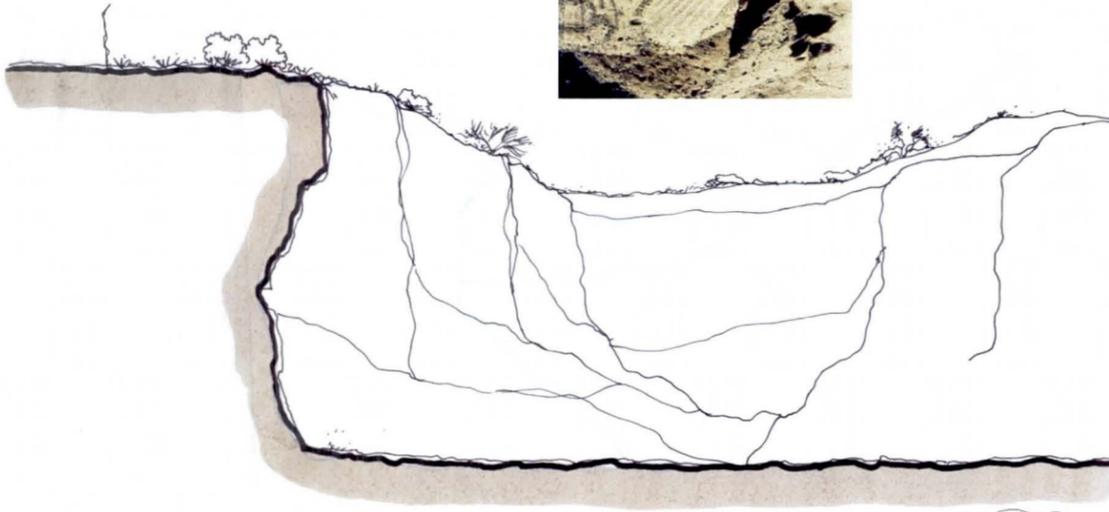
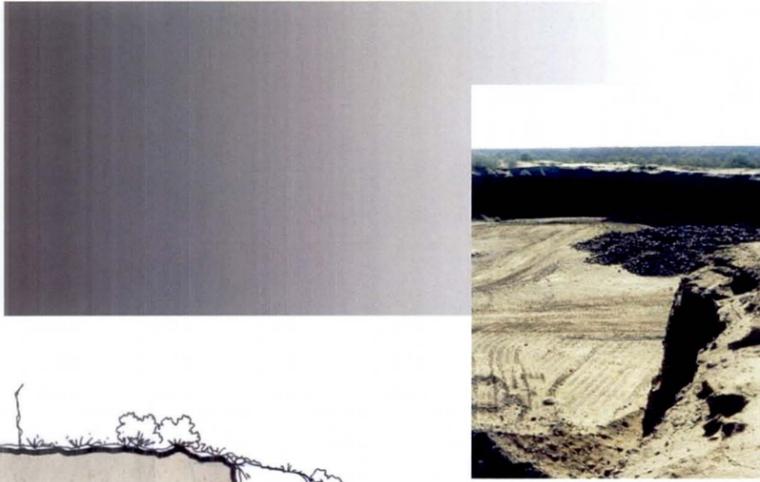
4.2.7 Zone 7. Sand and Gravel Mining:

A distinct part of the Agua Fria River character attributed to human activity are the numerous sand and gravel mining operations that exist at recurrent intervals along the middle reach of the project area (Fig 4.7). Much of the raw building material supply to the West Valley comes from these mines. As transportation costs for raw material delivery are a major consideration, most mines in the river are found in the more urbanized areas of the county or where growth and development are occurring. Sand and gravel mining operations are certainly major detractors from the scenic integrity of the river. Large cavernous pits with mining equipment, access roads through the river bed and industrial complexes that handle rock product processing are associated with this industry. Visual quality and scenic integrity levels are unacceptably low in these areas. The degraded landscape is typically devoid of vegetation and wildlife.



Sand and Gravel Mining Operations

ZONE 7 : Sand and Gravel Mining



Sand and Gravel Operations in the Agua Fria River are a distinct part of the river character attributed to human activity. Much of the raw building material supply of the West Valley come from these mines. As transportation costs for raw material delivery are a major consideration, most mines in the river are found in the more urbanized areas of the county or where growth and development are occurring. The average depth of mining pits vary from 15 to 80' and remain active for a period of 20 years. Future use of abandoned mines through reclamation can provide opportunities for recreation and open space.

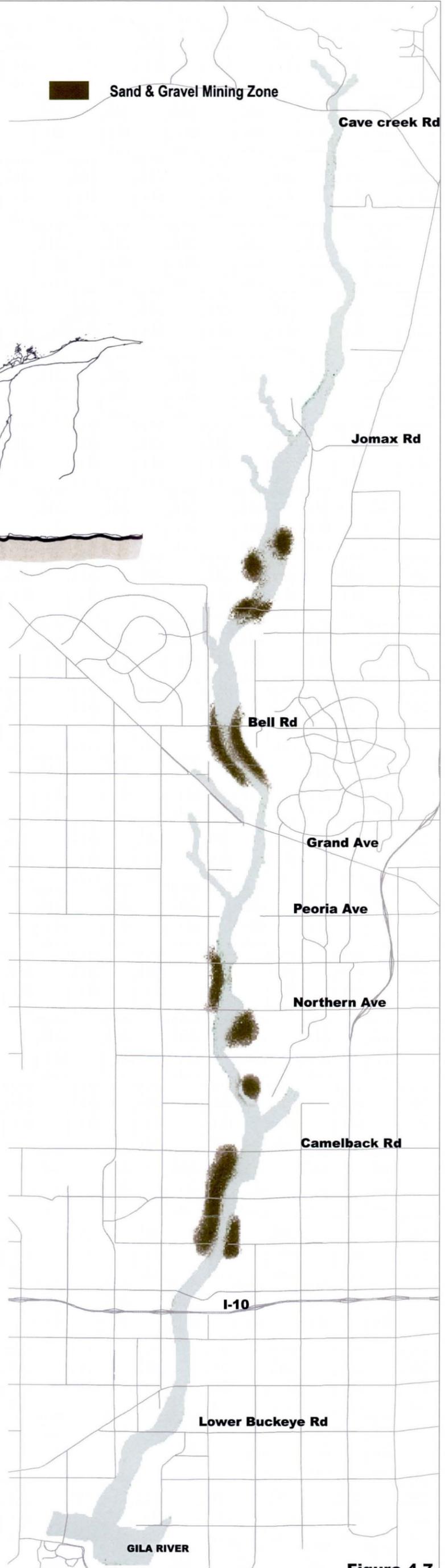


Figure 4.7

5. SCENIC QUALITY ASSESSMENT

5.1 *Inventory Procedures and Approach*

The discussions that follow are based on a combination of research and various original field studies, which were completed during January 1999 and February 2000. As noted previously, detailed investigations of Scenic Attractiveness and Scenic Integrity were completed in accordance with USFS SMS procedures. Fifteen stops along the Project Area were selected to enable a detailed analysis. Thirty-seven separate rating units based on particular characteristics of landform, vegetation, water, and land use/ cultural conditions were used. A detailed descriptive narrative was prepared in the field. Also a number of component ratings were given, and photographs were taken of each unit. Following this, a rating of Scenic Integrity was conducted for all visually evident landscape modifications at each stop. The ratings were documented on a special field form and in photographs.

Following is a description of the process used for the Visual Resources Inventory and the Scenic Quality Assessment. One of the project study sites, Stop 14 is used as an example.

5.2 *Scenic Attractiveness*

Scenic Attractiveness represents the inherent scenic beauty of a landscape. Commonly held perceptions of the beauty of landform, vegetation pattern, composition, surface water characteristics, and land use patterns and cultural features all contribute to create a general feeling of well being in the viewer. Scenic Attractiveness determines the potential of a landscape to evoke a positive response in people. Scenic attractiveness is classified as *Distinct*, *Typical*, and *Indistinctive* depending on the scenic quality exhibited by the combination of valued natural elements that make up the landscape.

Class A—Distinctive

Areas where landform, vegetation patterns, water characteristics, and cultural features combine to provide unusual, unique, or outstanding scenic quality. These landscapes have strong positive attributes of variety, unity,

vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

Class B—Typical

Areas where landform, vegetation patterns, water characteristics, and cultural features combine to provide ordinary or common scenic quality. These landscapes have generally positive, yet common, attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

Class C—Indistinctive

Areas where landform, vegetation patterns, water characteristics, and cultural land use have low scenic quality. Often water and rock form of any consequence is missing in class C landscapes. These landscapes have weak or missing attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

A brief description of the attributes that contribute to the landscape is discussed in 5.2.3.

To enable an evaluation of Scenic Attractiveness, contrast ratings, scenic quality inventory and the perceived landscape were individually analyzed to obtain a composite score that would correctly and consistently classify sites along the river corridor.

5.2.1 Contrast Ratings

The combinations of valued landscape elements such as landform, water characteristics, vegetation, and cultural features, are used in determining the measure of Scenic Attractiveness. Contrast ratings of these elements were conducted at each stop to determine sites along the Project Area with exceptional visual appeal.

Landform, rock formations, vegetation, water features, and cultural features were rated in the following areas

- Form
- Line
- Color
- Texture

The areas were weighted and a score was determined by multiplying the weighted number by its rated value chosen. The sum of all the scores was calculated and the result was the score for the particular site.

Table 5.1 shows an example of this evaluation which scores stop14 high due to its combination of vegetation variety, landform and open water.

Table 5.1 CONTRAST RATING

Landform			
Element	Weight	Rating	Score
Form	4	2.75	11
Line	3	2.75	8.25
Color	2	1	2
Texture	1	2.75	2.75
Total			24

Rock Formations			
Element	Weight	Rating	Score
Form	4	2	8
Line	3	2	6
Color	2	0	0
Texture	1	2.5	2.5
Total			16.5

Vegetation			
Element	Weight	Rating	Score
Form	4	2.5	10
Line	3	2.5	7.5
Color	2	2.5	5
Texture	1	3	3
Total			25.5

Water Features			
Element	Weight	Rating	Score
Form	4	2	8
Line	3	2.5	7.5
Color	2	1	2
Texture	1	0	0
Total			17.5

Cultural Features			
Element	Weight	Rating	Score
Form	4	1	4
Line	3	1	3
Color	2	0	0
Texture	1	0	0
Total			7

Rating:	
Strong	3
Moderate	2
Weak	1
None	0
Total Score	90.5



Diversity of landform, vegetation and presence of water create a scenic attractiveness that is rare along the Agua Fria River

5.2.2 Scenic Quality Inventory

To establish the relative occurrence of any of the valued landscape elements in the Project Area, as well as visible elements of historic and present land use which contribute to the image and sense of place, a scenic quality inventory was conducted.

A guideline was followed for taking inventory of the scenic quality of the site. The following elements were investigated.

- Landform
- Vegetation
- Water
- Color
- Adjacent Scenery
- Scarcity
- Cultural

There were specific qualities that were accessed for each category and a score was given. The total scores determine the scenic quality rating that contributes to the scenic attractiveness of the Project Area.

Table 5.2 illustrates Stop14 as being fairly highly rated based on the combinations of the components analyzed. Exposed bedrock and the surrounding hill slopes of the Arizona Upland Regions combine to expose dominant landforms and a striking backdrop. Vegetation is also abundant and of several interesting types. Water is semi dominant. This landscape in general is rare within the Agua Fria River corridor. Cultural contributions include power lines that depreciate the quality of the landscape.



Power lines depreciate the otherwise high scenic quality of the landscape.

Table 5.2 SCENIC QUALITY INVENTORY

Category	Rank Description	Score Option	Score
Landform	Dominant/Striking	(1 to 5)	4
Vegetation	Several Interesting Types	(1 to 5)	4.5
Water	Semi-Dominant	(0 to 5)	3
Color	Somewhat Dominant	(1 to 5)	4
Adj. Scenery	Enhances Quality	(0 to 5)	2.5
Scarcity	Rare Within Region	(1 to 6)	5
Cultural	Quality Some what Depreciated	(-4 to 2)	-2
Total			21

5.2.3 Perceived Character

People value most the landscapes they regard as having the most positive combinations of variety, vividness, mystery, intactness, coherence, harmony, uniqueness, pattern, and balance. These attributes greatly contribute to measures of high scenic attractiveness and are defined in the following section.

- *Variety in the landscape creates added interest when present in moderation.*
- *Unity in a landscape provides a sense of order that translates into a feeling of well being.*
- *Vividness is related to variety as well as contrast, adding clearly defined visual interest and a memorable experience.*
- *Mystery arouses curiosity and adds interest to a landscape.*
- *Intactness is related to unity and also indicates wholeness—few or no missing parts in a landscape.*
- *Coherence describes the ability of a landscape to be seen as intelligible, rather than chaotic.*
- *Harmony is related to unity. It exhibits a pleasant arrangement of landscape attributes.*
- *Uniqueness of a landscape also arouses curiosity and often signifies scarcity, rarity, and greater value.*
- *Pattern includes pleasing repetitions and configurations of line, form, color, or texture, as well as harmony.*
- *Balance in some ways reflects unity and harmony, but even more it displays a state of equilibrium that creates a sense of well being and permanence.*

Table 5.3 is an example of the rating of the character perceived at stop 14, as related to the above attributes. The perceived character in terms of variety, vividness and pattern is evident from the many textures exhibited by landform and vegetation. Balance and harmony of the setting is seen in context with the surrounding backdrop of the upland slopes that envelop the scene in a coherent whole. Overall, the perceived character is unique occurring in few areas along the Agua Fria River. The power lines that cross the river corridor breaks the intactness of the landscape. This Stop distinctly portrays a landscape that holds a certain mystery inviting the visitor for further exploration.

Table 5.3 PERCEIVED CHARACTER

Character	High	Moderate (1)	Low
	(2)		(0)
Variety	2		0
Unity	2		
Vividness	2		0
Mystery		1	
Intactness		1	0
Coherence	2		0
Harmony	2		0
Uniqueness	2		0
Pattern	2		0
Balance		1	
Score			17

Scores were thus determined based on the analysis of each stop for Contrast Ratings, Scenic Quality and Perceived Character. Scores were totaled and stops that fell within the top 33% were classified as Distinctive (Class A). The next 33% were classified as Typical (Class B) while the lower 33% were classified as Indistinctive (Class C).

Stop 14 scored very high and is considered Distinctive (Class A) within the Project Area.

Contrast scores + Scenic quality + Percieved character

Total score for scenic attractiveness = 128.5

Class A - Distinctive	A
Class B - Typical	
Class C - Indistinctive	

Table 5.4 summarizes the composite Scenic Attractiveness scores evaluated for all the Stops.

Stop Ratings			
Name	Stop #	Score	Classification
Gila River Confluence	1	124	A
Buckeye Road	2	31	C
McDowell Road	3	36	C
Camelback Rd.	4	31	C
Glendale Ave.	5	69	B
Lakeshore Dr.	6	37	C
Bell Rd.	7	36.5	C
Rose Garden Ln.	8	33.5	C
Hatfield Rd	9	64.5	B
Calderwood Butte	10	79	B
Beardsley Canal	11	80.5	B
Jomax	12	38	C
Cowtown Rd.	13	62.5	B
South of Hwy 74	14	128.5	A
North of Hwy 74	15	162	A

Scores < 54, = C

Scores > 54 < 108, = B

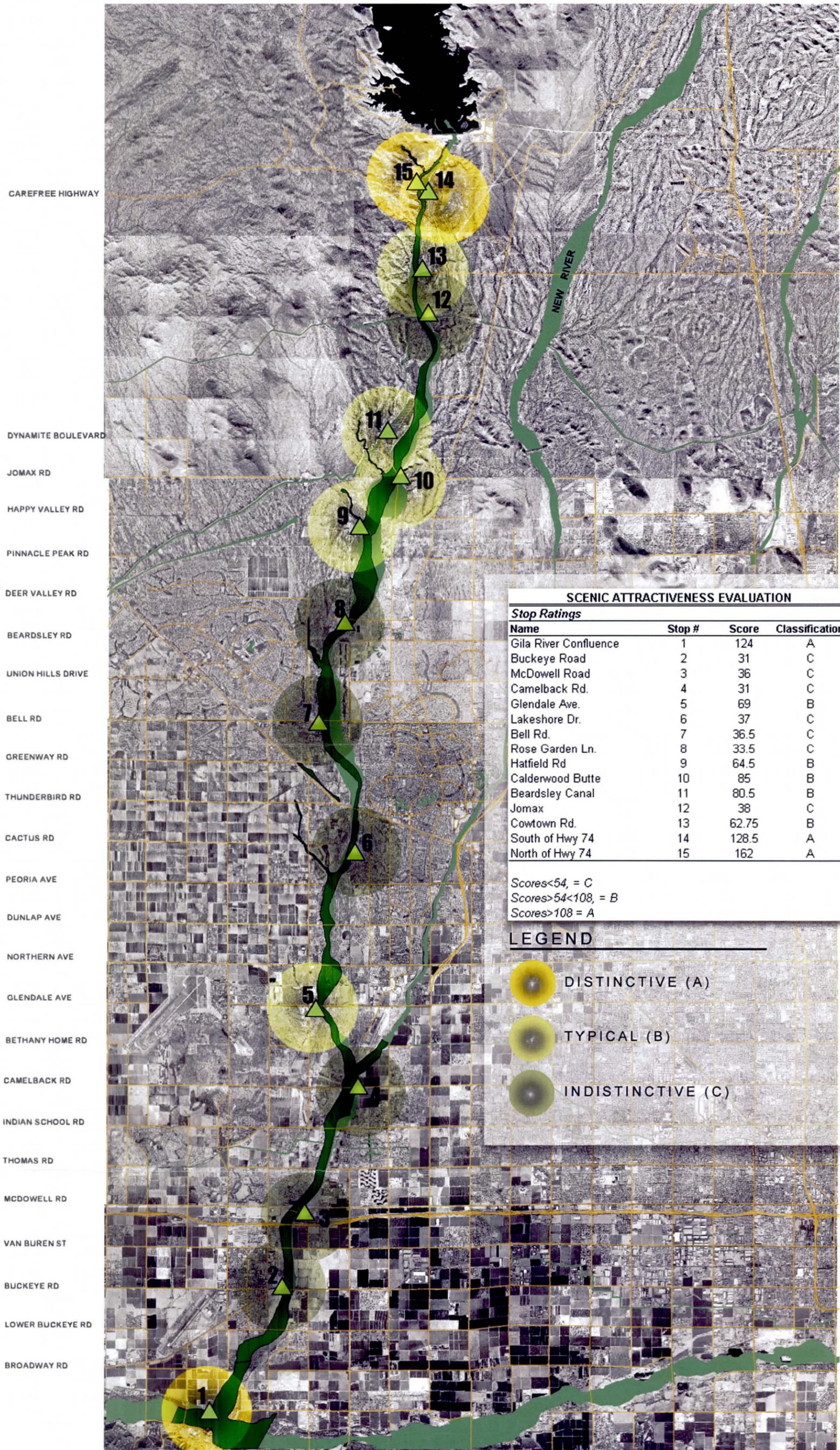
Scores > 108 = A

The following figure (Fig 5.1) graphically summarizes the Scenic Attractiveness of all the Stops studied. Stops 1, 14 & 15 were found to be distinctive sites. A common factor in all these sites was the presence of standing water and higher vegetation densities. A rich variety of rock and landforms also contributed to their distinction. Cultural modifications were minimal in these areas.

Stops determined with typical Scenic Attractiveness – Stops 5, 9, 10, 11 were found to possess moderate vegetation densities and certain natural and manmade elements of interest. Typically however, development modifications were seen to conflict with the natural character.

Scenic Attractiveness classification that was indistinctive typically occurred at Stops 2, 3, 4, 6, 7, 8 and 12 where the riverbed vegetation and landform characteristics were nondescript. Features of interest were minimal. Also these stops were typically adjacent to industrial and the urbanized areas along the corridor.

SCENIC ATTRACTIVENESS



SCENIC ATTRACTIVENESS EVALUATION

<i>Stop Ratings</i>			
Name	Stop #	Score	Classification
Gila River Confluence	1	124	A
Buckeye Road	2	31	C
McDowell Road	3	36	C
Camelback Rd.	4	31	C
Glendale Ave.	5	69	B
Lakeshore Dr.	6	37	C
Bell Rd.	7	36.5	C
Rose Garden Ln.	8	33.5	C
Hatfield Rd	9	64.5	B
Calderwood Butte	10	85	B
Beardsley Canal	11	80.5	B
Jomax	12	38	C
Cowtown Rd.	13	62.75	B
South of Hwy 74	14	128.5	A
North of Hwy 74	15	162	A

Scores < 54 = C
 Scores > 54 < 108 = B
 Scores > 108 = A

LEGEND

-  DISTINCTIVE (A)
-  TYPICAL (B)
-  INDISTINCTIVE (C)

Figure 5.1

5.3 Existing Scenic Integrity

Existing scenic integrity is defined as the current state of the landscape, considering previous human alterations. The frame of reference for measuring achievement of scenic integrity levels is the valued attributes of the "EXISTING" Landscape Character "BEING VIEWED". The scenic integrity levels are shown below.

5.3.1 Very High

The landscape scenery appears unaltered. Deviations to the landscape are insignificant. The existing Landscape Character and sense of place is expressed at the highest possible level.

5.3.2 High

The scenery appears unaltered. Alterations to the landscape do exist but repeat the form, line, color, texture, and pattern of the surrounding landscape so completely and at such scale, that the alteration is not evident.

5.3.3 Moderate

The scenery appears slightly altered. Deviations in the landscape are noticeable, however they remain visually unobtrusive when viewed within the general Landscape Character.

5.3.4 Low

The scenery is moderately altered. Man made deviations begin to dominate the valued Landscape Character being viewed. They borrow valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative type changes or architectural styles outside the landscape being viewed. Introduced Landscape Character however appears compatible or complimentary to the character within the natural landscape.

5.3.5 Very Low

The Landscape Character is heavily altered. Modifications to the landscape may strongly dominate the valued Landscape Character. Deviations to the landscape do not borrow from valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative type changes or architectural styles within or outside the landscape being viewed. However deviations are made to shape and blended with the natural terrain (landforms) so that elements such as unnatural edges,

roads, landings, and structures do not dominate the composition.

5.3.6 Unacceptably Low

Scenic integrity refers to landscapes where the valued Landscape Character being viewed appears extremely altered. Deviations are extremely dominant and borrow little if any attributes from surrounding character. Landscapes at this level of integrity need rehabilitation.

The following is an example of how scenic integrity was assigned to Stop 14 of the study.

VH	H	M	L	VL	UL

Waddell dam breaks the natural lines of the mountain range in the background
Power lines in the foreground also infringes into the scenic quality of the area



Natural lines of the mountains broken by the New Waddell dam construction.

5.4 Landscape Visibility

Landscape visibility addresses the relative importance and sensitivity of what is seen and perceived in the landscape.

Landscape Visibility consists of three elements:

- Travelways and Use Areas
- Concern levels
- Distance Zones

5.4.1 Use Areas & Travelways

The context of the viewer is greatly influenced by the travel way used to gain access to the view and the extent of use on these travelways. Along the Agua Fria River, views into the riverbed are predominantly from the arterial roadways and bridges that cross the river. Most of these travelways were designated secondary travelways as per the SMS system as these were neither national nor regionally important locations associated with recreation or tourism use. Being arterial roads, use patterns were typically high, though not for the distinct purpose of gaining access to the river. Also, the riverbed itself was considered a travel way along which users trekked or hiked to enjoy the River landscape, use patterns in this case were typically low.

5.4.2 Hierarchy of Concern Levels

Concern levels are a measure of the degree of public importance placed on landscapes viewed from travelways and use areas. They are divided into levels 1, 2, and 3 or high moderate and low respectively. At the inventory stage, the type of area and its level of use is an adequate indicator of the level of interest that people are likely to have in the surrounding landscape. The context within which an observer views a landscape is influenced by the concern level the viewer attaches to the view. A rare scenic setting within a natural landscape most likely holds a higher concern for viewers, even though their numbers are few. Alternatively, a high concern level is attached to views exposed to a large number of viewers due to high use patterns. The maintenance of the scenic quality and integrity of such views are a priority.

Table 5.5 is a matrix for determining concern levels.

Table 5.5 HEIRARCHY OF CONCERN LEVELS

USE PATTERNS	INTEREST IN SCENERY		
	High	Moderate	Low
Primary Travelway/ High Use	1	2	2
Primary Travelway/Moderate Use	1	2	2
Primary Travelway/Low Use	1	2	3
Secondary Travelway/High Use	1	2	2
Secondary Travelway/Moderate Use	1	2	3
Secondary Travelway/Low Use	1	2	3

Source: Handbook for Scenery Management. USFS.

5.4.3 Distance Zones

Landscapes are viewed to varying degrees from different locations and subsequently differ in their importance. To assist scenic inventory and analysis, concern levels can rank this importance. The degree of discernable detail is determined relative to the position or location of the observer. There were four viewing zones used in project level planning. The viewing zones are generally what a viewer sees at close proximity to their location as well as distant views. The four viewing or distance zones are defined and described in the following section.

5.4.3.1 Immediate Foreground 0 to 300 feet

At an immediate foreground many of the details of the different landscape components can be made out. Individual leaves, rock textures, small animals, tracks, individual movement of reeds and grasses in light wind.

5.4.3.2 Foreground: 300 feet to ½ mile

At this distance, clumps of bushes, tree branches, leaf clusters and individual large branches can be distinguished. Clumps of wildflowers and medium sized animals and birds can be made out. Movement of treetops can be distinguished. Individual forms are dominant at this distance.

5.4.3.3 Middleground: ½ to 4 miles

Form, texture, and color play an important part in differentiating the different components of the landscape seen in the middleground. Individual tree forms, cacti, large boulders and fields of grasses can be distinguished. Texture is often made up of repetitive plant forms.

5.4.3.4 *Background: 4 miles to horizon*

At a background distance, texture in the landscape disappears and color flattens out. Components in the landscapes can be distinguished only en masse. Groves of trees or large rock outcroppings can be distinguished and landform ridge lines and horizon lines form dominant visual characteristics. The background contributes to the scenic quality in terms of the backdrop it presents to the landscape components seen in front.

The following is an example of the Landscape Visibility evaluated at Stop 14 as a combination of its three elements.

Primary Travelway, Use area – high (scenic drive, connection to recreation areas)

HEIRARCHY OF CONCERN LEVELS		
Distance Zones	Interest	#
IFG (0'-300')	High	1
FG (300' - 1/2 mi.)	High	1
MG (1/2 - 4 mi.)	Moderate	2
BG (4 mi - horizon)	Moderate	2

DESCRIPTION OF DISTANCE ZONES	
Immediate Foreground	River channel, water, lush vegetation.
Foreground	Riparian vegetation, bedrock, interesting rock formations
Midground	Floodplain terraces with typical scrub type vegetation
Background	Hills on the horizon with Waddel dam in the foreground

In conclusion, for each stop studied in the Project Area, Scenic Attractiveness determines the distinctiveness of a particular site. Secondly, Scenic Integrity assesses the visual impact of human alteration at a particular site and thirdly Landscape Visibility evaluates the scenic importance of each site based on the hierarchy of concern levels attached to the site. Concern levels take into consideration the use associated with each stop and the relative sensitivity to what is seen at varying distances.

The following figure (Fig5.2) graphically depicts the Landscape Visibility determined for all the Stops. The concern levels attached to each Stop and the distance zones associated with the views identify scenic management goals. Concern level '1' is rare along the river corridor and need to be preserved. Concern level '2' & '3' typically require improvement.

HEIRARCHY OF CONCERN LEVELS

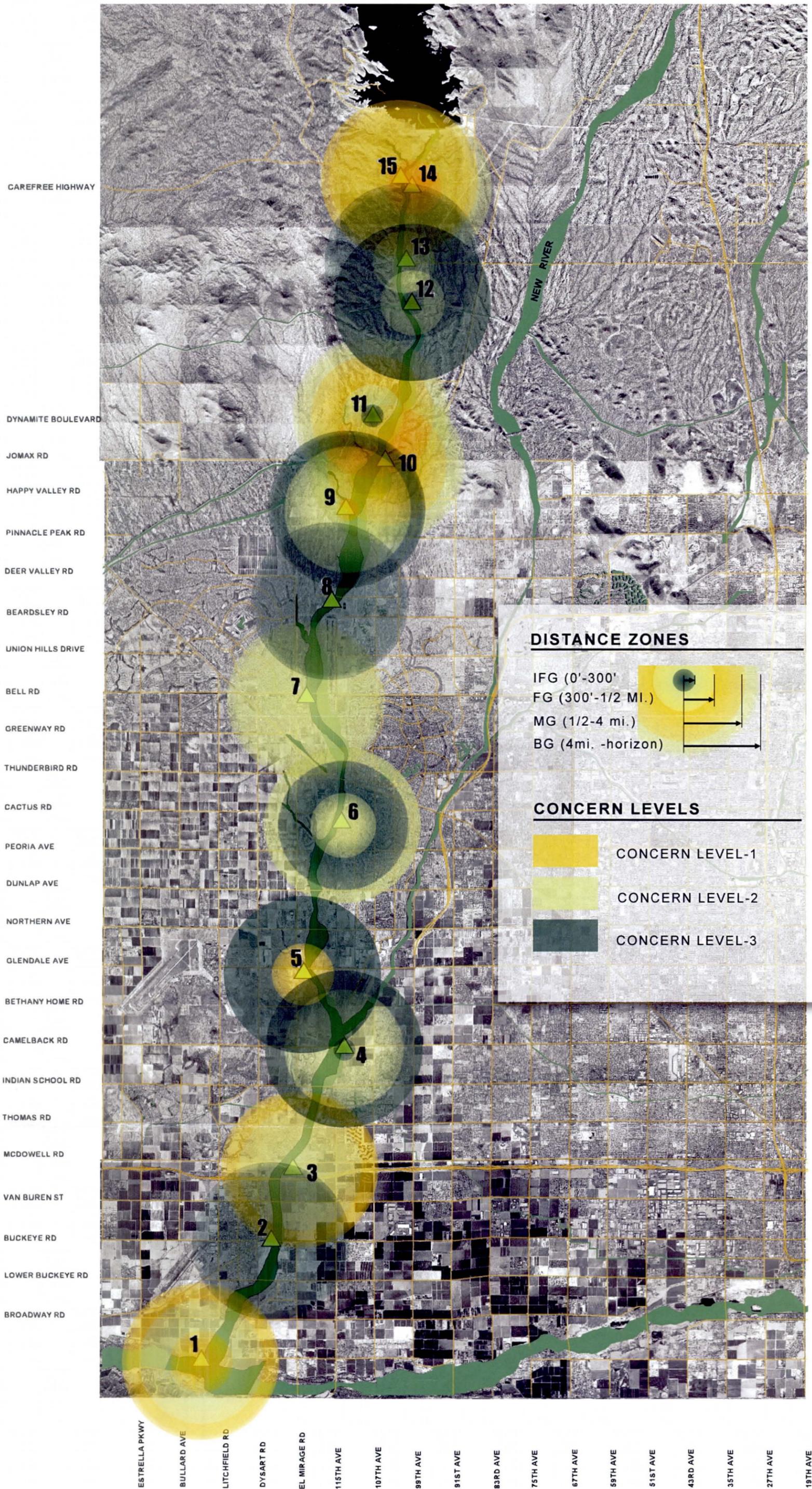


Figure 5.2

Scenic assessments conducted for all the stops are presented in Appendix A.

The scenic assessment clearly demarcates the sites that are most distinctive along the project area. It is noted that all the distinctive sites were hydric riparian or tending to mesic in Landscape Character. This indicated that water played a major role in improving the visual quality of an area, whether it was natural or human induced. These were seen to occur within situations of moderate to high scenic integrity implying that deviations to the landscape have occurred in a manner that complemented the natural Landscape Character.

Many of the stops studied in the project area exhibited scenic attractiveness that was typical or indistinctive. There was little or no variation in the natural landscape components such as landform, vegetation and water to contribute to scenic attractiveness. Many of the stops that fell within the ephemeral character of the river exhibited this quality. Along this stretch, water inflow into the channel is severely limited and supports only highly monotypic stands of vegetation. Also, scenic integrity was found to range from low to unacceptably low indicating that human modification to the river corridor were in many cases insensitive to the natural landscape character of the corridor.

Recreational opportunities along the Agua Fria River are closely associated with the scenic and cultural resources of the river. The Agua Fria Watercourse Master Plan promotes the integration of flood control solutions with recreational opportunities while preserving the scenic integrity of the river corridor. An analysis of existing and proposed land uses adjoining the river corridor has revealed many sites that hold potential for recreational activities. Landscape Character studies and scenic quality assessments provide a means by which recreational goals are achieved through scenic management goals.

6. VISUAL RESOURCE INVENTORY

6.1 *Points of Interest*

Over the course of the Visual Resources Assessment, several sites along the corridor were identified as having exceptional qualities that define the character of the corridor and contribute to the visitor's experience (Fig 6.1). The different sites demonstrated riparian habitats, areas of historic significance, scenic areas, recreational areas and interesting manmade installations.

A few of the significant points of interest are briefly described in the following sections:

6.1.1 Lake Pleasant

Lake Pleasant is located north of the New Waddell Dam, in the Arizona Upland Region, essentially formed by the damming of the Agua Fria waters. It is a popular recreational spot with opportunities for boating, fishing, hiking and camping. The surrounding hill slopes form scenic backdrops to the lake and provides for spectacular views into the lake.

6.1.2 George's Pond

Immediately south of the New Waddell Dam, the river channel is deeply incised into the rocky surface characteristic of the upland regions. This is one of the few truly hydric riparian habitats that were seen in the corridor. Open ponds of water with lush growth of willows and under story vegetation support a wide variety of wildlife.

6.1.3 Beardsley Canal Aquaduct

The bridge flume that carries water from the Beardsley Canal across the Agua Fria is quite unique in its form and character. The Beardsley Canal is a historic canal that was begun in 1892, and has served the West Valley for over 100 years. The bridge serves as an innovative example of water transportation across difficult terrain.

6.1.4 Citrus Grove

The banks of the Agua Fria River historically have been used for crop cultivation and agriculture. The wide alluvial floodplains combined with irrigation provided ample opportunities for farming. This practice is now limited and is rapidly being replaced by community development and specifically at this site, sand and gravel mining.

6.1.5 Unnamed Site

One of the many archaeological sites seen along the Agua Fria River corridor, it represents a medium pit house village of Hohokam Indians who subsisted largely on farming and small animal hunting. Remnants of pre-historic pit houses can still be seen. Also visible are evidences of flood farming, rock art and craft products.

6.1.6 Calderwood Butte

The Calderwood Butte occurs just north of Jomax Road east of the river corridor. These are conspicuous hills, with no other ranges occurring in immediate view. Calderwood Butte encompasses the floodplain along one bank with stark rocky slopes that provide shade and enclosure to activities that include ATV use and shooting range. Areas like this are few along the river and hold great potential for large-scale recreational use along the corridor. Historically, Calderwood Butte represents one of the stage stops that linked travelers to Prescott and Wickenburg.

6.1.7 Park Sites

The Park sites identified include Coldwater Park and Regional Park II in Avondale and Camelback Ranch Park in Phoenix. These are examples of open space recreational areas that have been linked to the river corridor, creating opportunities for continuous multi-use trails integrated with the channel. These not only create opportunities for interaction with natural open space habitat, but also provide for community connections to the river corridor.

6.1.8 Avondale Waste Water Recharge Pond

Water discharged from the Avondale Treatment Plant collects in a series of constructed wetlands, purified by natural systems of filtration and sedimentation before being recharged into the water table. These manmade wetlands have now become a haven for aquatic wildlife, birds and small mammals. This is an example of habitat modification brought about by water inflow introduced through human practices.

6.1.9 Chicken Ranch

Chicken Ranch is situated immediately north of the confluence of the Agua Fria River and the Gila River. This was created as a mitigation site. Primary vegetation includes Mesquite and Cottonwood trees. Over the years, the area has become a popular habitat area for birds and small mammals.

6.1.10 Gila River Confluence

Agricultural fields and rural residences occupy the confluence of Agua Fria River and the Gila River. Thick mesquite bosques inhabit the river edge. The Estrella Mountains in the south provide a stunning backdrop to this landscape. Within the river channels certain sections are being used for water retention creating rich riparian habitats with lush vegetation and abundant wildlife.

POINTS OF INTEREST

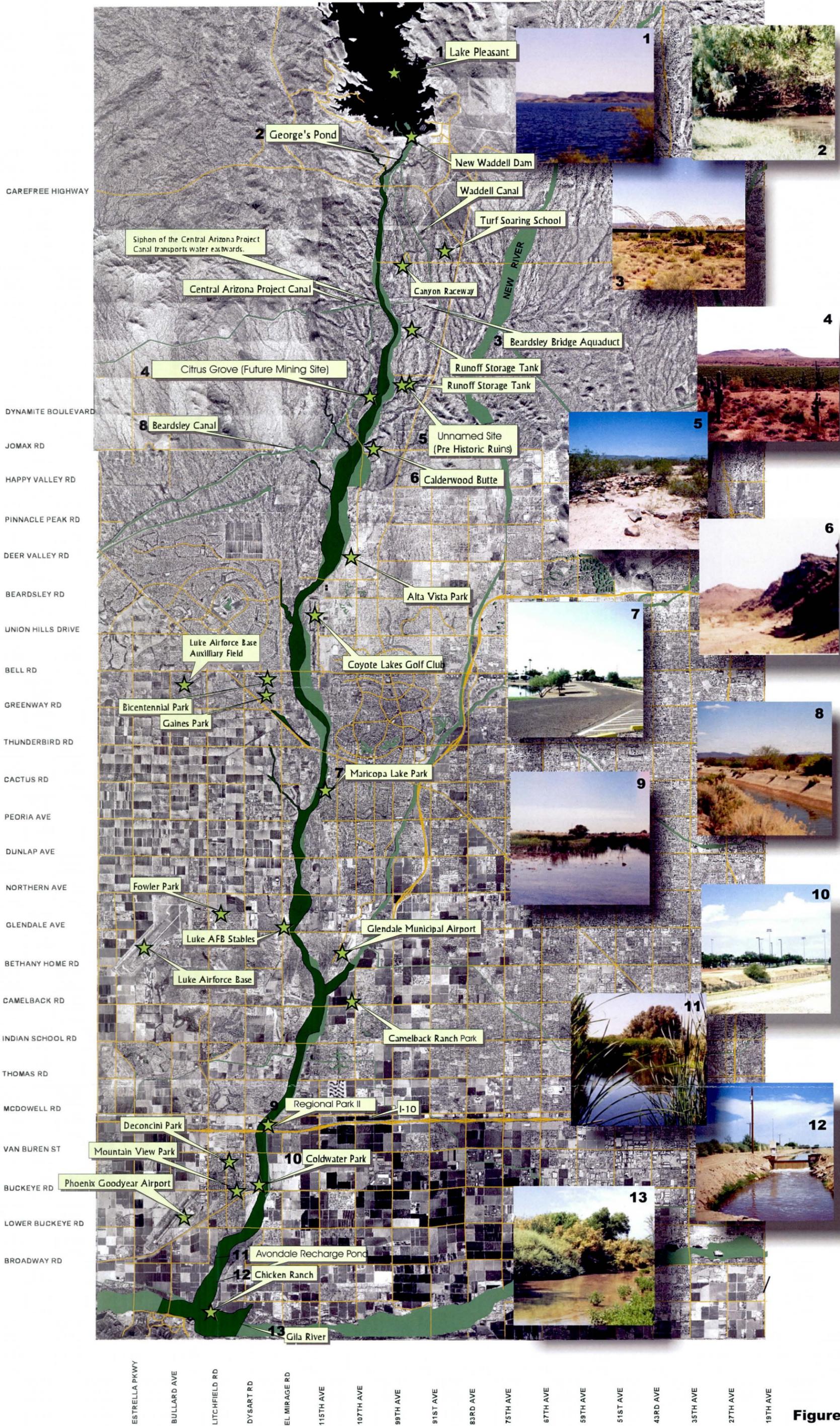


Figure 6.1

6.2 Viewsheds

A Viewshed typically represents the surrounding land that is visible when traversing the river. Some of the most distinctive viewsheds visible to the traveler along the river are listed in the following section. Figure 6.2 Illustrates some of the significant viewsheds visible from the river.

6.2.1 Lake Pleasant

North of the New Waddell Dam, Lake Pleasant is encircled within the mountainous slopes of the Arizona Upland Region. The clear blue of the Lake contrasts against the dark backdrop of the surrounding mountains creating spectacular panoramic views. These views are hidden from the river and are only visible from the vicinity of Lake Pleasant.

6.2.2 Arizona Upland Region

The Arizona Upland Region is distinguished by a range of rocky hill slopes typical of the Central Arizona Region. Dense plantings of Saguaro, shrub Paloverde and Cholla contribute to the visual variety of these slopes. The numerous drainage ways arising from the mountain slopes are also heavily vegetated generally making this area very lush in appearance.

6.2.3 Beardsley Aqueduct

This manmade installation dominates the views of the river in that particular region. Its line and form and the material used for its construction all contrast with the surrounding riparian region. However, overall the effect is pleasing to the eye and interesting to a visitor. Its historic link to water transport in the region also lends to its value in the landscape.

6.2.4 Citrus Groves

The citrus groves north of Jomax road, when viewed in the context of the river landscape visually brings out the imprint of mans impact on the natural landscape. Formal rows of the compact bright foliage of the citrus grove stand out in striking contrast to the subdued hues and natural flowing lines of the river. Distant mountains create a backdrop for this visual diversity, overall binding the whole, and creating a scenic landscape quite distinct in character.

6.2.5 Calderwood Butte

The rocky hill slopes of the Calderwood Butte occur as a solitary range in the surrounding landscape adjacent to the river corridor. Such features flanking the river are rare along the corridor. The contrasts of light and shade created also contributes to this particular viewshed of the river.

6.2.6 McMicken Dam outflow

The viewshed towards the McMicken Dam outflow region adjoining the river is characterized by lush vegetation caused by the outflow from the McMicken Dam. Few areas along the river possess this quality.

6.2.7 I-10 underpass outflow

The viewshed into the river at the I-10 under-pass demonstrates the dry riverbed in its vastness. Planting along the river bed is dense caused by the outflow from drainage channels into the river. Some areas of standing water occur and have resulted in localized areas of lush vegetation and the development of associated wildlife habitat.

6.2.8 Gila River confluence

The viewshed towards the Gila River confluence typically demonstrates true riparian habitats that most likely existed along the entire stretch of the river corridor in the past. Dense growths of Mesquite bosques and cottonwoods surround the river confluence. Varied wildlife sightings not seen anywhere else along the river corridor demonstrate the habitat value of these landscapes, and truly represent areas that are not only valuable for their visual variety but also for their bio-diversity.

6.2.9 Estrella Mountains

The viewshed towards the Estrella Mountains are truly striking and form a fitting backdrop to the riparian landscape at the Gila River confluence. Agricultural fields dominant in the alluvial plains characteristic of this area also lend to the visual quality of the landscape.

VIEWSHEDS ALONG THE AGUAFRIA

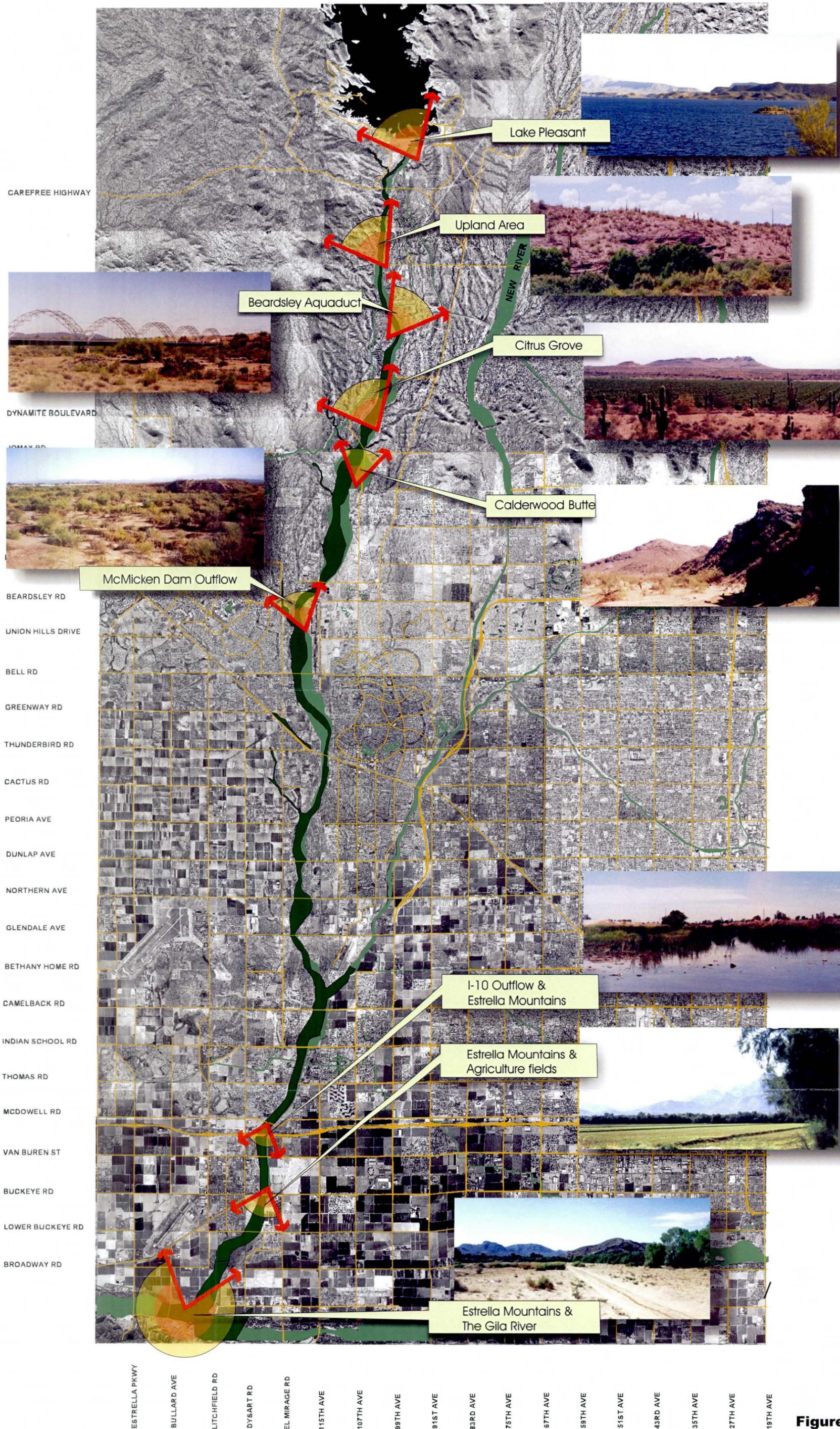


Figure 6.2

7. LANDSCAPE CHARACTER DEVELOPMENT

The Scenic Resource Assessment conducted along the Agua Fria River provides information to the planning team concerning the relative scenic values along the corridor. As part of the planning process, potential developments utilize the aspects of the landscape character descriptions to develop achievable character goals integrated with proposed Master Plan.

7.1 *The Agua Fria River Development*

Current and future developments along and within the River that primarily influence the landscape character include:

- Flood control solutions, both structural and non-structural components that are required in erosion hazard zones determined as a part of this project.
- New recreational areas, such as natural and enhanced open spaces, planned parks, multi-use trails, golf courses and active sports parks.
- Water recharge projects that allow for water inflow at several points along the river corridor for groundwater recharge.
- New community and transportation developments adjacent to the river corridor.
- Sand and gravel mining, asphalt production and concrete batch plant operations.

7.2 *Desired Landscape Character*

Landscapes are not static, but are always undergoing change as a result of natural environmental processes or external modification. The Agua Fria Watercourse Master Plan promotes the preservation of wildlife habitat areas and the enhancement of areas of scenic beauty and cultural/historic significance while supporting controlled development and recreational use. Changes in land use types and modifications to the landscape brought about as a result of the implementation of the Master Plan indicates consequential changes to the existing landscape character.

Changes to the existing landscape character as a result of development extend to the physical, biological and cultural components that make up the landscape. Physical changes

include topographical modifications or structural installations as a result of development and/or flood control implementation. Hydrological changes are a direct result of physical changes in the landscape. Additional water inflow points cause modification to the water table and alters the existing flow channels. A direct, indirect or cumulative effect of these changes is the modification to the biological component in terms of vegetation and habitat character.

Landscape character descriptions described in Section 4 establish the current overall visual impression of the existing landscape. Scenic quality assessments determine the scenic values and the extent to which those values are intact. These evaluations promote the improvement of indistinct areas as well as provide a reference for comparison between the existing and desired landscape character. This facilitates the progression toward a character found more appropriate to changed uses in a manner that is consistent and legitimate.

As part of the study, it is recognized that much of the existing Landscape character along the Agua Fria River may not be sustained. However, certain parameters have been considered to develop a strategy by which a desired landscape character may be achieved. Also, in conjunction with the team biologists, an enhanced planting palette based on the existing vegetation types seen in each character zones has been prepared and is included in Appendix B of this report. These, along with topographical modification (determined from the character studies) can be used to achieve the desired landscape character.

7.3 Landscape Transition Strategies

As stated earlier, landscapes are not static and are always undergoing change as a result of natural processes and human modifications. As a part of the Agua Fria Watercourse Master Plan study, two planning studies accompanied the Visual Resource Analysis, a Recreation Plan and a Water Recharge Plan (See Appendix C, a & b). These plans, referred to as overlay plans, when combined with the results of the studies conducted along the river, as well as with future proposals for the river, formulates a plan that reflects probable modifications that in turn will affect the future landscape character.

Predicting the probable modifications to the Agua Fria River is only a stop in time that revolves around the completion of the Watercourse Master Plan and this report. It is acknowledged that as water recharge projects are developed, recreational

opportunities are realized, and flood control measures are implemented, that the landscape character will also need to be modified to match future land uses.

The structure for the landscape character recommendations in this report is envisioned as a dynamic process over the next 20-30 years. Based on the recreational, biological and engineering studies contained in the Watercourse Master Plan and the findings within the Visual Assessment contained in this report a set of tools have been developed to respond to the changing landscape of the Agua Fria River.

The tools provided follow from the natural landscapes found within the corridor, along with modified landscapes that provide for active recreation. Also, as a critical element of flood control, hydraulic modeling of vegetation densities as landscapes are proposed will greatly influence the placement of plant material types within the corridor and the formation of individual projects.

In an effort to plan for the possible transitions in the landscape character for the river, strategies have been developed that range from preservation to major alterations. These strategies include:

7.3.1 Preservation Areas

Preserving areas of high scenic attractiveness, with minimum alterations to the existing landscape. These would include portions of the Agua Fria River immediately south of The New Waddell Dam and at the confluence with the Gila River. Passive types of recreational activities may be permitted in these areas. The existing landscape character is to be preserved and is used as a model for creating similar landscapes. Preservation areas along the river are few and it is imperative that proposed land uses in these areas take a secondary priority as opposed to the main priority, which is to sustain these areas.

7.3.2 Conservation Areas

Conservation Areas generally include areas where the scenic attractiveness is typical and scenic integrity varies from low to moderately low with occasional areas of high scenic or cultural value. These present opportunities for integrating development alternatives with landscape character enhancement. These are defined by portions of the river corridor along the middle reach of the project area where the existing character is predominantly xeric / mesic.

Proposed uses along this stretch include several recreational features and future groundwater recharge programs. The availability of water provides an opportunity to transform the existing landscape character into a mesic / hydric system. In planning for these facilities it is desirable to develop the topographic character and an enhanced plant palette promoting wildlife habitat development and recreational use. These areas can support recreational activities that are passive or active in nature.

Active use areas can be included in areas where scenic attractiveness is typical and scenic integrity is low. Little scenic or cultural significance is attached to these areas. These are found in the more urbanized areas of the corridor. The existing character is typically ephemeral.

Enhancements to the Landscape character could make use of water inflow points along the river to create xeric/ mesic pockets that are more conducive to recreational use and increase the aesthetic value in the channel. Active recreational activities can be supported in these areas.

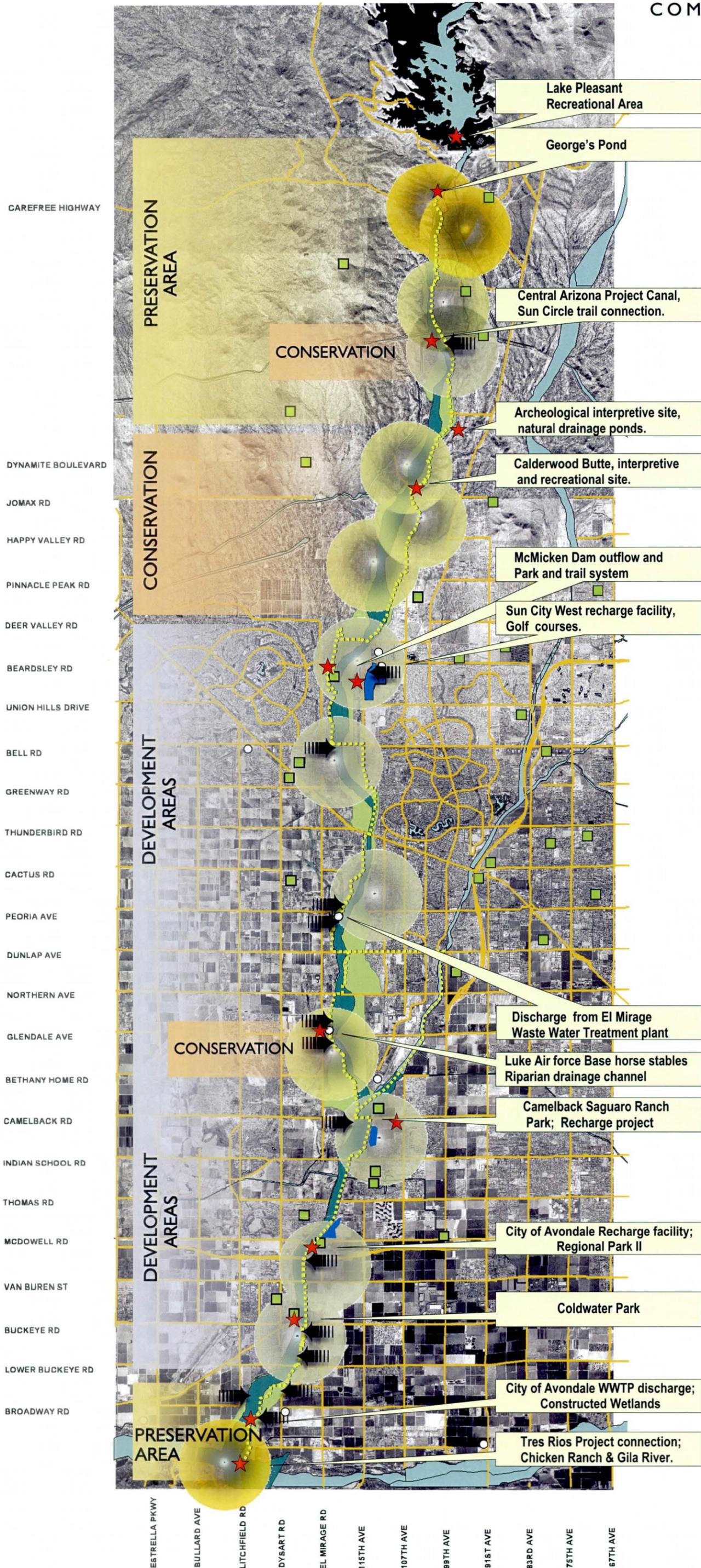
7.3.3 Development Areas

These include areas in the river corridor that require a substantial amount of alteration to achieve any acceptable landscape character. These include existing landscape character that is heavily culturally influenced or heavily degraded. These include the channeled portions of the river and mined pits. The desired character of these areas is an outcome of future planning decisions. Proposed land uses in these areas should aim to improve the conditions typical of these areas. Any of the natural landscape character types can be created within these areas. Also, these are ideal locations for active recreational use.

The following Combined Overlay Plan (Fig 7.1) identifies certain elements of the Water Course Master Plan that have a significant bearing on the resulting Landscape Character of the river. These are Scenic Assessments along the river, Points of Interest, Proposed and Existing major Recreational Areas and Water Recharge projects proposed along the river. The resultant Transition Strategies thus developed takes into consideration all these factors in the adoption of appropriate land uses planned along the river.

COMBINED OVERLAY PLAN

Scenic Attractiveness
Recreation
Water Recharge



- Existing Waterways
- Lateral Migration Erosion Hazard Zone
- Agua Fria Floodway
- Recharge Facilities
- Maintenance Road & Trails
- Parks
- Main Arterials
- Waste Water Treatment Plants
- Water Inflow Points
- Points of Interest
- Distinctive
- Typical
- Indistinctive

Figure 7.1

7.4 Use Compatibility

The following matrix (Table 7.1, a & b) describes landscape character types that are compatible with the major land uses. When evaluated with the Landscape Character Concept Plan, future land uses and their corresponding landscape character can be applied to projects within the river corridor. The land use classification and the landscape character can be determined, based on the priority associated with the existing landscape character. Example given, if a landscape is of high scenic value or preservation area, such as a naturally occurring riparian area, the naturally occurring landscape should take priority and the corresponding land use be applied to preserve the area. Conversely, if a park is the proposed land use, and within a development area, then the corresponding landscape character proposed should be sustainable under the land use.

HYDRIC RIPARIAN		PROPOSED USES COMPATIBILITY WITH LANDSCAPE CHARACTER				
PLANT PALETTE		FLOOD CONTROL	RECREATION	NEW DEVELOPMENT	RECHARGE	EXTRACTION
Arrowhead Big galleta Bulrush Button bush Cattail Coyote willow Duckweed Horsetail Knotweed Panic grass	Pond weed Red-osier Dogwood Reed Rush Saltgrass Sedge Spike-rush	NON STRUCTURAL SOLUTIONS <ul style="list-style-type: none"> • Low flow channels • Detention basins • Retention basins • Areas with ponding water • Backwater basins 	PASSIVE ACTIVITY: <ul style="list-style-type: none"> • Hiking • Birdwatching • Photography • Nature trails with interpretive signage. • Raised viewing platforms to observe wildlife. • Restricted boating & fishing. 	OPEN SPACE AREAS <ul style="list-style-type: none"> • Community open spaces enhanced by hydric riparian pockets adjacent to the river corridor. • Drainage and water harvesting create saturated areas that promote hydric riparian character. 	HYDRIC CORRIDORS <ul style="list-style-type: none"> • Promote the development of continuous wildlife and recreational corridors with hydric riparian character. 	RECLAMATION <ul style="list-style-type: none"> • Eventual reclamation goals could include water retention basins in mined pits. • Edge conditions promote ideal hydric riparian character.

MESIC RIPARIAN		PROPOSED USES COMPATIBILITY WITH LANDSCAPE CHARACTER				
PLANT PALETTE		FLOOD CONTROL	RECREATION	NEW DEVELOPMENT	RECHARGE	EXTRACTION
Blue paloverde Big galleta Bulrush Button bush Sedge species Coyote willow Ironwood Knotweed Reed Sycamore Acacia Culy mesquite	Desert hackberry Jojoba Knotweed Mesquite Panic grass Alkali sacaton Brittle bush Bursage Bushmulhy Creosote Snakeweed	NON STRUCTURAL SOLUTIONS <ul style="list-style-type: none"> • Planting for bank stabilization to protect erosion hazardous zones. • Temporary inundation areas. STRUCTURAL <ul style="list-style-type: none"> • Planting on sacrificial terraces against structural levees. • Using drainage channels from bridge protection structures to develop mesic character areas. 	PASSIVE USE <ul style="list-style-type: none"> • Hiking • Birdwatching • Photography • Camping • Enhancement of historically significant areas • Bosque planting and wildlife habitat creation. ACTIVE USE <ul style="list-style-type: none"> • Bicycling • Equestrian • Picnics for large groups 	OPEN SPACE AREAS <ul style="list-style-type: none"> • Mesic riparian corridors connecting residential areas to the river corridor. • Mesic buffers used between proposed active parks and river corridor. • Mesic riparian habitats preserved in planned parks for interpretation & education. • Trail heads adjacent to the floodplain landscaped with bosque character planting. 	TRANSITION CORRIDORS <ul style="list-style-type: none"> • Mesic character provides the transition between hydric riparian areas (recharge ponds) and xeric areas. • High potential for the creation of bosque type planting with increased water recharge into the river channel. 	RECLAMATION <ul style="list-style-type: none"> • Mesic character planting can be developed into buffer zones between mining activity and adjacent residential communities. • Eventual reclamation of mining areas could include mesic conditions to promote wildlife habitats and plant successions.

Table 7.1 (a)

XERIC RIPARIAN		PROPOSED USES COMPATIBILITY WITH LANDSCAPE CHARACTER				
PLANT PALETTE		FLOOD CONTROL	RECREATION	NEW DEVELOPMENT	RECHARGE	EXTRACTION
<p>Alkali Sakaton Big galleta Brittle bush Bursage Bush mulhy Cereus Creosote Bush Desert Broom</p>	<p>Paloverde Sideoats gramma Blue gramma Snakeweed Spike dropseed</p>	<p>NON STRUCTURAL SOLUTIONS</p> <ul style="list-style-type: none"> Planting for bank stabilization in areas where water availability is limited <p>STRUCTURAL SOLUTIONS</p> <ul style="list-style-type: none"> Xeric character can be used to soften the edges of structural flood control implementation where scenic concerns are low and use is low. 	<p>PASSIVE USE</p> <ul style="list-style-type: none"> Hiking Birdwatching Photography Camping Enhancement of historically significant areas Bosque planting and wildlife habitat creation. <p>ACTIVE USE</p> <ul style="list-style-type: none"> Bicycling Equestrian Picnics for large groups 	<p>OPEN SPACE AREAS</p> <ul style="list-style-type: none"> Recreational amenities like trail eads and paved parking areas can extend into the xeric zone. Transition landscape in low water use open space areas between developments and river corridor. Natural landscape character on low use areas (medians& traffic islands) that relate to the river landscape. . 	<p>EDGE CHARACTER</p> <ul style="list-style-type: none"> Parts of the river corridor that have limited access to recharge water will retain a xeric character along its edges. 	<p>RECLAMATION</p> <ul style="list-style-type: none"> Early successional level communities that take hold in reclaimed areas with limited water. Reclaimed areas developed as mesic riparian zones could transition into xeric areas, merging into the undisturbed riverbed.

MEDITERRANEAN		PROPOSED USES COMPATIBILITY WITH LANDSCAPE CHARACTER				
PLANT PALETTE		FLOOD CONTROL	RECREATION	NEW DEVELOPMENT	RECHARGE	EXTRACTION
<p>Evergreen Elm Palms Arizona Ash Live Oak Oleander Texas Ranger</p>	<p>Lantana Verbena Turf Red Stem Yucca</p>	<p>STRUCTURAL SOLUTIONS</p> <ul style="list-style-type: none"> Structural implementations in urbanized areas utilize the Mediterranean character to integrate with the existing landscape character. Turf can be used to line floodways 	<p>PASSIVE ACTIVITY:</p> <ul style="list-style-type: none"> Jogging Dog Park Open play areas Picnic tables <p>ACTIVE USE</p> <ul style="list-style-type: none"> Planned parks Concerts Community parks Field oriented sports Board walks Large Group Activities Blading 	<p>OPEN SPACE AREAS</p> <ul style="list-style-type: none"> Recreational amenities like trail heads and paved parking areas leading to the river from planned community parks. Urban river front developments like city plazas, board walks, linear urban parks and open air theaters that integrate with the corridor. 	<p>EDGE CHARACTER</p> <ul style="list-style-type: none"> Water recharge ponds created along the channel in urbanized areas. Urban landscape elements like water parks, fountains, and water spurts. 	<p>RECLAMATION</p> <ul style="list-style-type: none"> Reclaimed mines in urban areas can accommodate facilities like golf courses with a Mediterranean character. Other high usage areas in urbanized settings such as skate board parks, adventure parks and amusement parks.

Table 7.1 (b)

7.5 *Landscape Character Concept Plan*

A Landscape Character Concept Plan (Fig 7.2) was formulated based on the current information of proposed uses and modifications identified in the Combined Overlay Plan. Again, as stated previously, many studies regarding water recharge are yet to be completed and in addition the River is experiencing continued mining for sand and gravel. With all the variables that will ultimately influence the plan, this concept plan focuses on increasing the landscape attractiveness of the River based on the opportunities identified as part of this report. Probable changes in the landscape character zones are also indicated.

7.5.1 River Opportunities

Five landscape character modifications are illustrated on the plan that demonstrate the landscape character that can be achieved based on modifications from proposed River development.

CONCEPT PLAN

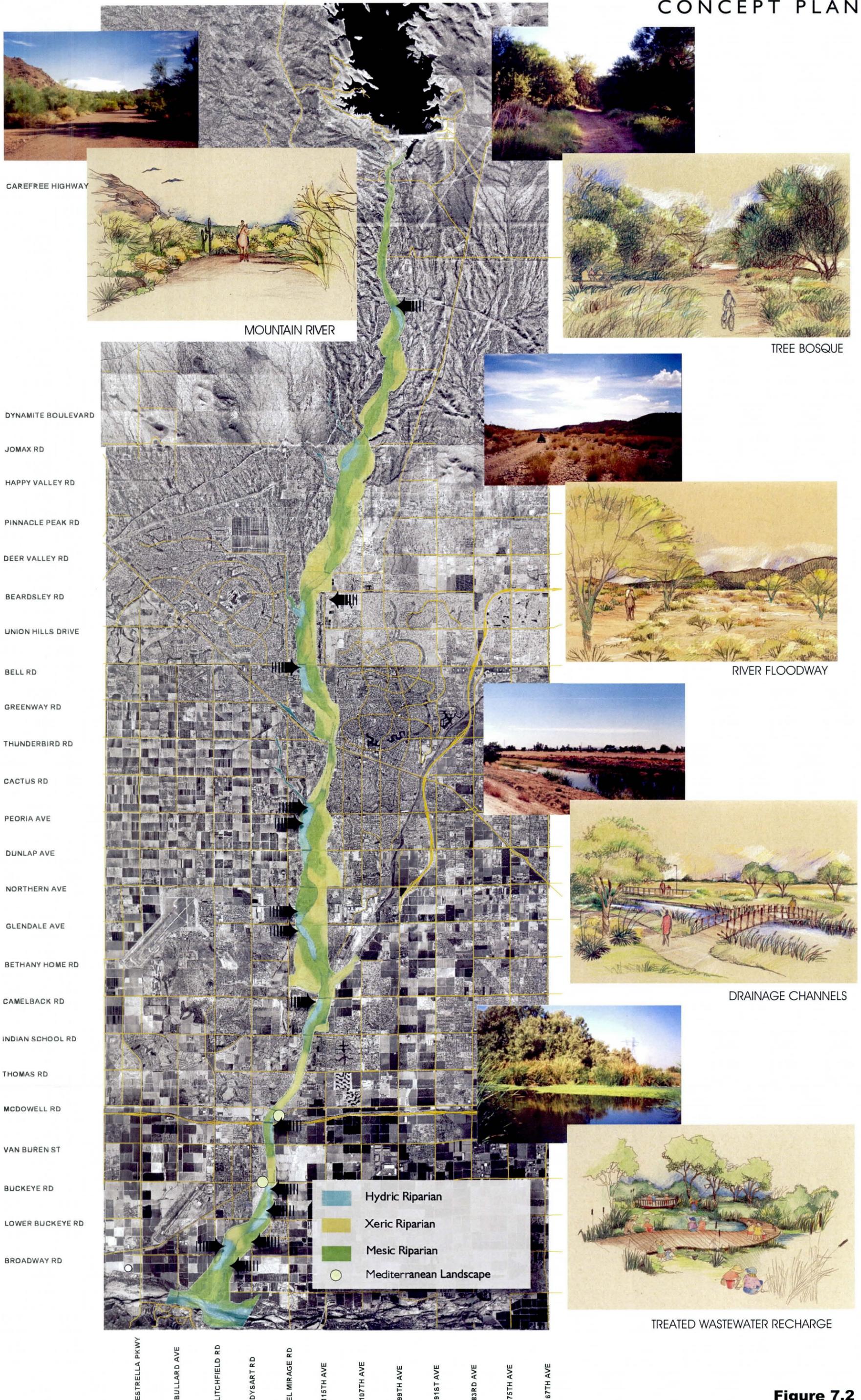


Figure 7.2

7.5.2 Treated Waste Water Recharge

The City of Avondale is currently discharging treated wastewater for groundwater recharge. The hydric riparian environment that has emerged from this modification is a valuable demonstration of situations where water is introduced into the River. Further opportunities for this site may include an education center for the public and schools. Many recharge projects are proposed for the river corridor resulting in opportunities to increase the vegetation and habitat value.



7.5.3 Drainage Channels

Drainage channels occur throughout the river corridor and provide unique opportunities for enhancing the landscape character and wildlife habitat. Many of the drainage channels have constant water runoff from surrounding agricultural fields as well as irrigation from neighborhoods. In most inflow areas hydric / mesic riparian area have emerged. Many of these inflows are immediately upstream of bridges that are protected by grade control structures, preventing erosion to bridge foundations. A result of the grade control structures, which are large concrete walls buried in the river channel, is that they create dams resulting in a perched water table. This perched water provides an opportunity to enhance the vegetation and habitat in these areas. The landscape character that could be developed in association with drainage channels includes all character types from hydric riparian to xeric riparian and Mediterranean when associated with a park such as the I-10 drain adjacent to Avondale's Regional Park II.



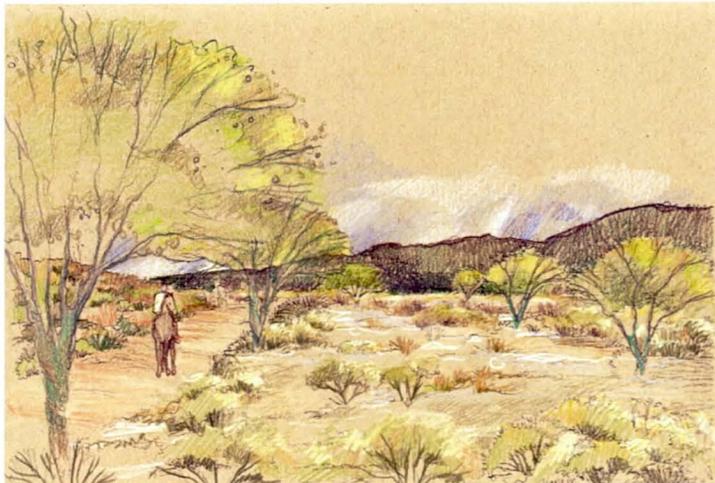
7.5.4 Tree Bosque

Tree bosques represent mesic / xeric riparian environments that occur naturally along the river corridor. These naturally occurring environments are a result of frequent water introduction and favorable moisture retaining soils. Opportunities for the development of these environments occur on the floodway fringe and floodplain where frequent runoff is captured and out of floodway. These environments have the capability of creating a rich habitat and enjoyable human refuge.



7.5.5 River Floodway

Much of the river character is considered ephemeral with sparse vegetation as a result of flooding that frequently erodes and uproots plants. Within the river floodway, the area that frequently carries waters, the greatest risk for any develop or landscape character enhancement occurs. To reduce risk, it is recommended in these areas that xeric riparian landscape enhancement be made only to those areas that are not an active floodway.



7.6 Conclusion

The Agua Fria River is a dynamic resource opportunity. Though rivers in the Valley have conventionally been viewed as a traditional resource for industrial uses, a longer lasting resource is for open space that will serve the neighborhoods and the communities of the Valley. How we implement future projects both in and along the banks of the River in the coming years will determine if the Agua Fria River is valued as open space asset to the community. This report, in combination with the entire Watercourse Master Plan, sets in place a vision and the tools to create a recreational, scenic and biologically enhanced corridor that work in concert with flood control. The implementation of this Vision resides in the projects that will come after this study and the support by Individuals, Cities, County agencies and the overall Community.

APPENDIX A

STOP 1

CAREFREE HIGHWAY

DYNAMITE BOULEVARD

JOMAX RD

HAPPY VALLEY RD

PINNACLE PEAK RD

DEER VALLEY RD

BEARDSLEY RD

UNION HILLS DRIVE

BELL RD

GREENWAY RD

THUNDERBIRD RD

CACTUS RD

PEORIA AVE

DUNLAP AVE

NORTHERN AVE

GLENDALE AVE

BETHANY HOME RD

CAMELBACK RD

INDIAN SCHOOL RD

THOMAS RD

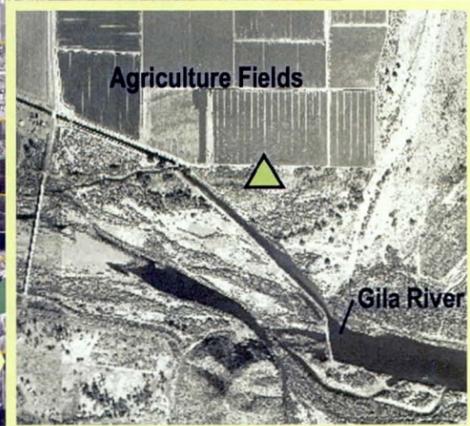
MCDOWELL RD

VAN BUREN ST

BUCKEYE RD

LOWER BUCKEYE RD

BROADWAY RD



ESTRELLA PKWY

BULLARD AVE

LITCHFIELD RD

DYSART RD

EL MIRAGE RD

115TH AVE

107TH AVE

99TH AVE

91ST AVE

83RD AVE

75TH AVE

67TH AVE

59TH AVE

51ST AVE

43RD AVE

35TH AVE

27TH AVE

19TH AVE

STOP 1

SCENIC INVENTORY ANALYSIS

AGUA FRIA RIVER CORRIDOR

Location Gila River & Agua Fria (Based on Photographs)
 12/14/99 Stop 1

The confluence of the Agua Fria river and Gila river represents one of the most scenic areas along the Agua Fria. A portion of the channel is reserved as a retention area, here, lush hydric riparian wetlands with Reeds, Willows and Cattails transitions into mesic riparian areas with mesquite bosques and cottonwoods. A large amount of Tamarisk is also noted. Vast areas within the floodplain are agricultural areas. The Estrella mountains form a spectacular background.

SCENIC ATTRACTIVENESS

CONTRAST RATING

Landform			
Element	Weight	Rating	Score
Form	4	2	8
Line	3	2	6
Color	2	1	2
Texture	1	1	1
Total			17

Water Features			
Element	Weight	Rating	Score
Form	4	2.5	10
Line	3	2	6
Color	2	2	4
Texture	1	2	2
Total			22

Rock Formations

Element	Weight	Rating	Score
Form	4	2.5	10
Line	3	2.5	7.5
Color	2	1	2
Texture	1	1	1
Total			20.5

Cultural Features

Element	Weight	Rating	Score
Form	4	0	0
Line	3	0	0
Color	2	1	2
Texture	1	0	0
Total			2

Vegetation

Element	Weight	Rating	Score
Form	4	2.5	10
Line	3	2	6
Color	2	2	4
Texture	1	2.5	2.5
Total			22.5

Rating:	
Strong	3
Moderate	2
Weak	1
None	0
Score	84

SCENIC QUALITY INVENTORY

Category	Rank Description	Score Option	Score
Landform	Dominant/Striking	(1 to 5)	3
Vegetation	Several Interesting Types	(1 to 5)	4
Water	Semi-Dominant	(0 to 5)	4
Color	Somewhat Dominant	(1 to 5)	3
Adj. Scenery	Enhances Quality	(0 to 5)	4
Scarcity	Rare Within Region	(1 to 6)	5
Cultural	Quality Some what Depreciated	(-4 to 2)	1
Score			24

PERCEIVED CHARACTER

Character	High	Moderate (1)	Low
	(2)		(0)
Variety	2		0
Unity		1	
Vividness	2		0
Mystery		1	
Intactness	2		0
Coherence	2		0
Harmony	2		0
Uniqueness	2		0
Pattern		1	0
Balance		1	
Score			16

SCENIC ATTRACTIVENESS

Contrast scores + Scenic quality + Perceived character
 Total score for scenic attractiveness = 124

Class A - Distinctive	A
Class B - Typical	
Class C - Indistinctive	

SCENIC INTEGRITY

VH	H	M	L	VL	UL
----	---	---	---	----	----

LANDSCAPE VISIBILITY

SECONDARY TRAVELWAY, MODERATE USE (RESIDENTIAL AREA)

Hierarchy of Concern Levels

Distance Zones	Interest	#		
IFG (0'-300')	High	1	Immediate Foreground	Wetland with water retention area and abundant riparian species
FG (300' - 1/2 mi.)	High	1	Foreground	Riparian area, flat sandy flood plain.
MG (1/2 - 4 mi.)	Moderate	2	Midground	Flood plain continues, agricultural areas further away
BG (4 mi. - horizon)	High	1	Background	Estrella Mountains on the south

STOP 2

CAREFREE HIGHWAY

DYNAMITE BOULEVARD

JOMAX RD

HAPPY VALLEY RD

PINNACLE PEAK RD

DEER VALLEY RD

BEARDSLEY RD

UNION HILLS DRIVE

BELL RD

GREENWAY RD

THUNDERBIRD RD

CACTUS RD

PEORIA AVE

DUNLAP AVE

NORTHERN AVE

GLENDALE AVE

BETHANY HOME RD

CAMELBACK RD

INDIAN SCHOOL RD

THOMAS RD

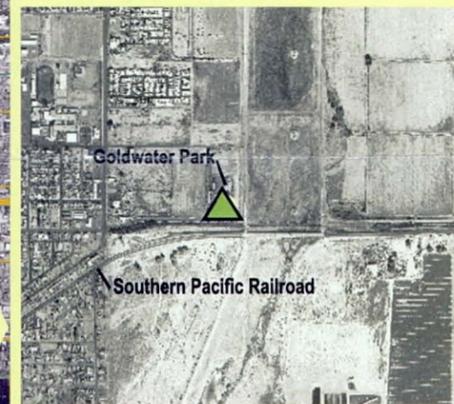
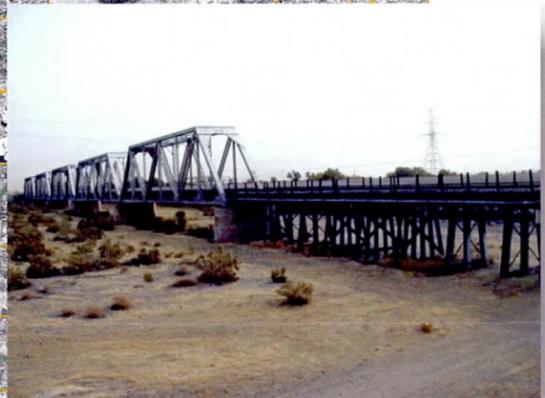
MCDOWELL RD

VAN BUREN ST

BUCKEYE RD

LOWER BUCKEYE RD

BROADWAY RD



ESTRELLA PKWY
BULLARD AVE
LITCHFIELD RD
DYSART RD
EL MIRAGE RD
115TH AVE
107TH AVE
99TH AVE
91ST AVE
83RD AVE
75TH AVE
67TH AVE
59TH AVE
51ST AVE
43RD AVE
35TH AVE
27TH AVE
19TH AVE

STOP 2

SCENIC INVENTORY ANALYSIS

AGUA FRIA RIVER CORRIDOR

Location Buckeye Rd. & Agua Fria (Coldwater Park) N 33° 26' 11.3" W 112° 19' 56"
West Side of River/ North Side of Street
12/14/99 Stop 2

Wide flood plain area with structured levees along both banks. The corridor accommodates large electric pylons on wide concrete bases. These are a dominant feature as is the rail bridge that crosses the river. The flood plain is sparsely vegetated with ephemeral type species. Areas along the river bed with localized surface run off is more vegetated. Coldwater park abuts the river corridor.

SCENIC ATTRACTIVENESS

CONTRAST RATING

Landform	Element	Weight	Rating	Score
	Form	4	1	4
	Line	3	0	0
	Color	2	1	2
	Texture	1	1	1
	Total			7

Water Features	Element	Weight	Rating	Score
	Form	4	0	0
	Line	3	0	0
	Color	2	0	0
	Texture	1	0	0
	Total			0

Rock Formations

Element	Weight	Rating	Score
Form	4	0	0
Line	3	0	0
Color	2	0	0
Texture	1	0	0
Total			0

Cultural Features

Element	Weight	Rating	Score
Form	4	1	4
Line	3	2	6
Color	2	0	0
Texture	1	0	0
Total			10

Vegetation

Element	Weight	Rating	Score
Form	4	1	4
Line	3	0	0
Color	2	1	2
Texture	1	1	1
Total			7

Rating:	Score
Strong	3
Moderate	2
Weak	1
None	0
Score	24

SCENIC QUALITY INVENTORY

Category	Rank Description	Score Option	Score
Landform	Dominant/Striking	(1 to 5)	1
Vegetation	Several Interesting Types	(1 to 5)	1
Water	Semi-Dominant	(0 to 5)	0
Color	Somewhat Dominant	(1 to 5)	1
Adj. Scenery	Enhances Quality	(0 to 5)	2
Scarcity	Rare Within Region	(1 to 6)	1
Cultural	Quality Some what Depreciated	(-4 to 2)	-2
Score			4

PERCEIVED CHARACTER

Character	High		
	(2)	Moderate (1)	(0)
Variety			0
Unity		1	
Vividness			0
Mystery			0
Intactness			0
Coherence		1	
Harmony			0
Uniqueness			0
Pattern			0
Balance		1	
Score			3

SCENIC ATTRACTIVENESS

Contrast scores + Scenic quality + Perceived character
 Total score for scenic attractiveness = 31

Class A - Distinctive	
Class B - Typical	
Class C - Indistinctive	C

SCENIC INTEGRITY

VH	H	M	L	VL	UL

Electric pylons and the rail bridge dominate the landscape
 Unattractive structural levees deviate from natural character of the river

LANDSCAPE VISIBILITY

PRIMARY TRAVELWAY, USE - HIGH (COMMUTERS)

Hierarchy of Concern Levels

Distance Zones	Interest	#		
IFG (0'-300')	Low	3	Immediate Foreground	Wide floodplain with non descript ephemeral channel vegetation
FG (300' - 1/2 mi.)	Low	3	Foreground	Structural levees, Floodplain and ephemeral channel vegetation
MG (1/2 - 4 mi.)	Low	3	Midground	Electric pylons, large apartment complex on the eastern bank
BG (4 mi. - horizon)	Low	3	Background	Distant mountains on the north and south

STOP 3

CAREFREE HIGHWAY

DYNAMITE BOULEVARD

JOMAX RD

HAPPY VALLEY RD

PINNACLE PEAK RD

DEER VALLEY RD

BEARDSLEY RD

UNION HILLS DRIVE

BELL RD

GREENWAY RD

THUNDERBIRD RD

CACTUS RD

PEORIA AVE

DUNLAP AVE

NORTHERN AVE

GLENDALE AVE

BETHANY HOME RD

CAMELBACK RD

INDIAN SCHOOL RD

THOMAS RD

MCDOWELL RD

VAN BUREN ST

BUCKEYE RD

LOWER BUCKEYE RD

BROADWAY RD



STOP 3

SCENIC INVENTORY ANALYSIS

AGUA FRIA RIVER CORRIDOR

Location McDowell & Agua Fria N 33° 27' 41.4" W 112° 19' 37.5"
East Side of River/ South Side of Street
12/14/99 Stop 3

Portion of the river that is channelized with structural levees on either side. The flood plain is flat and nondescript. Ephemeral channel vegetation is sparse and scattered. An outflow channel leads into the Agua Fria south of the I10 freeway. Parts of the channel subject to this flow is well vegetated and shows a riparian character. New construction is seen on the west bank of the river.

SCENIC ATTRACTIVENESS

CONTRAST RATING

Landform			
Element	Weight	Rating	Score
Form	4	2	8
Line	3	1.5	4.5
Color	2	0	0
Texture	1	1	1
Total			13.5

Water Features			
Element	Weight	Rating	Score
Form	4	0	0
Line	3	0	0
Color	2	0	0
Texture	1	0	0
Total			0

Rock Formations			
Element	Weight	Rating	Score
Form	4	0	0
Line	3	0	0
Color	2	0	0
Texture	1	0	0
Total			0

Cultural Features			
Element	Weight	Rating	Score
Form	4	1	4
Line	3	0	0
Color	2	0	0
Texture	1	0	0
Total			4

Vegetation			
Element	Weight	Rating	Score
Form	4	1	4
Line	3	1	3
Color	2	1	2
Texture	1	1	1
Total			10

Rating:	
Strong	3
Moderate	2
Weak	1
None	0
Score	27.5

SCENIC QUALITY INVENTORY

Category	Rank Description	Score Option	Score
Landform	Dominant/Striking	(1 to 5)	1
Vegetation	Several Interesting Types	(1 to 5)	1
Water	Semi-Dominant	(0 to 5)	1
Color	Somewhat Dominant	(1 to 5)	1.5
Adj. Scenery	Enhances Quality	(0 to 5)	2
Scarcity	Rare Within Region	(1 to 6)	1
Cultural	Quality Some what Depreciated	(-4 to 2)	-3
Score			4.5

PERCEIVED CHARACTER

Character	High	Low
	(2)	(0)
Variety		0
Unity	1	
Vividness		0
Mystery		0
Intactness		0
Coherence	1	
Harmony	1	
Uniqueness		0
Pattern		0
Balance	1	
Score		4

SCENIC ATTRACTIVENESS

Contrast scores + Scenic quality + Perceived character
 Total score for scenic attractiveness = 36

Class A - Distinctive	
Class B - Typical	
Class C - Indistinctive	C

SCENIC INTEGRITY

VH	H	M	L	VL	UL

Structural levees that channelize the river sharply contrast with the river character.

LANDSCAPE VISIBILITY

SECONDARY TRAVELWAY, MODERATE USE (RESIDENTIAL AREA)

Hierarchy of Concern Levels

Distance Zones	Interest	#		
IFG (0'-300')	Moderate	2	Immediate Foreground	Flat flood plain, small low growing vegetation, bridge and levee structures
FG (300' - 1/2 mi.)	Moderate	2	Foreground	Residential development visible on the west and northeast
MG (1/2 - 4 mi.)	Moderate	2	Midground	Urban development, flat floodplain
BG (4 mi. - horizon)	High	1	Background	Distant Mountains

STOP 4

CAREFREE HIGHWAY

DYNAMITE BOULEVARD

JOMAX RD

HAPPY VALLEY RD

PINNACLE PEAK RD

DEER VALLEY RD

BEARDSLEY RD

UNION HILLS DRIVE

BELL RD

GREENWAY RD

THUNDERBIRD RD

CACTUS RD

PEORIA AVE

DUNLAP AVE

NORTHERN AVE

GLENDALE AVE

BETHANY HOME RD

CAMELBACK RD

INDIAN SCHOOL RD

THOMAS RD

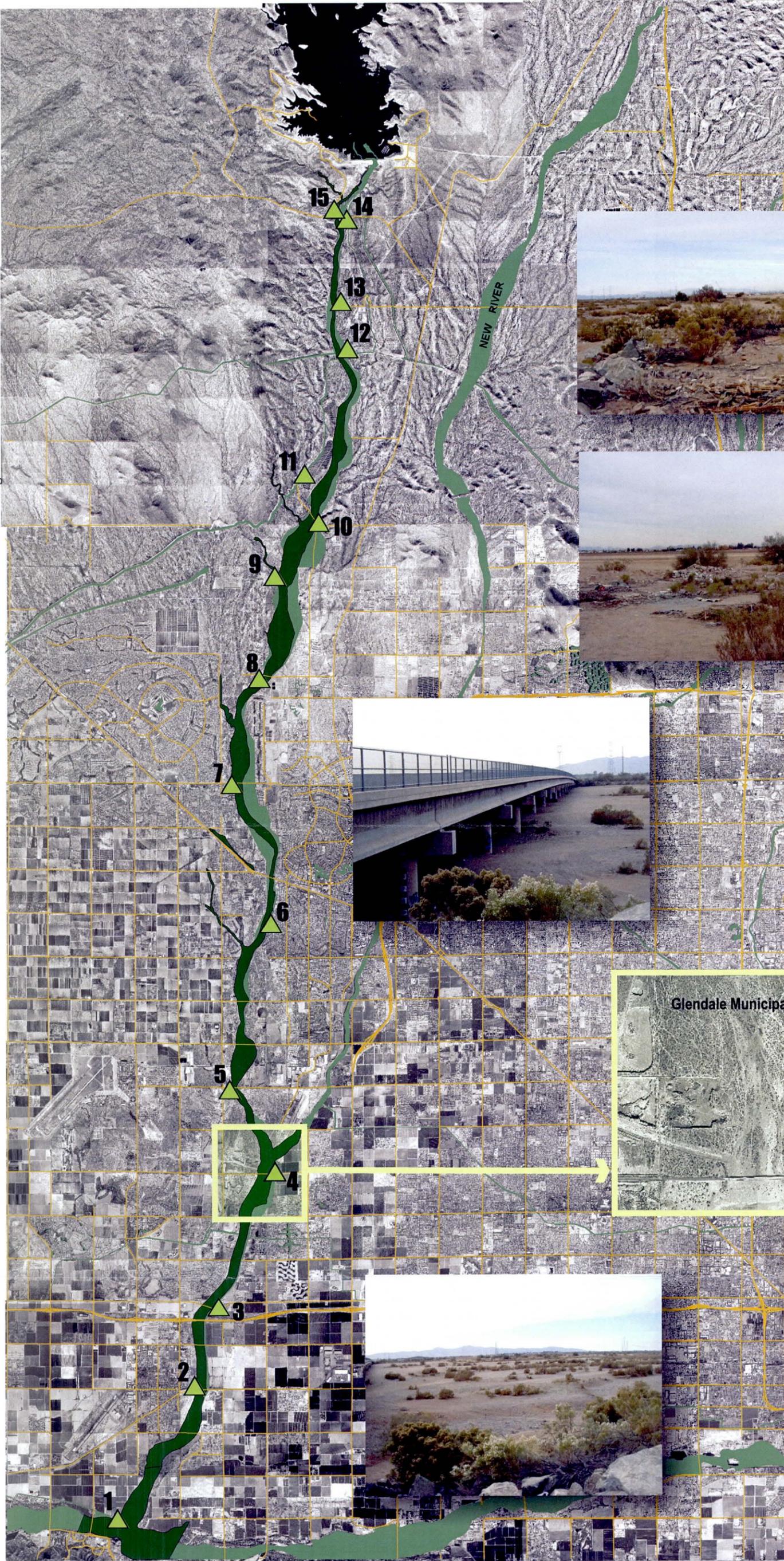
MCDOWELL RD

VAN BUREN ST

BUCKEYE RD

LOWER BUCKEYE RD

BROADWAY RD



ESTRELLA PKWY
BULLARD AVE
LITCHFIELD RD
DYSART RD
EL MIRAGE RD
115TH AVE
107TH AVE
99TH AVE
91ST AVE
83RD AVE
75TH AVE
67TH AVE
59TH AVE
51ST AVE
43RD AVE
35TH AVE
27TH AVE
19TH AVE

STOP 4

SCENIC INVENTORY ANALYSIS

AGUA FRIA RIVER CORRIDOR

Location Camelback Rd. & Agua Fria N 33° 30' 27.3" W 112° 18' 11.7"
East Side of River North Side of Street
12/14/99 Stop 4

The confluence of Agua Fria river and the New River at Camelback Road exhibits a vast flood plain with scant vegetation. There is indication of heavy ATV use in this area.

SCENIC ATTRACTIVENESS

CONTRAST RATING

Element	Weight	Rating	Score
Form	4	1	4
Line	3	1	3
Color	2	1	2
Texture	1	1	1
Total			10

Water Features			
Element	Weight	Rating	Score
Form	4	0	0
Line	3	0	0
Color	2	0	0
Texture	1	0	0
Total			0

Rock Formations			
Element	Weight	Rating	Score
Form	4	0	0
Line	3	0	0
Color	2	0	0
Texture	1	0	0
Total			0

Cultural Features			
Element	Weight	Rating	Score
Form	4	1	4
Line	3	1	3
Color	2	0	0
Texture	1	1	1
Total			8

Vegetation			
Element	Weight	Rating	Score
Form	4	1	4
Line	3	1	3
Color	2	1	2
Texture	1	1	1
Total			10

Rating:	
Strong	3
Moderate	2
Weak	1
None	0
Score	28

SCENIC QUALITY INVENTORY

Category	Rank Description	Score Option	Score
Landform	Dominant/Striking	(1 to 5)	1
Vegetation	Several Interesting Types	(1 to 5)	1
Water	Semi-Dominant	(0 to 5)	0
Color	Somewhat Dominant	(1 to 5)	1
Adj. Scenery	Enhances Quality	(0 to 5)	2
Scarcity	Rare Within Region	(1 to 6)	1
Cultural	Quality Some what Depreciated	(-4 to 2)	-3
Score			3

PERCEIVED CHARACTER

Character	High	Low	
	(2)	Moderate (1)	(0)
Variety			0
Unity			0
Vividness			0
Mystery			0
Intactness			0
Coherence			0
Harmony			0
Uniqueness			0
Pattern			0
Balance			0
Score			0

SCENIC ATTRACTIVENESS

Contrast scores + Scenic quality + Perceived character
 Total score for scenic attractiveness = 31

Class A - Distinctive	
Class B - Typical	
Class C - Indistinctive	C

SCENIC INTEGRITY

VH	H	M	L	VL	UL

Sand and Gravel mining operations are extremely detrimental to the scenic quality of the area.

LANDSCAPE VISIBILITY

SECONDARY TRAVELWAY, MODERATE USE (RESIDENTIAL AREA)

Hierarchy of Concern Levels

Distance Zones	Interest	#		
IFG (0'-300')	Low	3	Immediate Foreground	Debris, floodplain
FG (300' - 1/2 mi.)	Moderate	2	Foreground	Wide flat floodplain, clump of riparian trees in a drainageway.
MG (1/2 - 4 mi.)	Low	2	Midground	Industrial structures, scattered Desert Broom vegetation, airport, agriculture
BG (4 mi. - horizon)	Low	3	Background	Distant Mountains.

STOP 5

CAREFREE HIGHWAY

DYNAMITE BOULEVARD

JOMAX RD

HAPPY VALLEY RD

PINNACLE PEAK RD

DEER VALLEY RD

BEARDSLEY RD

UNION HILLS DRIVE

BELL RD

GREENWAY RD

THUNDERBIRD RD

CACTUS RD

PEORIA AVE

DUNLAP AVE

NORTHERN AVE

GLENDALE AVE

BETHANY HOME RD

CAMELBACK RD

INDIAN SCHOOL RD

THOMAS RD

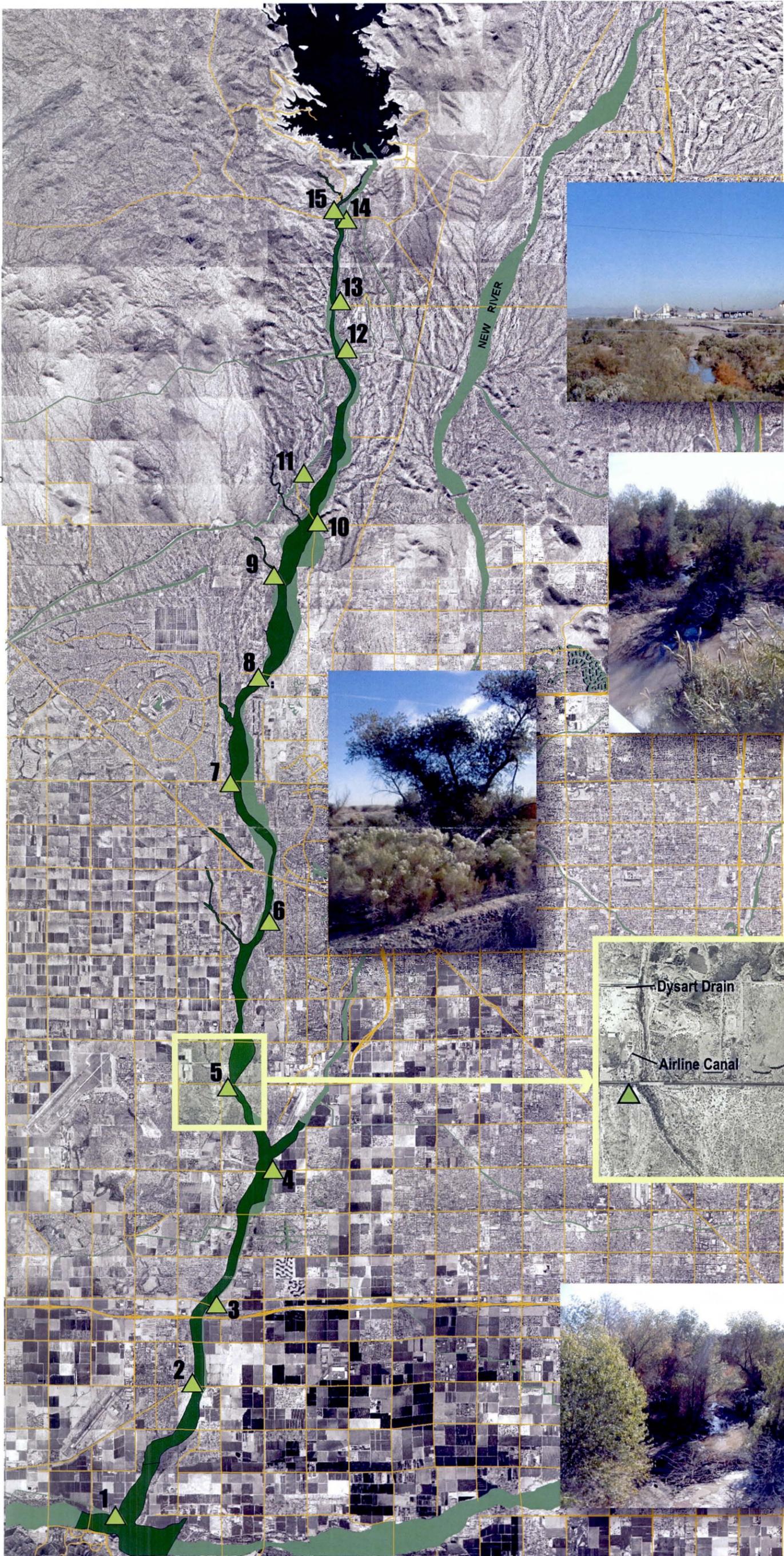
MCDOWELL RD

VAN BUREN ST

BUCKEYE RD

LOWER BUCKEYE RD

BROADWAY RD



ESTRELLA PKWY

BULLARD AVE

LITCHFIELD RD

DYSART RD

EL MIRAGE RD

115TH AVE

107TH AVE

99TH AVE

91ST AVE

83RD AVE

75TH AVE

67TH AVE

59TH AVE

51ST AVE

43RD AVE

35TH AVE

27TH AVE

19TH AVE

STOP 5

SCENIC INVENTORY ANALYSIS

AGUA FRIA RIVER CORRIDOR

Location Glendale & Agua Fria N 33° 32' 11.3" W 112° 19' 10.8"
West Side of River/ South Side of Road
12/15/99 Stop 5

A lush riparian area is created along the western edge of the river channel where water flows in from the Airline Canal and Dysart Drain further north. A high occurrence of Desert Broom and Tamarisk is noted along the drainage area. Sand and Gravel operations exist on the east floodplain. Apart from the drainage ways, the river channel is vegetated with scattered ephemeral channel type vegetation. Indications of heavy ATV use and equestrian use is observed.

SCENIC ATTRACTIVENESS

CONTRAST RATING

Landform			
Element	Weight	Rating	Score
Form	4	2	8
Line	3	1	3
Color	2	0	0
Texture	1	0	0
Total			11

Water Features			
Element	Weight	Rating	Score
Form	4	1	4
Line	3	2	6
Color	2	1	2
Texture	1	1	1
Total			13

Rock Formations			
Element	Weight	Rating	Score
Form	4	0	0
Line	3	0	0
Color	2	0	0
Texture	1	0	0
Total			0

Cultural Features			
Element	Weight	Rating	Score
Form	4	1	4
Line	3	1	3
Color	2	0	0
Texture	1	0	0
Total			7

Vegetation			
Element	Weight	Rating	Score
Form	4	2.25	9
Line	3	2	6
Color	2	2.5	5
Texture	1	2.5	2.5
Total			22.5

Rating:	
Strong	3
Moderate	2
Weak	1
None	0
Score	53.5

SCENIC QUALITY INVENTORY

Category	Rank Description	Score Option	Score
Landform	Dominant/Striking	(1 to 5)	1
Vegetation	Several Interesting Types	(1 to 5)	3
Water	Semi-Dominant	(0 to 5)	3
Color	Somewhat Dominant	(1 to 5)	2.5
Adj. Scenery	Enhances Quality	(0 to 5)	0
Scarcity	Rare Within Region	(1 to 6)	4
Cultural	Quality Some what Depreciated	(-4 to 2)	-3
Score			10.5

PERCEIVED CHARACTER

Character	High	Moderate (1)	Low
	(2)		(0)
Variety		1	
Unity			0
Vividness	1		
Mystery	1		
Intactness			0
Coherence			0
Harmony			0
Uniqueness		1	
Pattern		1	
Balance			0
Score			5

SCENIC ATTRACTIVENESS

Contrast scores + Scenic quality + Perceived character
 Total score for scenic attractiveness = 69

Class A - Distinctive	
Class B - Typical	B
Class C - Indistinctive	

SCENIC INTEGRITY

VH	H	M	L	VL	UL

Adjacent sand and gravel mines depreciates the scenic quality of the river corridor

LANDSCAPE VISIBILITY

SECONDARY TRAVELWAY, USE - MODERATE (MAIN ARTERIAL)

Hierarchy of Concern Levels

Distance Zones	Interest	#		
IFG (0'-300')	High	1	Immediate Foreground	Riparian area along drainageway along the eastern bank of the river channel
FG (300' - 1/2 mi.)	High	1	Foreground	Scattered xeric/ ephemeral vegetation seen in the floodplain
MG (1/2 - 4 mi.)	Low	3	Midground	Some urban development. Sand and Gravel industry is seen to the north
BG (4 mi. - horizon)	Low	3	Background	Distant mountains and power lines.

STOP 6

CAREFREE HIGHWAY

DYNAMITE BOULEVARD

JOMAX RD

HAPPY VALLEY RD

PINNACLE PEAK RD

DEER VALLEY RD

BEARDSLEY RD

UNION HILLS DRIVE

BELL RD

GREENWAY RD

THUNDERBIRD RD

CACTUS RD

PEORIA AVE

DUNLAP AVE

NORTHERN AVE

GLENDALE AVE

BETHANY HOME RD

CAMELBACK RD

INDIAN SCHOOL RD

THOMAS RD

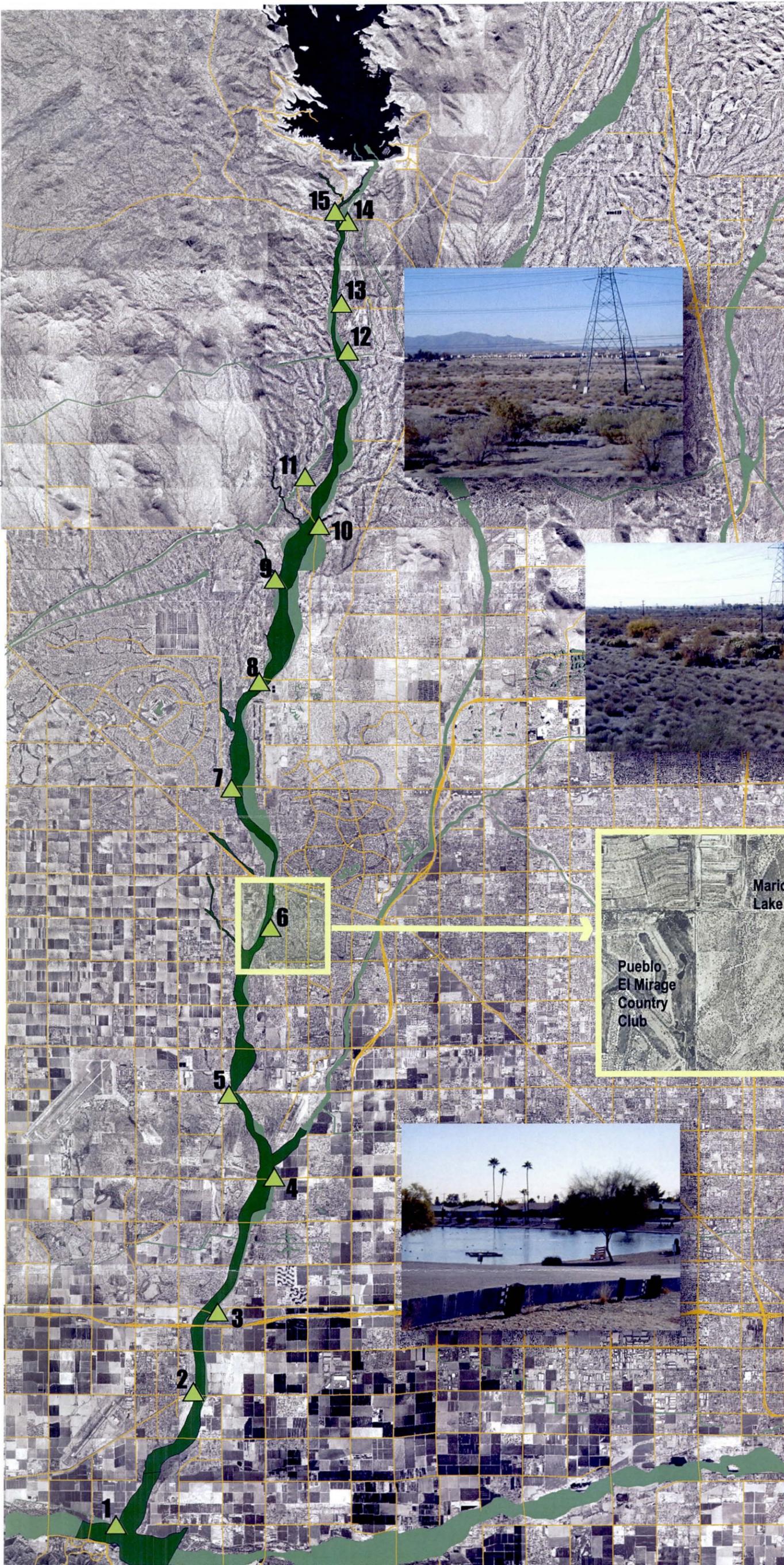
MCDOWELL RD

VAN BUREN ST

BUCKEYE RD

LOWER BUCKEYE RD

BROADWAY RD



ESTRELLA PKWY

BULLARD AVE

LITCHFIELD RD

DYSART RD

EL MIRAGE RD

115TH AVE

107TH AVE

99TH AVE

91ST AVE

83RD AVE

75TH AVE

67TH AVE

59TH AVE

51ST AVE

43RD AVE

35TH AVE

27TH AVE

19TH AVE

STOP 6

SCENIC INVENTORY ANALYSIS

AGUA FRIA RIVER CORRIDOR

Location Lakeshore Dr. & Agua Fria (Maricopa Lake Park) N 33° 35' 34.1" W 112° 18' 17..1"
East Side of River
12/15/99 Stop 6

A residential community adjoins the river very closely, protected by a steep embankment. The community has been designed in such a way that its recreation areas adjoin the river. However certain design elements like roads, fences, and non-native planting materials deviate from the natural landscape character. The river corridor has been used as a continuous uninterrupted space for unattractive electric pylons.

SCENIC ATTRACTIVENESS

CONTRAST RATING

Landform			
Element	Weight	Rating	Score
Form	4	0	0
Line	3	1	3
Color	2	0	0
Texture	1	0	0
Total			3

Water Features			
Element	Weight	Rating	Score
Form	4	0	0
Line	3	1	3
Color	2	1	2
Texture	1	0	0
Total			5

Rock Formations			
Element	Weight	Rating	Score
Form	4	0	0
Line	3	0	0
Color	2	0	0
Texture	1	0	0
Total			0

Cultural Features			
Element	Weight	Rating	Score
Form	4	1	4
Line	3	1	3
Color	2	1	2
Texture	1	1	1
Total			10

Vegetation			
Element	Weight	Rating	Score
Form	4	1	4
Line	3	1	3
Color	2	1	2
Texture	1	2	2
Total			11

Rating:	
Strong	3
Moderate	2
Weak	1
None	0
Score	29

SCENIC QUALITY INVENTORY

Category	Rank Description	Score Option	Score
Landform	Dominant/Striking	(1 to 5)	1
Vegetation	Several Interesting Types	(1 to 5)	2
Water	Semi-Dominant	(0 to 5)	3
Color	Somewhat Dominant	(1 to 5)	1
Adj. Scenery	Enhances Quality	(0 to 5)	2
Scarcity	Rare Within Region	(1 to 6)	2
Cultural	Quality Some what Depreciated	(-4 to 2)	-3
Score			8

PERCEIVED CHARACTER

Character	High	Low	
	(2)	Moderate (1)	(0)
Variety			0
Unity			0
Vividness			0
Mystery			0
Intactness			0
Coherence			0
Harmony			0
Uniqueness			0
Pattern			0
Balance			0
Score			0

SCENIC ATTRACTIVENESS

Contrast scores + Scenic quality + Perceived character
 Total score for scenic attractiveness = 37

Class A - Distinctive	
Class B - Typical	
Class C - Indistinctive	C

SCENIC INTEGRITY

VH	H	M	L	VL	UL

Road dividing the waterbody and the river creates a barrier.
 Ben Scheffer park demonstrates a community recreation area integrating with the river corridor.
 Electric Pylons dominate the landscape.

LANDSCAPE VISIBILITY

SECONDARY TRAVELWAY, USE AREA - MODERATE,

Hierarchy of Concern Levels

Distance Zones	Interest	#		
IFG (0'-300')	Moderate	2	Immediate Foreground	Residential area adjoining the river with park and artificial waterbodies
FG (300' - 1/2 mi.)	Moderate	2	Foreground	Steep embankment into the river
MG (1/2 - 4 mi.)	Low	3	Midground	Indistinctive river bed with low shrub vegetation, and pylons dominating the view
BG (4 mi. - horizon)	Moderate	2	Background	Distant mountains and residential areas

STOP 7

CAREFREE HIGHWAY

DYNAMITE BOULEVARD

JOMAX RD

HAPPY VALLEY RD

PINNACLE PEAK RD

DEER VALLEY RD

BEARDSLEY RD

UNION HILLS DRIVE

BELL RD

GREENWAY RD

THUNDERBIRD RD

CACTUS RD

PEORIA AVE

DUNLAP AVE

NORTHERN AVE

GLENDALE AVE

BETHANY HOME RD

CAMELBACK RD

INDIAN SCHOOL RD

THOMAS RD

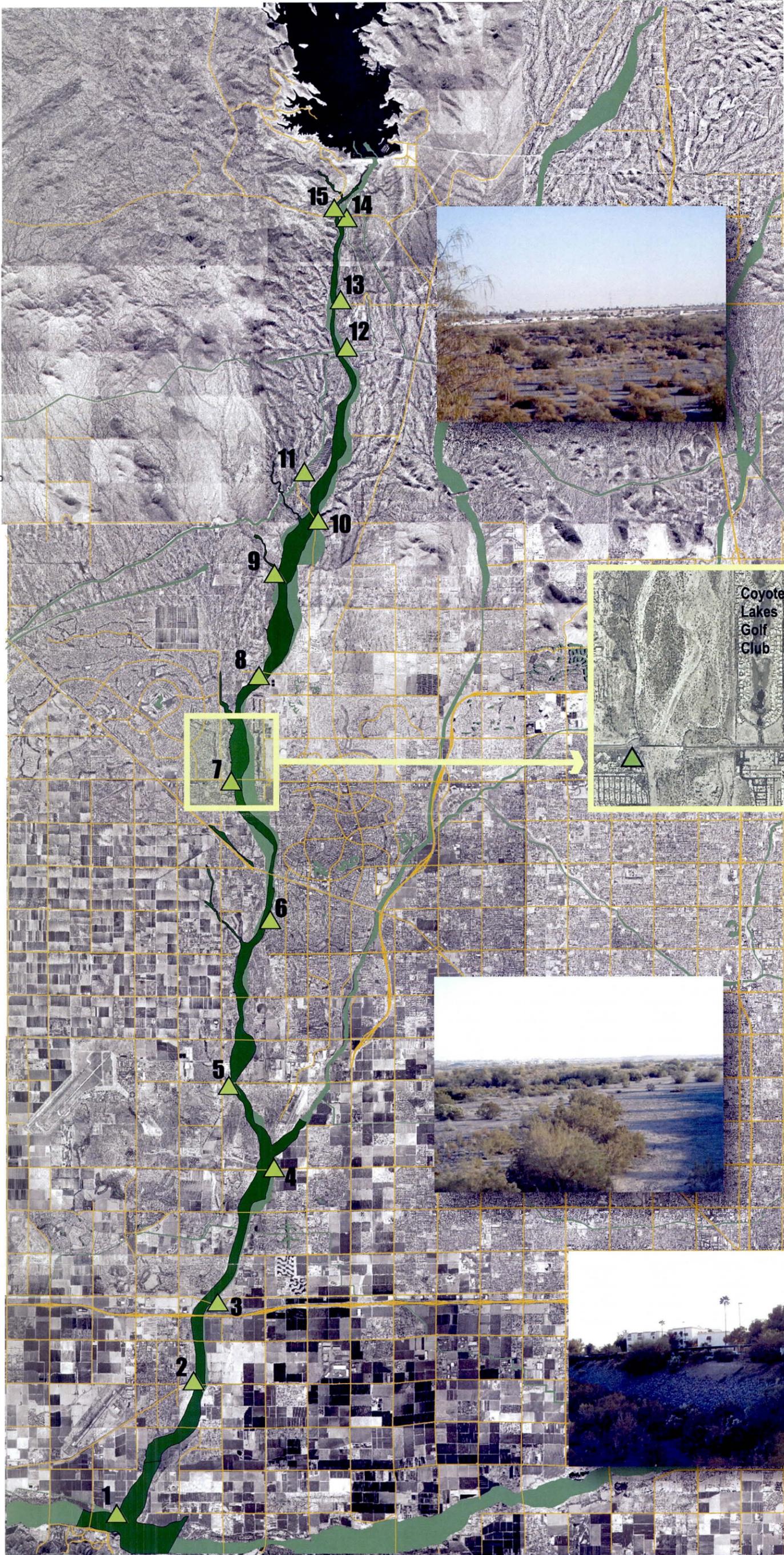
MCDOWELL RD

VAN BUREN ST

BUCKEYE RD

LOWER BUCKEYE RD

BROADWAY RD



ESTRELLA PKWY

BULLARD AVE

LITCHFIELD RD

DYSART RD

EL MIRAGE RD

115TH AVE

107TH AVE

99TH AVE

91ST AVE

83RD AVE

75TH AVE

67TH AVE

59TH AVE

51ST AVE

43RD AVE

35TH AVE

27TH AVE

19TH AVE

STOP 7

SCENIC INVENTORY ANALYSIS

AGUA FRIA RIVER CORRIDOR

Location **Bell Road & Agua Fria N 33° 38' 18.2" W 112° 19' 09.3"**
West Side of River/ South Side of Street
12/13/99 Stop 7

This is a more urbanized area through which the river runs. Some residential communities occur right along the river while others occur further away. Flood protection embankments are fairly high. The river flood plain is very wide and indistinctive with typical xeric/ephemeral type vegetation scattered throughout.

SCENIC ATTRACTIVENESS

CONTRAST RATING

Landform	Element	Weight	Rating	Score
Form	4	1	4	
	3	1	3	
	2	1	2	
	1	1	1	
Total				10

Water Features	Element	Weight	Rating	Score
Form	4	0	0	
	3	0	0	
	2	0	0	
	1	0	0	
Total				0

Rock Formations

Element	Weight	Rating	Score	
Form	4	0	0	
Line	3	0	0	
Color	2	0	0	
Texture	1	0	0	
Total				0

Cultural Features

Element	Weight	Rating	Score	
Form	4	1	4	
Line	3	1	3	
Color	2	1	2	
Texture	1	1	1	
Total				10

Vegetation

Element	Weight	Rating	Score	
Form	4	1	4	
Line	3	1	3	
Color	2	1.5	3	
Texture	1	1.5	1.5	
Total				11.5

Rating:	Score
Strong	3
Moderate	2
Weak	1
None	0
Score	31.5

SCENIC QUALITY INVENTORY

Category	Rank Description	Score Option	Score
Landform	Dominant/Striking	(1 to 5)	1
Vegetation	Several Interesting Types	(1 to 5)	2
Water	Semi-Dominant	(0 to 5)	0
Color	Somewhat Dominant	(1 to 5)	1
Adj. Scenery	Enhances Quality	(0 to 5)	0
Scarcity	Rare Within Region	(1 to 6)	1
Cultural	Quality Some what Depreciated	(-4 to 2)	-3
Score			2

PERCEIVED CHARACTER

Character	High (2) Moderate (1) Low (0)			
	Variety			0
Unity		1		0
Vividness				0
Mystery				0
Intactness		1		0
Coherence				0
Harmony				0
Uniqueness				0
Pattern				0
Balance		1		0
Score				3

SCENIC ATTRACTIVENESS

Contrast scores + Scenic quality + Perceived character
 Total score for scenic attractiveness = 36.5

Class A - Distinctive	
Class B - Typical	
Class C - Indistinctive	C

SCENIC INTEGRITY

VH	H	M	L	VL	UL
			L		

Residential area architecture and landscape deviate from river character

LANDSCAPE VISIBILITY

PRIMARY TRAVELWAY, USE-HIGH (BELL ROAD)

Hierarchy of Concern Levels

Distance Zones	Interest	#		
IFG (0'-300')	Low	2	Immediate Foreground	Wide river bed and typical mesic/xeric riparian vegetation, Gabions stabilize the east bank
FG (300' - 1/2 mi.)	Low	2	Foreground	Residential communities abutting the river. Fairly large clumps of riparian species in the river bed.
MG (1/2 - 4 mi.)	Low	2	Midground	Residential communities, wide river bed with typical vegetation
BG (4 mi. - horizon)	Low	2	Background	Mountains at a distance, Power lines and industrial use in the south

STOP 8

CAREFREE HIGHWAY

DYNAMITE BOULEVARD

JOMAX RD

HAPPY VALLEY RD

PINNACLE PEAK RD

DEER VALLEY RD

BEARDSLEY RD

UNION HILLS DRIVE

BELL RD

GREENWAY RD

THUNDERBIRD RD

CACTUS RD

PEORIA AVE

DUNLAP AVE

NORTHERN AVE

GLENDALE AVE

BETHANY HOME RD

CAMELBACK RD

INDIAN SCHOOL RD

THOMAS RD

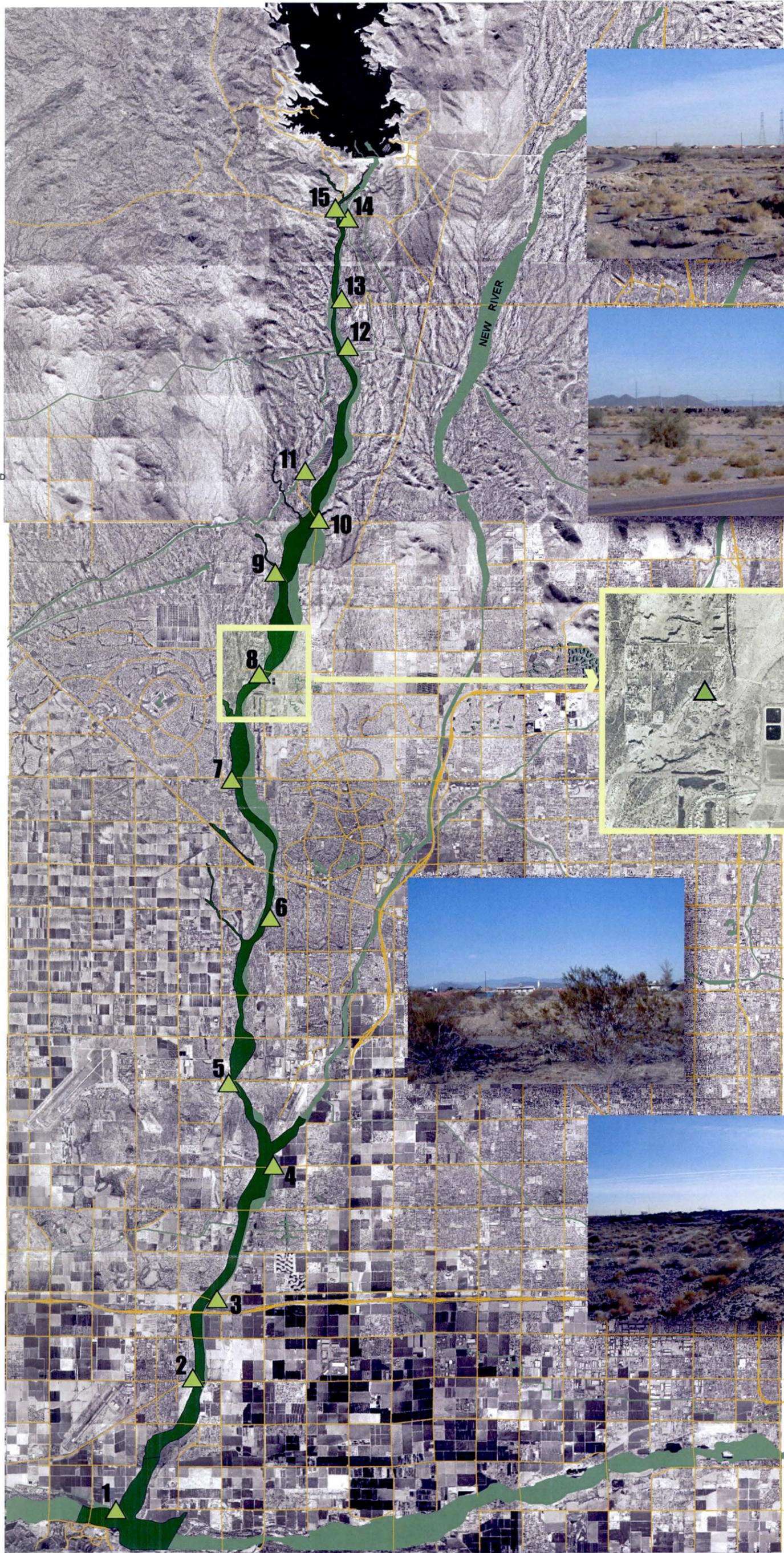
MCDOWELL RD

VAN BUREN ST

BUCKEYE RD

LOWER BUCKEYE RD

BROADWAY RD



ESTRELLA PKWY

BULLARD AVE

LITCHFIELD RD

DYGART RD

EL MIRAGE RD

115TH AVE

107TH AVE

99TH AVE

91ST AVE

83RD AVE

75TH AVE

67TH AVE

59TH AVE

51ST AVE

43RD AVE

35TH AVE

27TH AVE

19TH AVE

STOP 8

SCENIC INVENTORY ANALYSIS

AGUA FRIA RIVER CORRIDOR

Location Rose Garden Lane & Agua Fria N 33° 40' 28.7" W 112° 18' 28.5"
West Side of River/ South Side of Road
12/15/99 Stop 8

Flat broad floodplain with heavy sand and gravel mining activity on the north and south sides. Residential areas adjoin the corridor at a distance. Suburban areas lie towards the east and more rural areas to the west of the river. Typical ephemeral channel vegetation that includes Snakeweed and Creosote is seen.

SCENIC ATTRACTIVENESS

CONTRAST RATING

Landform			
Element	Weight	Rating	Score
Form	4	2	8
Line	3	1.5	4.5
Color	2	0	0
Texture	1	1	1
Total			13.5

Water Features			
Element	Weight	Rating	Score
Form	4	0	0
Line	3	0	0
Color	2	0	0
Texture	1	0	0
Total			0

Rock Formations

Element	Weight	Rating	Score
Form	4	0	0
Line	3	0	0
Color	2	0	0
Texture	1	0	0
Total			0

Cultural Features

Element	Weight	Rating	Score
Form	4	1	4
Line	3	0	0
Color	2	0	0
Texture	1	0	0
Total			4

Vegetation

Element	Weight	Rating	Score
Form	4	1	4
Line	3	1	3
Color	2	1	2
Texture	1	1	1
Total			10

Rating:	
Strong	3
Moderate	2
Weak	1
None	0
Score	27.5

SCENIC QUALITY INVENTORY

Category	Rank Description	Score Option	Score
Landform	Dominant/Striking	(1 to 5)	1
Vegetation	Several Interesting Types	(1 to 5)	1
Water	Semi-Dominant	(0 to 5)	0
Color	Somewhat Dominant	(1 to 5)	1
Adj. Scenery	Enhances Quality	(0 to 5)	0
Scarcity	Rare Within Region	(1 to 6)	1
Cultural	Quality Some what Depreciated	(-4 to 2)	-1
Score			3

PERCEIVED CHARACTER

Character	High		Low
	(2)	Moderate (1)	(0)
Variety			0
Unity		1	
Vividness			0
Mystery		1	
Intactness			0
Coherence			0
Harmony			0
Uniqueness			0
Pattern			0
Balance		1	
Score			3

SCENIC ATTRACTIVENESS

Contrast scores + Scenic quality + Perceived character
 Total score for scenic attractiveness = 33.5

Class A - Distinctive	
Class B - Typical	
Class C - Indistinctive	C

SCENIC INTEGRITY

VH	H	M	L	VL	UL
					C

Sand and Gravel mining operations are extremely detrimental to the scenic quality of the area.

LANDSCAPE VISIBILITY

SECONDARY TRAVELWAY, MODERATE USE (RESIDENTIAL AREA)

Hierarchy of Concern Levels

Distance Zones	Interest	#		
IFG (0'-300')	Low	3	Immediate Foreground	Gravel road access to the Sand & Gravel mining operations.
FG (300' - 1/2 mi.)	Low	3	Foreground	Rural residential area, Sand & Gravel mining operations
MG (1/2 - 4 mi.)	Low	3	Midground	Power lines, residential community, typical riverbed vegetation.
BG (4 mi. - horizon)	Low	3	Background	Residential Community, Distant Mountains

STOP 9

CAREFREE HIGHWAY

DYNAMITE BOULEVARD

JOMAX RD

HAPPY VALLEY RD

PINNACLE PEAK RD

DEER VALLEY RD

BEARDSLEY RD

UNION HILLS DRIVE

BELL RD

GREENWAY RD

THUNDERBIRD RD

CACTUS RD

PEORIA AVE

DUNLAP AVE

NORTHERN AVE

GLENDALE AVE

BETHANY HOME RD

CAMELBACK RD

INDIAN SCHOOL RD

THOMAS RD

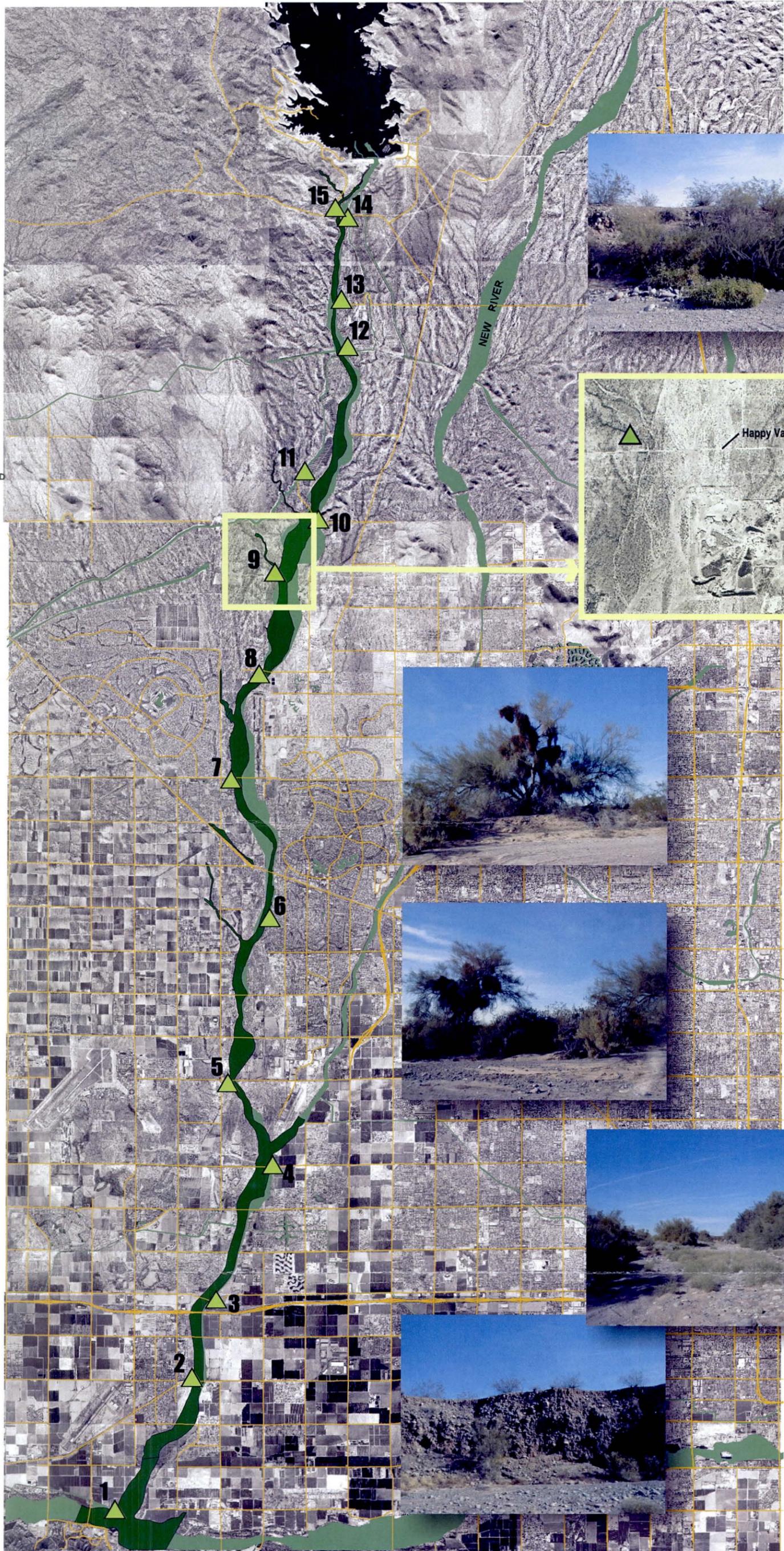
MCDOWELL RD

VAN BUREN ST

BUCKEYE RD

LOWER BUCKEYE RD

BROADWAY RD



ESTRELLA PKWY
 BULLARD AVE
 LITCHFIELD RD
 DYSART RD
 EL MIRAGE RD
 115TH AVE
 107TH AVE
 99TH AVE
 91ST AVE
 83RD AVE
 75TH AVE
 67TH AVE
 59TH AVE
 51ST AVE
 43RD AVE
 35TH AVE
 27TH AVE
 19TH AVE

STOP 9

SCENIC INVENTORY ANALYSIS

AGUA FRIA RIVER CORRIDOR

Location Hatfield Rd & Agua Fria N 33° 42' 24.1" W 112° 18' 09"
West Side of River
12/16/99 Stop 9

The river channel is incised, evident from the eroded banks seen on either side. The river bed is rocky and is well vegetated by riparian species. Scattered clumps of Palo Verde and Mesquite trees grow with Creosote, Snakeweed and Desert broom. Saguaro are seen to grow in the higher areas. A wide variety of wildlife is observed. South of the area is a sand and gravel mine. Visual variety created by the river alignment, the vegetation and textures make this a very interesting stretch of the river.

SCENIC ATTRACTIVENESS

CONTRAST RATING

Landform

Element	Weight	Rating	Score
Form	4	2	8
Line	3	2	6
Color	2	1	2
Texture	1	2	2
Total			18

Water Features

Element	Weight	Rating	Score
Form	4	0	0
Line	3	0	0
Color	2	0	0
Texture	1	0	0
Total			0

Rock Formations

Element	Weight	Rating	Score
Form	4	0	0
Line	3	0	0
Color	2	0	0
Texture	1	0	0
Total			0

Cultural Features

Element	Weight	Rating	Score
Form	4	1	4
Line	3	1	3
Color	2	0	0
Texture	1	0	0
Total			7

Vegetation

Element	Weight	Rating	Score
Form	4	3	12
Line	3	1.5	4.5
Color	2	2	4
Texture	1	2	2
Total			22.5

Rating:

Strong	3
Moderate	2
Weak	1
None	0
Score	47.5

SCENIC QUALITY INVENTORY

Category	Rank Description	Score Option	Score
Landform	Dominant/Striking	(1 to 5)	3
Vegetation	Several Interesting Types	(1 to 5)	4
Water	Semi-Dominant	(0 to 5)	0
Color	Somewhat Dominant	(1 to 5)	2
Adj. Scenery	Enhances Quality	(0 to 5)	2
Scarcity	Rare Within Region	(1 to 6)	4
Cultural	Quality Some what Depreciated	(-4 to 2)	-1
Score			14

PERCEIVED CHARACTER

Character	High		Low (0)
	(2)	Moderate (1)	
Variety			0
Unity			0
Vividness			0
Mystery		1	0
Intactness			0
Coherence			0
Harmony		1	0
Uniqueness			0
Pattern			0
Balance		1	0
Score			3

SCENIC ATTRACTIVENESS

Contrast scores + Scenic quality + Perceived character
 Total score for scenic attractiveness = 64.5

Class A - Distinctive	
Class B - Typical	B
Class C - Indistinctive	

SCENIC INTEGRITY

VH	H	M	L	VL	UL

Sand and Gravel mining operations in the distance mar the natural scenic quality of the area.

LANDSCAPE VISIBILITY

SECONDARY TRAVELWAY, USE AREA - MODERATE (ADJACENT RESIDENTIAL COMMUNITY)

Hierarchy of Concern Levels

Distance Zones	Interest	#		
IFG (0'-300')	High	1	Immediate Foreground	Fairly abundant vegetation with indications of more than usual wildlife activity.
FG (300' - 1/2 mi.)	Moderate	2	Foreground	Deep cut river channel with eroded banks. Sand & Gravel activity.
MG (1/2 - 4 mi.)	Moderate	2	Midground	Powerlines, broad flood plain and distant terracing.
BG (4 mi. - horizon)	Low	3	Background	Distant mountain lines, scattered housing on the east bank.

STOP 10

CAREFREE HIGHWAY

DYNAMITE BOULEVARD

JOMAX RD

HAPPY VALLEY RD

PINNACLE PEAK RD

DEER VALLEY RD

BEARDSLEY RD

UNION HILLS DRIVE

BELL RD

GREENWAY RD

THUNDERBIRD RD

CACTUS RD

PEORIA AVE

DUNLAP AVE

NORTHERN AVE

GLENDALE AVE

BETHANY HOME RD

CAMELBACK RD

INDIAN SCHOOL RD

THOMAS RD

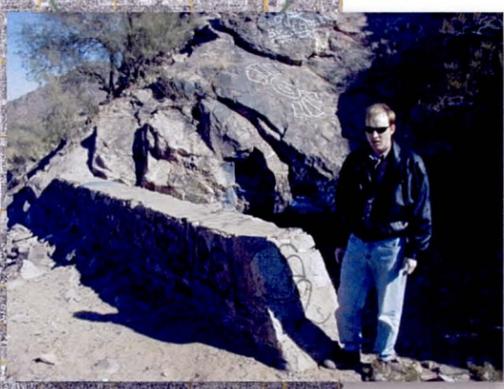
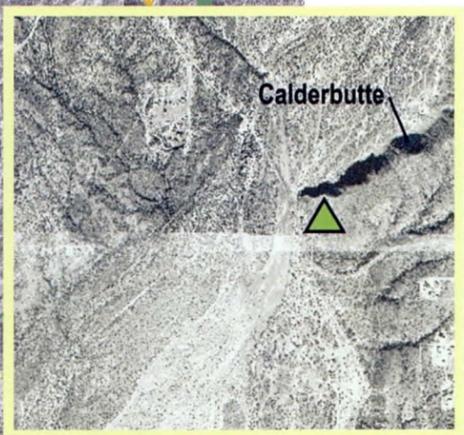
MCDOWELL RD

VAN BUREN ST

BUCKEYE RD

LOWER BUCKEYE RD

BROADWAY RD



ESTRELLA PKWY
 BULLARD AVE
 LITCHFIELD RD
 DYSART RD
 EL MIRAGE RD
 115TH AVE
 107TH AVE
 99TH AVE
 91ST AVE
 83RD AVE
 75TH AVE
 67TH AVE
 59TH AVE
 51ST AVE
 43RD AVE
 35TH AVE
 27TH AVE
 19TH AVE

STOP 10

SCENIC INVENTORY ANALYSIS

AGUA FRIA RIVER CORRIDOR

Location **Jomax & Agua Fria N 33° 43' 35.4" W 112° 17' 14.5"**
East Side of River/ North Side of Road
12/13/99 Stop 10

Description - Rock outcroppings dominate the immediate vicinity of this area with wide sandy expanses of the floodplain adjacent to it. The rock outcropping is fairly unique in terms of its color and the manner in which it borders the floodplain. Such outcroppings are rare along the river. However, the current usage of the area includes ATV users and target range practice. This creates a menace in terms of safety, and trash accumulation. Also an incomplete irrigation project has resulted in a tunnel through the rock base as well as a certain amount of unsightly concrete construction.

SCENIC ATTRACTIVENESS

CONTRAST RATING

Landform	Element	Weight	Rating	Score
	Form	4	3	12
	Line	3	2	6
	Color	2	1	2
	Texture	1	2	2
	Total			22

Water Features	Element	Weight	Rating	Score
	Form	4	0	0
	Line	3	0	0
	Color	2	0	0
	Texture	1	0	0
	Total			0

Rock Formations	Element	Weight	Rating	Score
	Form	4	3	12
	Line	3	3	9
	Color	2	1	2
	Texture	1	3	3
	Total			26

Cultural Features	Element	Weight	Rating	Score
	Form	4	1	4
	Line	3	1	3
	Color	2	0	0
	Texture	1	0	0
	Total			7

Vegetation	Element	Weight	Rating	Score
	Form	4	1	4
	Line	3	1	3
	Color	2	1	2
	Texture	1	2	2
	Total			11

Rating:	Score
Strong	3
Moderate	2
Weak	1
None	0
Score	66

SCENIC QUALITY INVENTORY

Category	Rank Description	Score Option	Score
Landform	Dominant/Striking	(1 to 5)	5
Vegetation	Several Interesting Types	(1 to 5)	1
Water	Semi-Dominant	(0 to 5)	0
Color	Somewhat Dominant	(1 to 5)	1
Adj. Scenery	Enhances Quality	(0 to 5)	3
Scarcity	Rare Within Region	(1 to 6)	5
Cultural	Quality Some what Depreciated	(-4 to 2)	-2
Score			13

PERCEIVED CHARACTER

Character	High (2)	Moderate (1)	Low (0)
Variety			0
Unity		1	0
Vividness			0
Mystery			0
Intactness		1	0
Coherence	2		0
Harmony		1	0
Uniqueness			0
Pattern			0
Balance		1	0
Score			6

SCENIC ATTRACTIVENESS

Contrast scores + Scenic quality + Perceived character
 Total score for scenic attractiveness = 85

Class A - Distinctive	
Class B - Typical	B
Class C - Indistinctive	

SCENIC INTEGRITY

VH	H	M	L	VL	UL

Old irrigation tunnel and related concrete works visibly alter the natural undulations of the rock base. Use as a target range is depreciating to the scenic quality and encourages vandalism and trash.

LANDSCAPE VISIBILITY

SECONDARY TRAVELWAY, USE AREA - HIGH,

Hierarchy of Concern Levels

Distance Zones	Interest	#		
IFG (0'-300')	High	1	Immediate Foreground	Spectacular Rock outcropping that is rare around the region, however defaced by vandals
FG (300' - 1/2 mi.)	High	1	Foreground	Continuation of outcropping, expanse of sandy floodplain
MG (1/2 - 4 mi.)	Moderate	1	Midground	Low scrubby vegetation, powerlines
BG (4 mi. - horizon)	Low	2	Background	Distant mountains

CAREFREE HIGHWAY

DYNAMITE BOULEVARD

JOMAX RD

HAPPY VALLEY RD

PINNACLE PEAK RD

DEER VALLEY RD

BEARDSLEY RD

UNION HILLS DRIVE

BELL RD

GREENWAY RD

THUNDERBIRD RD

CACTUS RD

PEORIA AVE

DUNLAP AVE

NORTHERN AVE

GLENDALE AVE

BETHANY HOME RD

CAMELBACK RD

INDIAN SCHOOL RD

THOMAS RD

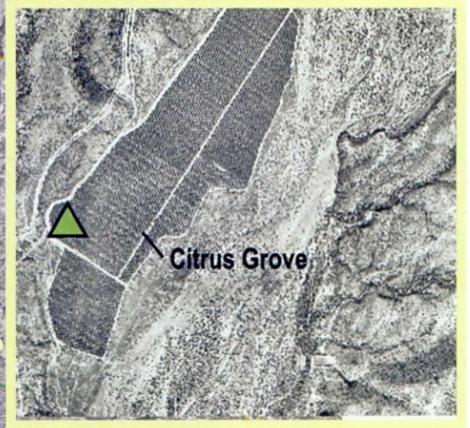
MCDOWELL RD

VAN BUREN ST

BUCKEYE RD

LOWER BUCKEYE RD

BROADWAY RD



ESTRELLA PKWY

BULLARD AVE

LITCHFIELD RD

DYSART RD

EL MIRAGE RD

115TH AVE

107TH AVE

99TH AVE

91ST AVE

83RD AVE

75TH AVE

67TH AVE

59TH AVE

51ST AVE

43RD AVE

35TH AVE

27TH AVE

19TH AVE

SCENIC INVENTORY ANALYSIS

AGUA FRIA RIVER CORRIDOR

Location Jomax & Agua Fria N 33° 4' 30.5" W 112° 17' 35.4"
West Side of River/ North Side of Jomax by Beardsley Canal
12/16/99 Stop 11

The most dominant features in this stop are the Citrus groves. The continuous rows of bright green foliage create an interesting foreground to the mountains in the backdrop. The transition to the upland area is evident from the higher occurrence of rock outcroppings and Saguaros. Beardsley canal in the foreground appears as a continuous bench. Metal irrigation pipes greatly contrast with the surrounding landscape.

SCENIC ATTRACTIVENESS

CONTRAST RATING

Element	Weight	Rating	Score
Form	4	2	8
Line	3	1.5	4.5
Color	2	1	2
Texture	1	1	1
Total			15.5

Water Features			
Element	Weight	Rating	Score
Form	4	0	0
Line	3	0	0
Color	2	0	0
Texture	1	0	0
Total			0

Rock Formations

Element	Weight	Rating	Score
Form	4	1.5	6
Line	3	1	3
Color	2	1	2
Texture	1	1	1
Total			12

Cultural Features

Element	Weight	Rating	Score
Form	4	1	4
Line	3	2	6
Color	2	2	4
Texture	1	2	2
Total			16

Vegetation

Element	Weight	Rating	Score
Form	4	2	8
Line	3	1.5	4.5
Color	2	1	2
Texture	1	1.5	1.5
Total			16

Rating:	
Strong	3
Moderate	2
Weak	1
None	0
Score	59.5

SCENIC QUALITY INVENTORY

Category	Rank Description	Score Option	Score
Landform	Dominant/Striking	(1 to 5)	3
Vegetation	Several Interesting Types	(1 to 5)	3
Water	Semi-Dominant	(0 to 5)	0
Color	Somewhat Dominant	(1 to 5)	4
Adj. Scenery	Enhances Quality	(0 to 5)	3
Scarcity	Rare Within Region	(1 to 6)	3
Cultural	Quality Some what Depreciated	(-4 to 2)	1
Score			17

PERCEIVED CHARACTER

Character	High		Low
	(2)	Moderate (1)	
Variety		1	
Unity			0
Vividness	1		
Mystery	1		
Intactness			0
Coherence			0
Harmony		1	
Uniqueness			0
Pattern			0
Balance			0
Score			4

SCENIC ATTRACTIVENESS

Contrast scores + Scenic quality + Perceived character
 Total score for scenic attractiveness = 80.5

Class A - Distinctive	
Class B - Typical	B
Class C - Indistinctive	

SCENIC INTEGRITY

VH	H	M	L	VL	UL

The metallic piping of the Beardsley Canal sharply contrasts with the surrounding character.

LANDSCAPE VISIBILITY

SECONDARY TRAVELWAY, MODERATE USE (AGRICULTURAL AREA)

Hierarchy of Concern Levels

Distance Zones	Interest	#		
IFG (0'-300')	Low	3	Immediate Foreground	Beardsley Canal benching, metal piping, natural scrub vegetation
FG (300' - 1/2 mi.)	Moderate	2	Foreground	Citrus grove, Natural scrub vegetation
MG (1/2 - 4 mi.)	High	1	Midground	Sonoran scrub vegetation (Saguaros, Palo Verde), prominent hills with rock outcroppings
BG (4 mi. - horizon)	Moderate	2	Background	Distant hills and powerlines

STOP 12

CAREFREE HIGHWAY

DYNAMITE BOULEVARD

JOMAX RD

HAPPY VALLEY RD

PINNACLE PEAK RD

DEER VALLEY RD

BEARDSLEY RD

UNION HILLS DRIVE

BELL RD

GREENWAY RD

THUNDERBIRD RD

CACTUS RD

PEORIA AVE

DUNLAP AVE

NORTHERN AVE

GLENDALE AVE

BETHANY HOME RD

CAMELBACK RD

INDIAN SCHOOL RD

THOMAS RD

MCDOWELL RD

VAN BUREN ST

BUCKEYE RD

LOWER BUCKEYE RD

BROADWAY RD



- ESTRELLA PKWY
- BULLARD AVE
- LITCHFIELD RD
- DYSART RD
- EL MIRAGE RD
- 115TH AVE
- 10TH AVE
- 99TH AVE
- 91ST AVE
- 83RD AVE
- 75TH AVE
- 67TH AVE
- 59TH AVE
- 51ST AVE
- 43RD AVE
- 35TH AVE
- 27TH AVE
- 19TH AVE

STOP 12

SCENIC INVENTORY ANALYSIS

AGUA FRIA RIVER CORRIDOR

Location Jomax & Beardsley Canal at arched bridge crossing
N 33° 46' 55.8" W 112° 16' 26.8"
East Bank of River Stop 12 12/17/99

Fairly indistinct river profile, more constricted on the north side than on the south. An interesting feature that dominates the area is the Beardsley aqueduct crossing integrated within a unique arched metal bridge. Vegetation is typically xeric/mesic. Natural landforms in the vicinity of the bridge are altered by concrete construction related to the aqueduct crossing. Field of vision is dominated by typical floodplains and flats.

SCENIC ATTRACTIVENESS

CONTRAST RATING

Landform	Element	Weight	Rating	Score
	Form	4	1	4
	Line	3	1	3
	Color	2	0	0
	Texture	1	1	1
	Total			8

Water Features	Element	Weight	Rating	Score
	Form	4	0	0
	Line	3	0	0
	Color	2	0	0
	Texture	1	0	0
	Total			0

Rock Formations	Element	Weight	Rating	Score
	Form	4	0	0
	Line	3	0	0
	Color	2	0	0
	Texture	1	0	0
	Total			0

Cultural Features	Element	Weight	Rating	Score
	Form	4	1.75	7
	Line	3	2	6
	Color	2	0	0
	Texture	1	0	0
	Total			13

Vegetation	Element	Weight	Rating	Score
	Form	4	1	4
	Line	3	1	3
	Color	2	1	2
	Texture	1	1	1
	Total			10

Rating:	Score
Strong	3
Moderate	2
Weak	1
None	0
Score	31

SCENIC QUALITY INVENTORY

Category	Rank Description	Score Option	Score
Landform	Dominant/Striking	(1 to 5)	1
Vegetation	Several Interesting Types	(1 to 5)	1
Water	Semi-Dominant	(0 to 5)	0
Color	Somewhat Dominant	(1 to 5)	1
Adj. Scenery	Enhances Quality	(0 to 5)	2
Scarcity	Rare Within Region	(1 to 6)	1
Cultural	Quality Some what Depreciated	(-4 to 2)	1
Score			7

PERCEIVED CHARACTER

Character	High (2)	Moderate (1)	Low (0)
Variety			0
Unity			0
Vividness			0
Mystery			0
Intactness			0
Coherence			0
Harmony			0
Uniqueness			0
Pattern			0
Balance			0
Score			0

SCENIC ATTRACTIVENESS

Contrast scores + Scenic quality + Perceived character
 Total score for scenic attractiveness = 38

Class A - Distinctive	
Class B - Typical	
Class C - Indistinctive	C

SCENIC INTEGRITY

VH	H	M	L	VL	UL
					C

Construction associated with the Beardsley Canal infringes upon the scenic quality of the area.

LANDSCAPE VISIBILITY

SECONDARY TRAVELWAY, USE - LOW (BRIDGE MAINTENACE STAFF, OCCASIONAL HIKER)

Heirarchy of Concern Levels

Distance Zones	Interest	#	Immediate Foreground	Background
IFG (0'-300')	Low	3	Gravel road, Beardsley Canal, benched flats with typical xeric/mesic vegetation	
FG (300' - 1/2 mi.)	Moderate	2	Unique Aguaduct bridge, Fair sized Paloverdes growing around the bridge.	
MG (1/2 - 4 mi.)	Low	3	Small residential community to the north. Typical intermittent channel vegetation.	
BG (4 mi. - horizon)	Low	3	Distant mountains, Waddell Dam to the north	

STOP 13

CAREFREE HIGHWAY

DYNAMITE BOULEVARD

JOMAX RD

HAPPY VALLEY RD

PINNACLE PEAK RD

DEER VALLEY RD

BEARDSLEY RD

UNION HILLS DRIVE

BELL RD

GREENWAY RD

THUNDERBIRD RD

CACTUS RD

PEORIA AVE

DUNLAP AVE

NORTHERN AVE

GLENDALE AVE

BETHANY HOME RD

CAMELBACK RD

INDIAN SCHOOL RD

THOMAS RD

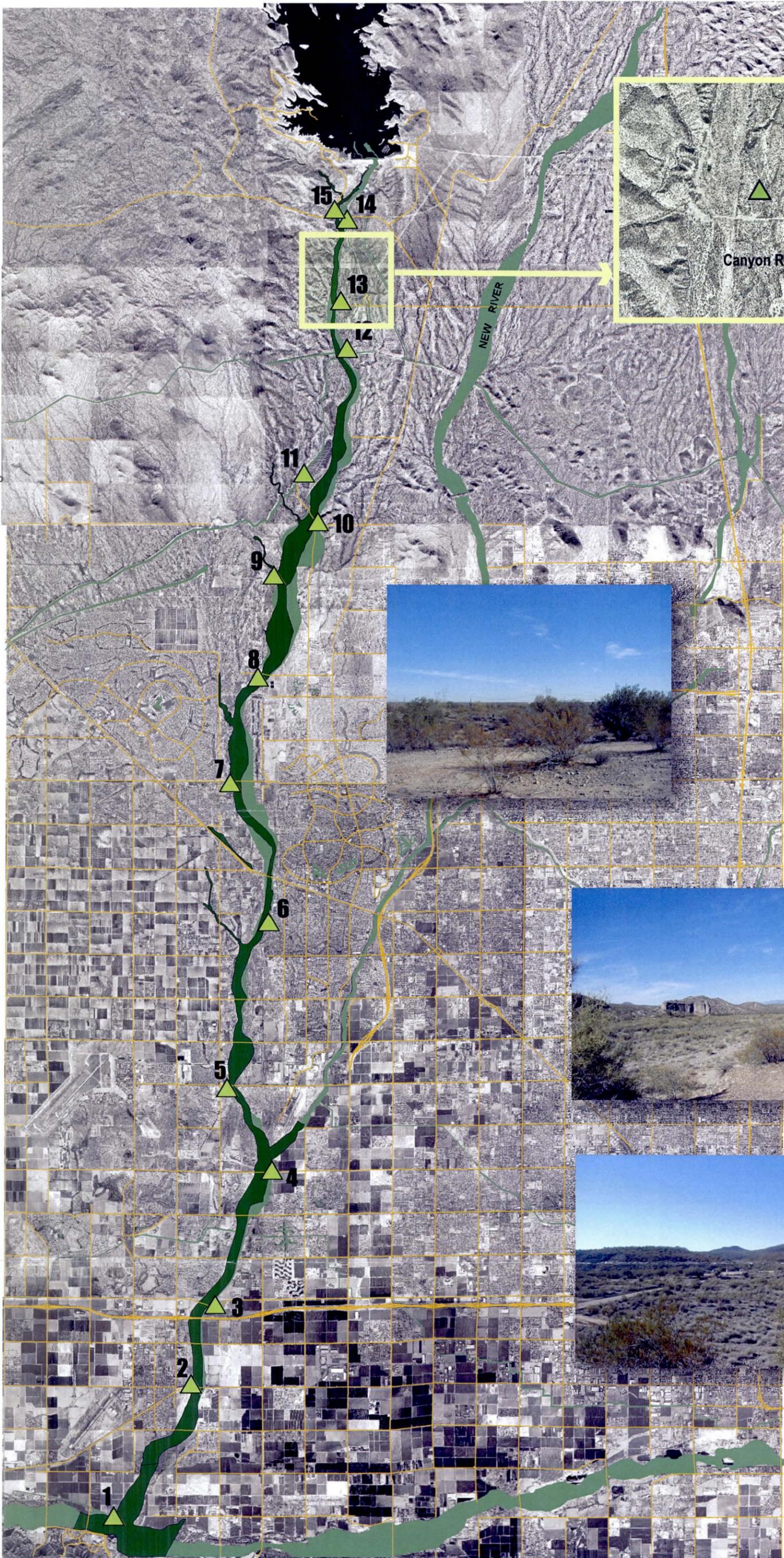
MCDOWELL RD

VAN BUREN ST

BUCKEYE RD

LOWER BUCKEYE RD

BROADWAY RD



ESTRELLA PKWY

BULLARD AVE

LITCHFIELD RD

DYBART RD

EL MIRAGE RD

115TH AVE

107TH AVE

99TH AVE

91ST AVE

83RD AVE

75TH AVE

67TH AVE

59TH AVE

51ST AVE

43RD AVE

35TH AVE

27TH AVE

19TH AVE

STOP 13

SCENIC INVENTORY ANALYSIS

AGUA FRIA RIVER CORRIDOR

Location Cowtown Rd. & Agua Fria N 33° 47' 56.2" W 112° 16' 43.3"
North Side of Road/ East Side of River
12/17/99 Stop 13

A typical stretch of the river with wide floodplains defined by fairly prominent benched banks. Xeric riparian vegetation dominates the floodplains and flats. Occasional interesting rock outcrops occur in the midground. Adjacent to the area on the west is Cowtown community and Canyon Raceway. Waddell Dam appears to the North side.

SCENIC ATTRACTIVENESS

CONTRAST RATING

Landform			
Element	Weight	Rating	Score
Form	4	2	8
Line	3	2	6
Color	2	0	0
Texture	1	1	1
Total			15

Water Features			
Element	Weight	Rating	Score
Form	4	0	0
Line	3	0	0
Color	2	0	0
Texture	1	0	0
Total			0

Rock Formations

Element	Weight	Rating	Score
Form	4	1	4
Line	3	0	0
Color	2	0	0
Texture	1	0	0
Total			4

Cultural Features

Element	Weight	Rating	Score
Form	4	1	4
Line	3	1	3
Color	2	1	2
Texture	1	0	0
Total			9

Vegetation

Element	Weight	Rating	Score
Form	4	2	8
Line	3	1.5	4.5
Color	2	1.5	3
Texture	1	1.75	1.75
Total			17.25

Rating:	
Strong	3
Moderate	2
Weak	1
None	0
Score	45.25

SCENIC QUALITY INVENTORY

Category	Rank Description	Score Option	Score
Landform	Dominant/Striking	(1 to 5)	3
Vegetation	Several Interesting Types	(1 to 5)	2.5
Water	Semi-Dominant	(0 to 5)	0
Color	Somewhat Dominant	(1 to 5)	1
Adj. Scenery	Enhances Quality	(0 to 5)	2
Scarcity	Rare Within Region	(1 to 6)	2
Cultural	Quality Some what Depreciated	(-4 to 2)	-1
Score			9.5

PERCEIVED CHARACTER

Character	High		Low
	(2)	Moderate (1)	(0)
Variety		1	
Unity		1	
Vividness	1		
Mystery			0
Intactness	1		
Coherence	1		
Harmony	1		
Uniqueness			0
Pattern	1		
Balance	1		
Score			8

SCENIC ATTRACTIVENESS

Contrast scores + Scenic quality + Perceived character
 Total score for scenic attractiveness = 62.75

Class A - Distinctive	
Class B - Typical	B
Class C - Indistinctive	

SCENIC INTEGRITY

VH	H	M	L	VL	UL
				VL	

Gravel road crosses the river in straight lines
 Distant Cowtown community and Pylons visible in the background.

LANDSCAPE VISIBILITY

SECONDARY TRAVELWAY, USE - LOW

Hierarchy of Concern Levels

Distance Zones	Interest	#		
IFG (0'-300')	Moderate	2	Immediate Foreground	Gravel road transverses the river bed, interesting tree clump on the south side
FG (300' - 1/2 mi.)	Moderate	2	Foreground	Cowtown community, Power lines and rock outcropping with some interesting texture.
MG (1/2 - 4 mi.)	Low	3	Midground	Typical flat plains, with scrub vegetation.
BG (4 mi. - horizon)	Low	3	Background	Waddell Dam, Distant mountains, flat lands. Electric pylons in the far background.

STOP 14

CAREFREE HIGHWAY

DYNAMITE BOULEVARD

JOMAX RD

HAPPY VALLEY RD

PINNACLE PEAK RD

DEER VALLEY RD

BEARDSLEY RD

UNION HILLS DRIVE

BELL RD

GREENWAY RD

THUNDERBIRD RD

CACTUS RD

PEORIA AVE

DUNLAP AVE

NORTHERN AVE

GLENDALE AVE

BETHANY HOME RD

CAMELBACK RD

INDIAN SCHOOL RD

THOMAS RD

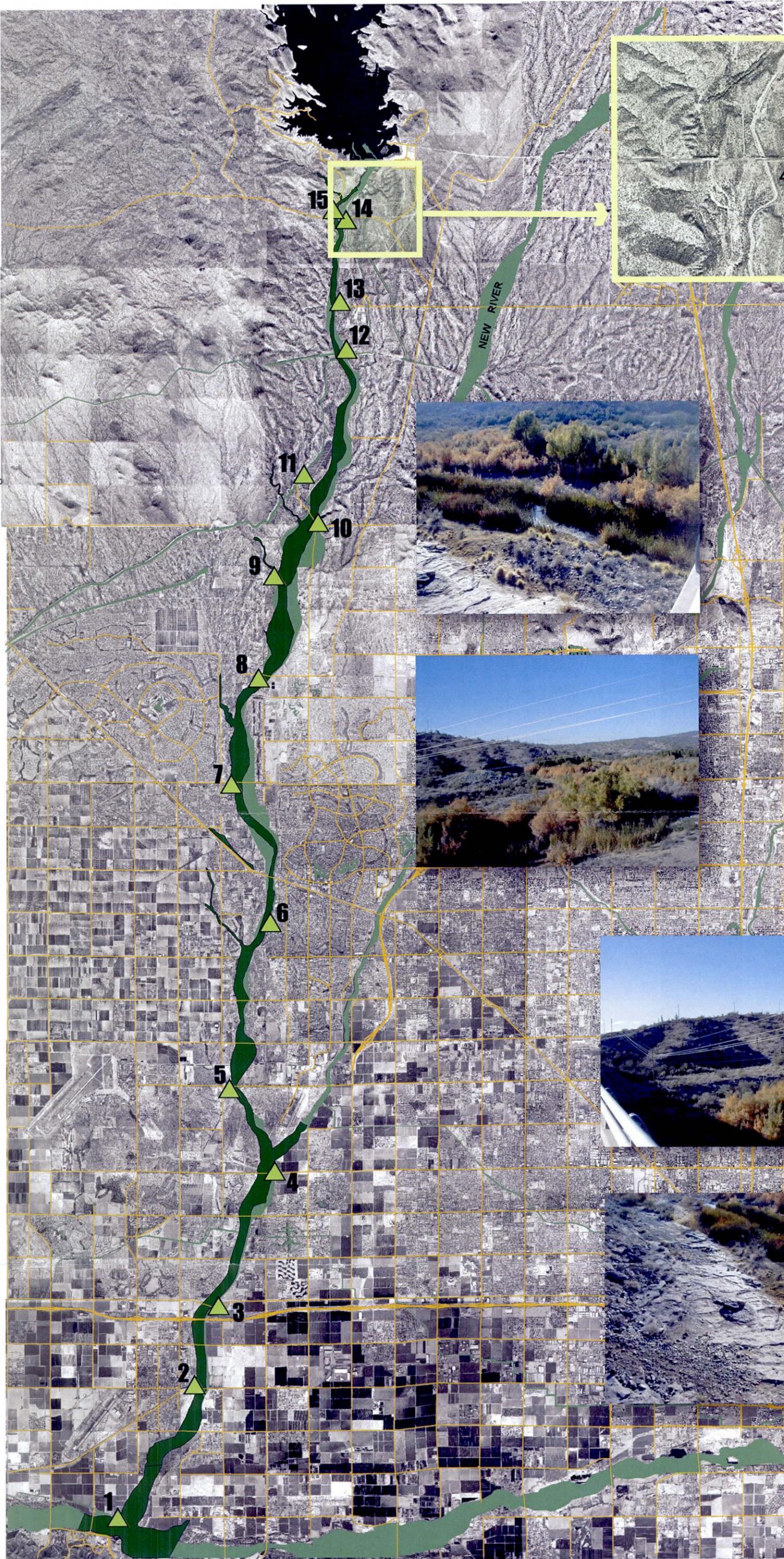
MCDOWELL RD

VAN BUREN ST

BUCKEYE RD

LOWER BUCKEYE RD

BROADWAY RD



ESTRELLA PKWY

BULLARD AVE

LITCHFIELD RD

DYSART RD

EL MIRAGE RD

115TH AVE

107TH AVE

99TH AVE

91ST AVE

83RD AVE

75TH AVE

67TH AVE

59TH AVE

51ST AVE

43RD AVE

35TH AVE

27TH AVE

19TH AVE

STOP 14

SCENIC INVENTORY ANALYSIS

AGUA FRIA RIVER CORRIDOR

Location Hwy 74 & Agua Fria N 33° 49' 41.2" W 112° 16' 35.3"
Looked at N, S, E & W.
12/13/99 Stop 14

The riverbed is confined to a narrow width of around 500ft. Sharply incised edges (65-100ft) deep defines the channel. Occasional pools of water and wetland areas at the river bottom are surrounded by hydric riparian vegetation. Bedrock is exposed in several areas. In the elevated terraces and hill slopes of the upland areas bordering the channel, typical Sonoran desert scrub vegetation dominates. These include Saguaro, Palo Verde and Cholla in the elevated areas and mesic xeric riparian vegetation on the flats (Creosote, Desert Broom, Snakeweed). Vegetated runnels crisscross the upland slopes. Waddel dam is visible but breaks the natural lines of the mountain range with its flat monotonous surface.

SCENIC ATTRACTIVENESS

CONTRAST RATING

Element	Weight	Rating	Score
Form	4	2.75	11
Line	3	2.75	8.25
Color	2	1	2
Texture	1	2.75	2.75
Total			24

Water Features			
Element	Weight	Rating	Score
Form	4	2	8
Line	3	2.5	7.5
Color	2	1	2
Texture	1	0	0
Total			17.5

Rock Formations

Element	Weight	Rating	Score
Form	4	2	8
Line	3	2	6
Color	2	0	0
Texture	1	2.5	2.5
Total			16.5

Cultural Features

Element	Weight	Rating	Score
Form	4	1	4
Line	3	1	3
Color	2	0	0
Texture	1	0	0
Total			7

Vegetation

Element	Weight	Rating	Score
Form	4	2.5	10
Line	3	2.5	7.5
Color	2	2.5	5
Texture	1	3	3
Total			25.5

Rating:	
Strong	3
Moderate	2
Weak	1
None	0
Score	90.5

SCENIC QUALITY INVENTORY

Category	Rank Description	Score Option	Score
Landform	Dominant/Striking	(1 to 5)	4
Vegetation	Several Interesting Types	(1 to 5)	4.5
Water	Semi-Dominant	(0 to 5)	3
Color	Somewhat Dominant	(1 to 5)	4
Adj. Scenery	Enhances Quality	(0 to 5)	2.5
Scarcity	Rare Within Region	(1 to 6)	5
Cultural	Quality Some what Depreciated	(-4 to 2)	-2
Score			21

PERCEIVED CHARACTER

Character	High	Moderate (1)	Low
	(2)		(0)
Variety	2		0
Unity	2		0
Vividness	2		0
Mystery		1	
Intactness		1	0
Coherence	2		0
Harmony	2		0
Uniqueness	2		0
Pattern	2		0
Balance		1	
Score			17

SCENIC ATTRACTIVENESS

Contrast scores + Scenic quality + Perceived character
 Total score for scenic attractiveness = 128.5

Class A - Distinctive	A
Class B - Typical	
Class C - Indistinctive	

SCENIC INTEGRITY

VH	H	M	L	VL	UL

Waddel dam breaks the natural lines of the mountain range in the background
 Power lines in the foreground also infringes into the scenic quality of the area

LANDSCAPE VISIBILITY

PRIMARY TRAVELWAY, USE AREA - HIGH (SCENIC DRIVE, CONNECTION TO RECREATION AREAS)

Hierarchy of Concern Levels

Distance Zones	Interest	#		
IFG (0'-300')	High	1	Immediate Foreground	River channel, water, lush vegetation.
FG (300' - 1/2 mi.)	High	1	Foreground	Riparian vegetation, bedrock, interesting rock formations
MG (1/2 - 4 mi.)	Moderate	2	Midground	Floodplain terraces with typical scrub type vegetation
BG (4 mi. - horizon)	Moderate	2	Background	Hills on the horizon with Waddel dam in the foreground

STOP 15

CAREFREE HIGHWAY

DYNAMITE BOULEVARD

JOMAX RD

HAPPY VALLEY RD

PINNACLE PEAK RD

DEER VALLEY RD

BEARDSLEY RD

UNION HILLS DRIVE

BELL RD

GREENWAY RD

THUNDERBIRD RD

CACTUS RD

PEORIA AVE

DUNLAP AVE

NORTHERN AVE

GLENDALE AVE

BETHANY HOME RD

CAMELBACK RD

INDIAN SCHOOL RD

THOMAS RD

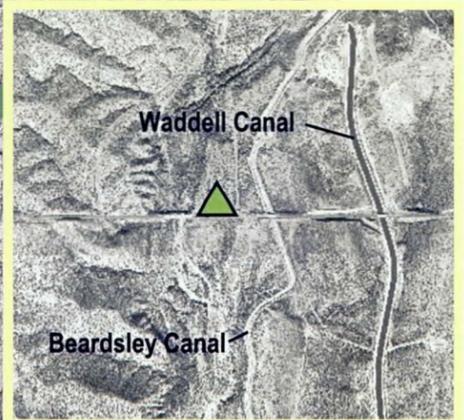
MCDOWELL RD

VAN BUREN ST

BUCKEYE RD

LOWER BUCKEYE RD

BROADWAY RD



ESTRELLA PKWY

BULLARD AVE

LITCHFIELD RD

DYSART RD

EL MIRAGE RD

115TH AVE

107TH AVE

99TH AVE

91ST AVE

83RD AVE

75TH AVE

67TH AVE

59TH AVE

51ST AVE

43RD AVE

35TH AVE

27TH AVE

19TH AVE

STOP 15

SCENIC INVENTORY ANALYSIS

AGUA FRIA RIVER CORRIDOR

Location Hwy 74 & Agua Fria N 33° 49' 22" W 112° 16' 35.8"
Stop 15 12/17/99

Deeply incised channel defined by rock cut banks. Spectacular area with interesting rock formations interspersed with abundant hydric/mesic riparian vegetation. Pools of water stands within the rocky bed of the river with large rocky boulders in-between. Bulrushes Grasses, Reeds, and other riparian species are abundant. Saguaros occupy the elevated rocky areas. Increased wildlife activity is observed.

SCENIC ATTRACTIVENESS

CONTRAST RATING

Landform			
Element	Weight	Rating	Score
Form	4	2.5	10
Line	3	2.5	7.5
Color	2	2.5	5
Texture	1	3	3
Total			25.5

Water Features			
Element	Weight	Rating	Score
Form	4	3.5	14
Line	3	3	9
Color	2	2.5	5
Texture	1	3	3
Total			31

Rock Formations

Element	Weight	Rating	Score
Form	4	3.5	14
Line	3	2.75	8.25
Color	2	3	6
Texture	1	3	3
Total			31.25

Cultural Features

Element	Weight	Rating	Score
Form	4	1	4
Line	3	0	0
Color	2	1	2
Texture	1	1	1
Total			7

Vegetation

Element	Weight	Rating	Score
Form	4	3	12
Line	3	2.5	7.5
Color	2	2	4
Texture	1	3	3
Total			26.5

Rating:	
Strong	3
Moderate	2
Weak	1
None	0
Score	121.25

SCENIC QUALITY INVENTORY

Category	Rank Description	Score Option	Score
Landform	Dominant/Striking	(1 to 5)	4
Vegetation	Several Interesting Types	(1 to 5)	4
Water	Semi-Dominant	(0 to 5)	3.5
Color	Somewhat Dominant	(1 to 5)	3
Adj. Scenery	Enhances Quality	(0 to 5)	3.25
Scarcity	Rare Within Region	(1 to 6)	3
Cultural	Quality Some what Depreciated	(-4 to 2)	0
Score			20.75

PERCEIVED CHARACTER

Character	High	Low	
	(2)	Moderate (1)	(0)
Variety	2		
Unity	2		
Vividness	2		
Mystery	2		
Intactness	2		
Coherence	2		
Harmony	2		
Uniqueness	2		
Pattern	2		
Balance	2		
Score			20

SCENIC ATTRACTIVENESS

Contrast scores + Scenic quality + Perceived character
 Total score for scenic attractiveness = 162

Class A - Distinctive	A
Class B - Typical	
Class C - Indistinctive	

SCENIC INTEGRITY

VH	H	M	L	VL	UL

LANDSCAPE VISIBILITY

PRIMARY TRAVELWAY, USE AREA - MODERATE (OCCASIONAL HIKER)

Hierarchy of Concern Levels

Distance Zones	Interest	#		
IFG (0'-300')	High	1	Immediate Foreground	Riverbed, boulders, pools of water, hydric riparian vegetation)
FG (300' - 1/2 mi.)	High	1	Foreground	Stratified channel banks, riparian species along the edges
MG (1/2 - 4 mi.)	High	1	Midground	Elevated, upland sonoran scrub region with Saguaro & Palo Verde planting.
BG (4 mi. - horizon)	High	1	Background	Limited views, Highway visible in the background.

APPENDIX B

SUGGESTED VEGETATION SPECIES

**LANDSCAPE & ENHANCEMENT COMMUNITIES
AGUA FRIA RIVER MASTER PLAN**

Wetland Pond Vegetation Emergent palustrine early-level successional community		Attributes					
Common Name	Botanical Name	Hydrologic Component ¹	Water Quality ²	Moisture Regime ³	Wildlife Value		General Comment
					Species ⁴	Type ⁵	
Arrowhead	<i>Sagittaria cuneata</i>	Low	Good	Aquatic	Waterfowl Shorebirds Small Mammals	Cover, Forage	Emergent or submerged. Rhizomes
Big galleta	<i>Hilaria rigida</i>	Low	Moderate	Upland Ground	Ground Birds Small Mammals	Cover, Forage	Bunchgrass up to 1 meter tall. Withstands high temperatures w/o dormancy.
Bulrush	<i>Scirpus acutus</i> Varied other species	Moderate	Excellent	Aquatic, Shoreline	Waterfowl Shorebirds Small Mammals	Cover, Nesting	Persistent emergent (2-4 meters tall). Dense monotypic stands. Rhizomes
Button-bush	<i>Cephalanthus occidentalis</i>	High	Good	Shoreline Low Upland	Song Birds Small Mammals	Cover, Forage, Nesting	Shrub (< 3 meters tall), Wet soils
Cattail	<i>Typha latifolia</i>	Moderate	Excellent	Aquatic Shoreline	Waterfowl Shorebirds, Songbirds Small Mammals	Cover, Nesting	Persistent emergent (<2 meters). Dense monotypic stands. Rhizomes
Coyote willow	<i>Salix exigua</i>	High	Moderate	Shoreline Low Upland	Song Birds Ground Birds Small Mammals	Cover, Nesting	Shrub (can exceed 3 meters). Very pliable stems.
Duckweed	<i>Lemna spp.</i>	Low	Good	Aquatic, Shoreline	Waterfowl Shorebirds	Cover, Forage	Floating aquatic. Invasive. Aesthetically unpleasing
Horsetail	<i>Equisetum laevigatum</i>	Low	Moderate	Shoreline Low Upland	Shorebirds	Cover, Forage	Emergent/wet soil. Rhizomes
Knotweed	<i>Polygonum spp.</i>	Low	Moderate	Aquatic, Shoreline	Waterfowl Shorebirds Small Mammals	Cover, Nesting	Emergent/wet soil. Forms large masses.
Panic grass	<i>Dichanthelium oligosanthes</i>	Low	Moderate	Shoreline Low Upland	All Birds Small Mammals	Cover, Forage, Nesting	Wet soils. Normally at elevations > 3000 feet.
Pondweed	<i>Potamogeton spp.</i>	Low	Good	Aquatic, Shoreline	Waterfowl Shorebirds	Cover, Forage, Nesting	Several species floating and submerged. Aesthetically unpleasing.
Red-osier dogwood	<i>Cornus stolonifera</i>	High	Good to Moderate	Shoreline Low Upland	Waterfowl Shorebirds Small Mammals	Cover, Forage, Nesting	Shrub 1 –3 meters tall. Can form dense stands at shoreline.
Reed	<i>Phragmites communis</i>	Moderate to High	Excellent	Aquatic, Shoreline	Waterfowl Shorebirds Song Birds	Cover, Forage, Nesting	Persistent emergent (2-4 meters). Very invasive w/ dense monotypic stands. Rhizomes
Rush	<i>Juncus balticus</i>	Moderate	Excellent	Aquatic, Shoreline	Waterfowl Shorebirds Small Mammals	Cover, Forage, Nesting	Persistent emergent (1-2 meters). Dense monotypic stands. Rhizomes

Wetland Pond Vegetation Emergent palustrine early-level successional community		Attributes					
Common Name	Botanical Name	Hydrologic Component ¹	Water Quality ²	Moisture Regime ³	Wildlife Value		General Comment
					Species ⁴	Type ⁵	
Salt grass	<i>Distichlis spicata</i>	Low	Moderate	Shoreline Low Upland	Shorebirds Small Mammals	Cover	Salt tolerant sod-forming grass
Sedge	<i>Carex spp</i>	Low	Moderate	Aquatic Shoreline Low Upland	Waterfowl Shorebirds Song Birds Small Mammals	Cover, Forage	Varying habitats from inundated to wet soil.
Spike-rush	<i>Eleocharis spp.</i>	Low	Moderate	Aquatic, Shoreline	Small Mammals, Upland Avian, Water Fowl	Cover, Forage	Several species, one salt tolerant

NOTES:

1 Hydrologic Component is a measure of the vegetations contribution to resistance to channel flows. It is a combination of the N-Value (a friction coefficient) and the species flexibility and propensity for creating channel clogging snag material

2 Water quality is a measure of the vegetations aboility to retain sediment, stabilize shorelines or uptake constituents. See accompanying text.

3 . **Aquatic** mositure regime areas are normally inundated. **Shoreline** moisture regime is normally saturated or barely inundated. **Low Upland** moisture regime is occasionally inundated but is mostly dry. **Upland** mositure regime is normally dry, with occasional short duration wet periods. The upland moisture regime includes the Xeric-ripraian areas found along desert washes..

4 **Waterfowl** are species that normally float or swim. **Shorebirds** are normally wading birds and do not swim. **Songbirds** are primarily passerine migratory speices. **Raptors** are upland birds of prey, that will utilize all of the vegetation communities for hunting. **Small Mammals** are normally upland species coyote sized or smaller.

5 Habitat Types include **Cover**, which supplies wildlife with hiding areas and protected travel corridors; **Forage** which supplies wildlife with vegetative food (predation is not included in forage) and **Nesting** which includes the location of the nest and material necessary to build the nest.

Page 2 of 2 - Wetland Pond Vegetation

Hydric Riparian (Riparian Vegetation) Hydric/mesic mid-level successional to climax riparian community		Attributes					
Common Name	Botanical Name	Hydrologic Component 1	Water Quality 2	Moisture Regime 3	Wildlife Value		General Comment
					Species 4	Type 5	
Big galleta	<i>Hilaria rigida</i>	Low	Moderate	Upland	Ground Birds Small Mammals	Cover, Forage, Nesting	Bunchgrass up to 1 meter tall. Withstands high temperatures w/o dormancy.
Blue paloverde	<i>Cercidium floridum</i>	High	Low	Upland	Songbirds Raptors Small Mammals	Cover, Forage Nesting	Small Tree
Bulrush	<i>Scirpus acutus</i> Varied other species	Moderate	Excellent	Aquatic, Shoreline Low Upland	Waterfowl Songbirds Shorebirds Small Mammals	Cover, Nesting	Persistent emergent (2-4 meters tall). Dense monotypic stands. Rhizomes
Button-bush	<i>Cephalanthus occidentalis</i>	Moderate	Good	Aquatic, Shoreline Low Upland	Songbirds Small Mammals	Cover, Forage, Nesting	Shrub (< 3 meters tall), Wet soils
Sedge species	<i>Carex spp.</i> <i>Cyperus spp.</i>	Low	Moderate	Aquatic, Shoreline	Shorebirds Songbirds Small Mammals	Cover, Forage, Nesting	Hydric to mesic grass-like species
Coyote willow Other willows	<i>Salix exigua</i>	High	Moderate	Shoreline Low Upland	Songbirds Ground Birds Small Mammals	Cover, Nesting	Shrub (can exceed 3 meters). Very pliable stems. Other species such as <i>S. gooddingii</i> are tree-sized
Cottonwood	<i>Populus fremontii</i>	Extreme	Low, High Transporation	Low Upland Upland	Songbirds Raptors Small Mammals	Cover, Forage, Nesting	Large tree. Potential for large snags
Ironwood	<i>Olneya tesota</i>	High	Low	Upland	Songbirds Raptors Small Mammals	Cover, Forage, Nesting	Moderate height tree w/branches to surface.
Knotgrass	<i>Paspalum distichum</i>	Low	Low	Shoreline	Waterfowl Songbirds Shorebirds Small Mammals	Cover, Forage, Nesting	Low-growth grass along banks
Reed	<i>Phragmites communis</i>	Moderate to High	Excellent	Aquatic, Shoreline	Waterfowl Songbirds Shorebirds Small Mammals	Cover, Forage, Nesting	Persistent emergent (2-4 meters). Very invasive w/ dense monotypic stands. Rhizomes
Sycamore	<i>Plantus wrightii</i>	Extreme	Low, High Transporation	Upland Ground	Songbirds Raptors Small Mammals	Cover, Forage, Nesting	Large tree. Potential for large snags.

NOTES:

1 Hydrologic Component is a measure of the vegetations contribution to resistance to channel flows. It is a combination of the N-Value (a friction coefficient) and the species flexibility and propensity for creating channel clogging snag material

2 Water quality is a measure of the vegetations aboility to retain sediment, stabilize shorelines or uptake constituents. See accompanying text.

3 . **Aquatic** mositure regime areas are normally inundated. **Shoreline** moisture regime is normally saturated or barely inundated. **Low Upland** moisture regime is occasionally inundated but is mostly dry. **Upland** moisture regime is normally dry, with occasional short duration wet periods. The upland moisture regime includes the Xeric-ripraian areas found along desert washes..

4 **Waterfowl** are species that normally float or swim. **Shorebirds** are normally wading birds and do not swim. **Songbirds** are primarily passerine migratory speices. **Raptors** are upland birds of prey, that will utilize all of the vegetation communities for hunting. **Small Mammals** are normally upland species coyote sized or smaller.

5 Habitat Types include **Cover**, which supplies wildlife with hiding areas and protected travel corridors; **Forage** which supplies wildife with vegetative food (predation is not included in forage) and **Nesting** which includes the location of the nest and material necessary to build the nest.

Mesic Riparian (Bosque Vegetation) Mesic mid-level successional community		Attributes					
Common Name	Botanical Name	Hydrologic Component ¹	Water Quality ²	Moisture Regime ³	Wildlife Value		General Comment
					Species ⁴	Type ⁵	
Acacia	<i>Acacia greggii</i>	High	Low	Upland	Songbirds Raptors Small Mammals	Cover, Forage, Nesting	
Big galleta	<i>Hilaria rigida</i>	Low	Moderate	Upland	Songbirds Raptors Small Mammals	Cover, Forage	Bunchgrass up to 1 meter tall. Withstands high temperatures w/o dormancy.
Curly mesquite	<i>Hilaria belangeri</i>	Low	Moderate	Upland	Songbirds Raptors Small Mammals	Cover, Forage, Nesting	Sod forming grass.
Desert Hackberry	<i>Celtis pallida</i>	High	Low	Upland	Songbirds Small Mammals	Cover, Forage, Nesting	Moderate sized trees. Dense growth pattern
Ironwood	<i>Olyena tesota</i>	High	Low	Upland	Songbirds Raptors Small Mammals	Cover, Forage	Moderate sized tree.
Joboba	<i>Simmondsia chinensis</i>	Low	Low	Upland	Songbirds Small Mammals	Cover	
Knotweed	<i>Polygonum spp.</i>	Low	Moderate	Low Upland	Small Mammals	Cover, Nesting	Emergent/wet soil. Forms large masses.
Mesquite	<i>Prosopis spp.</i>	High	Moderate	Upland	Songbirds Raptors Small Mammals	Cover, Forage, Nesting	Large shrub to tree. Can form tickets.
Panic grass	<i>Dichanthelium oligoanthes</i>	Low	Moderate	Shoreline Low Upland	Songbirds Small Mammals	Cover, Forage, Nesting	Wet soils. Normally at elevations > 3000 feet.
Sedge species	<i>Cyperus spp.</i>	Low	Moderate	Shoreline Low Upland	Songbirds Small Mammals	Cover, Forage	Hydric to mesic grass-like species

NOTES:

1 Hydrologic Component is a measure of the vegetations contribution to resistance to channel flows. It is a combination of the N-Value (a friction coefficient) and the species flexibility and propensity for creating channel clogging snag material

2 Water quality is a measure of the vegetations ability to retain sediment, stabilize shorelines or uptake constituents. See accompanying text.

3 . **Aquatic** moisture regime areas are normally inundated. **Shoreline** moisture regime is normally saturated or barely inundated. **Low Upland** moisture regime is occasionally inundated but is mostly dry. **Upland** moisture regime is normally dry, with occasional short duration wet periods. The upland moisture regime includes the Xeric-riparian areas found along desert washes..

4 **Waterfowl** are species that normally float or swim. **Shorebirds** are normally wading birds and do not swim. **Songbirds** are primarily passerine migratory species. **Raptors** are upland birds of prey, that will utilize all of the vegetation communities for hunting. **Small Mammals** are normally upland species coyote sized or smaller.

5 Habitat Types include **Cover**, which supplies wildlife with hiding areas and protected travel corridors; **Forage** which supplies wildlife with vegetative food (predation is not included in forage) and **Nesting** which includes the location of the nest and material necessary to build the nest.

Xeric Riparian (Intermittent Flow Vegetation) Mesic/Xeric early-level successional community		Attributes					
Common Name	Botanical Name	Hydrologic Component ¹	Water Quality ²	Moisture Regime ³	Wildlife Value		General Comment
					Species ⁴	Type ⁵	
Alkali sacaton	<i>Sporobolus airoides</i>	Low	Low	Upland	Songbirds Small Mammals	Cover, Forage	Bunchgrass up to 1 meter tall. Withstands alkali soils.
Big galleta	<i>Hilaria rigida</i>	Low	Moderate	Upland	Songbirds Small Mammals	Cover, Forage	Bunchgrass up to 1 meter tall. Withstands high temperatures w/o dormancy.
Brittlebush	<i>Encelia farinosa</i>	Low	Low	Upland	Songbirds Small Mammals	Cover, Forage	
Bursage	<i>Ambrosia spp</i>	Low	Low	Upland	Songbirds Small Mammals	Cover, Forage	Low-growth shrub. Several species
Bush mulhy	<i>Muhlenbergia porteri</i>	Low	Low	Upland	Songbirds Small Mammals	Cover, Forage	Bunchgrass up to 1 meter tall. Tends to form large singular bunches.
Cereus	<i>Peniocereus greggii</i>	Low	Low	Upland	Songbirds Small Mammals	Cover, Forage	
Creosotebush	<i>Larrea tridentata</i>	Moderate	Low	Upland	Songbirds Small Mammals	Cover	Medium growth shrub w/ open structure
Desert broom	<i>Baccharis sarothroides</i>	Moderate	Low	Upland	Songbirds Small Mammals	Cover, Forage	
Paloverde	<i>Cercidium spp</i>	High	Low	Upland	Songbirds Raptors Small Mammals	Cover, Forage, Nesting	Moderate height tree w/ branches to surface
Sideoats gramma	<i>Bouteloua curtipendula</i>	Low	Moderate		Songbirds		Bunchgrass up to 1 meter tall.
Blue gramma	<i>Bouteloua gracilis</i>	Low	Moderate	Upland	Small Mammals	Cover, Forage	Bunchgrass no higher than 0.5 meters
Snakeweed	<i>Gutierrezia sarothrae</i>	Low	Low	Upland	Songbirds Small Mammals	Cover, Forage	Small bushy herbaceous plant
Spike dropseed	<i>Sporobolus contractus</i>	Low	Low	Upland	Songbirds Small Mammals	Cover, Forage	Bunchgrass grows to 1.5 meters

NOTES

1 Hydrologic Component is a measure of the vegetation's contribution to resistance to channel flows. It is a combination of the N-Value (a friction coefficient) and the species flexibility and propensity for creating channel clogging snag material.

2 Water quality is a measure of the vegetation's ability to retain sediment, stabilize shorelines or uptake constituents. See accompanying text.

3 . **Aquatic** moisture regime areas are normally inundated. **Shoreline** moisture regime is normally saturated or barely inundated. **Low Upland** moisture regime is occasionally inundated but is mostly dry. **Upland** moisture regime is normally dry, with occasional short duration wet periods. The upland moisture regime includes the Xeric-riparian areas found along desert washes..

4 **Waterfowl** are species that normally float or swim. **Shorebirds** are normally wading birds and do not swim. **Songbirds** are primarily passerine migratory species. **Raptors** are upland birds of prey, that will utilize all of the vegetation communities for hunting. **Small Mammals** are normally upland species coyote sized or smaller.

5 Habitat Types include **Cover**, which supplies wildlife with hiding areas and protected travel corridors; **Forage** which supplies wildlife with vegetative food (predation is not included in forage) and **Nesting** which includes the location of the nest and material necessary to build the nest.

Ephemeral Flow Vegetation (Dry Channel Vegetation) Xeric early-level successional community		Attributes					
Common Name	Botanical Name	Hydrologic Component ¹	Water Quality ²	Moisture Regime ³	Wildlife Value		General Comment
					Species ⁴	Type ⁵	
Acacia	<i>Acacia greggii</i>	High	Low	Upland	Songbirds Small Mammals	Cover, Forage, Nesting	Small tree w/ dense branching close to ground
Big galleta	<i>Hilaria rigida</i>	Low	Moderate	Upland	Songbirds Small Mammals	Cover, Forage	Bunchgrass up to 1 meter tall. Withstands high temperatures w/o dormancy.
Bursage	<i>Ambrosia spp</i>	Low	Low	Upland	Songbirds Small Mammals	Cover, Forage	Low-growth shrub. Several species
Creosotebush	<i>Larrea tridentata</i>	Moderate	Low	Upland	Songbirds Small Mammals	Cover, Forage, Nesting	Medium growth shrub w/ open structure
Curly mesquite	<i>Hilaria belangeri</i>	Low	Moderate	Upland	Raptors Songbirds Small Mammals	Cover, Forage, Nesting	Sod forming grass.
Desert broom	<i>Baccharis sarothroides</i>	Moderate	Low	Upland	Songbirds Small Mammals	Cover, Forage	
Fluffgrass	<i>Erioneuron pulchellus</i>	Very Low	N/A	Upland	Songbirds Small Mammals	Cover, Forage	Forage choice for tortoise
Foothill paloverde	<i>Cercidium microphyllum</i>	N/A	N/A	Upland	Raptors Songbirds Small Mammals	Cover, Forage, Nesting	Moderate height tree w/ branches to surface
Saltbush	<i>Atriplex spp.</i>	Low	N/A	Upland	Songbirds Small Mammals	Cover, Forage	Low-growth shrub. Several species
Sideoats gramma	<i>Bouteloua curtipendula</i>	Low	Moderate	Upland	Songbirds Small Mammals	Cover, Forage	Bunchgrass up to 1 meter tall. Bunchgrass no higher than 0.5 meters
Blue gramma	<i>Bouteloua gracilis</i>	Low	Moderate				
Snakeweed	<i>Gutierrezia sarothrae</i>	Low	Low	Upland	Songbirds Small Mammals	Cover, Forage	Small bushy herbaceous plant
Spike dropseed	<i>Sporobolus contractus</i>	Low	Low	Upland	Songbirds Small Mammals	Cover, Forage	Bunchgrass grows to 1.5 meters

NOTES:

1 Hydrologic Component is a measure of the vegetations contribution to resistance to channel flows. It is a combination of the N-Value (a friction coefficient) and the species flexibility and propensity for creating channel clogging snag material

2 Water quality is a measure of the vegetations ability to retain sediment, stabilize shorelines or uptake constituents. See accompanying text.

3 . **Aquatic** moisture regime areas are normally inundated. **Shoreline** moisture regime is normally saturated or barely inundated. **Low Upland** moisture regime is occasionally inundated but is mostly dry. **Upland** moisture regime is normally dry, with occasional short duration wet periods. The upland moisture regime includes the Xeric-riparian areas found along desert washes..

4 **Waterfowl** are species that normally float or swim. **Shorebirds** are normally wading birds and do not swim. **Songbirds** are primarily passerine migratory species. **Raptors** are upland birds of prey, that will utilize all of the vegetation communities for hunting. **Small Mammals** are normally upland species coyote sized or smaller.

5 Habitat Types include **Cover**, which supplies wildlife with hiding areas and protected travel corridors. **Forage** which supplies wildlife with vegetative food (predation is not included in forage) and **Nesting** which includes the location of the nest and material necessary to build the nest.

Upland Shrub (Dry Hill Slope Vegetation) Xeric climax community		Attributes					
Common Name	Botanical Name	Hydrologic Component ₁	Water Quality ²	Moisture Regime ³	Wildlife Value		General Comment
					Species ⁴	Type ⁵	
Barrel Cactus	<i>Ferocactus spp</i>	N/A	N/A	Upland	Songbirds Small Mammals	Forage, Nesting	Various species
Cholla	<i>Opuntia spp</i>	N/A	N/A	Upland	Songbirds Small Mammals	Cover, Nesting	Various species
Pincushion cacti	<i>Mammillaria spp</i>	N/A	N/A	Upland	Songbirds Small Mammals	Forage, Nesting	Various species
Foothill paloverde	<i>Cercidium microphyllum</i>	N/A	N/A	Upland	Songbirds Small Mammals	Cover, Forage, Nesting	Primarily along wash banks
Ocotillo	<i>Fouquieria splendens</i>	N/A	N/A	Upland	Songbirds Small Mammals	Cover, Forage	
				Upland			
Saguaro	<i>Carnegiea gigantea</i>	N/A	N/A	Upland	Songbirds Small Mammals	Cover, Forage, Nesting	

NOTES:

1 Hydrologic Component is a measure of the vegetations contribution to resistance to channel flows. It is a combination of the N-Value (a friction coefficient) and the species flexibility and propensity for creating channel clogging snag material

2 Water quality is a measure of the vegetations aboility to retain sediment, stabilize shorelines or uptake constituents. See accompanying text.

3 . **Aquatic** moisture regime areas are normally inundated. **Shoreline** moisture regime is normally saturated or barely inundated. **Low Upland** moisture regime is occasionally inundated but is mostly dry. **Upland** moisture regime is normally dry, with occasional short duration wet periods. The upland moisture regime includes the Xeric-ripraian areas found along desert washes..

4 **Waterfowl** are species that normally float or swim. **Shorebirds** are normally wading birds and do not swim. **Songbirds** are primarily passerine migratory speices. **Raptors** are upland birds of prey, that will utilize all of the vegetation communities for hunting. **Small Mammals** are normally upland species coyote sized or smaller.

5 Habitat Types include **Cover**, which supplies wildlife with hiding areas and protected travel corridors; **Forage** which supplies wildlife with vegetative food (predation is not included in forage) and **Nesting** which includes the location of the nest and material necessary to build the nest.

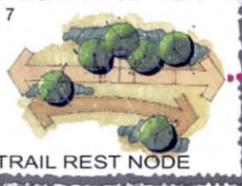
APPENDIX C

WEST VALLEY RECREATION CORRIDOR

AGUA FRIA WATERCOURSE MASTER PLAN PROPOSED ILLUSTRATIVE RECREATION CORRIDOR PLAN

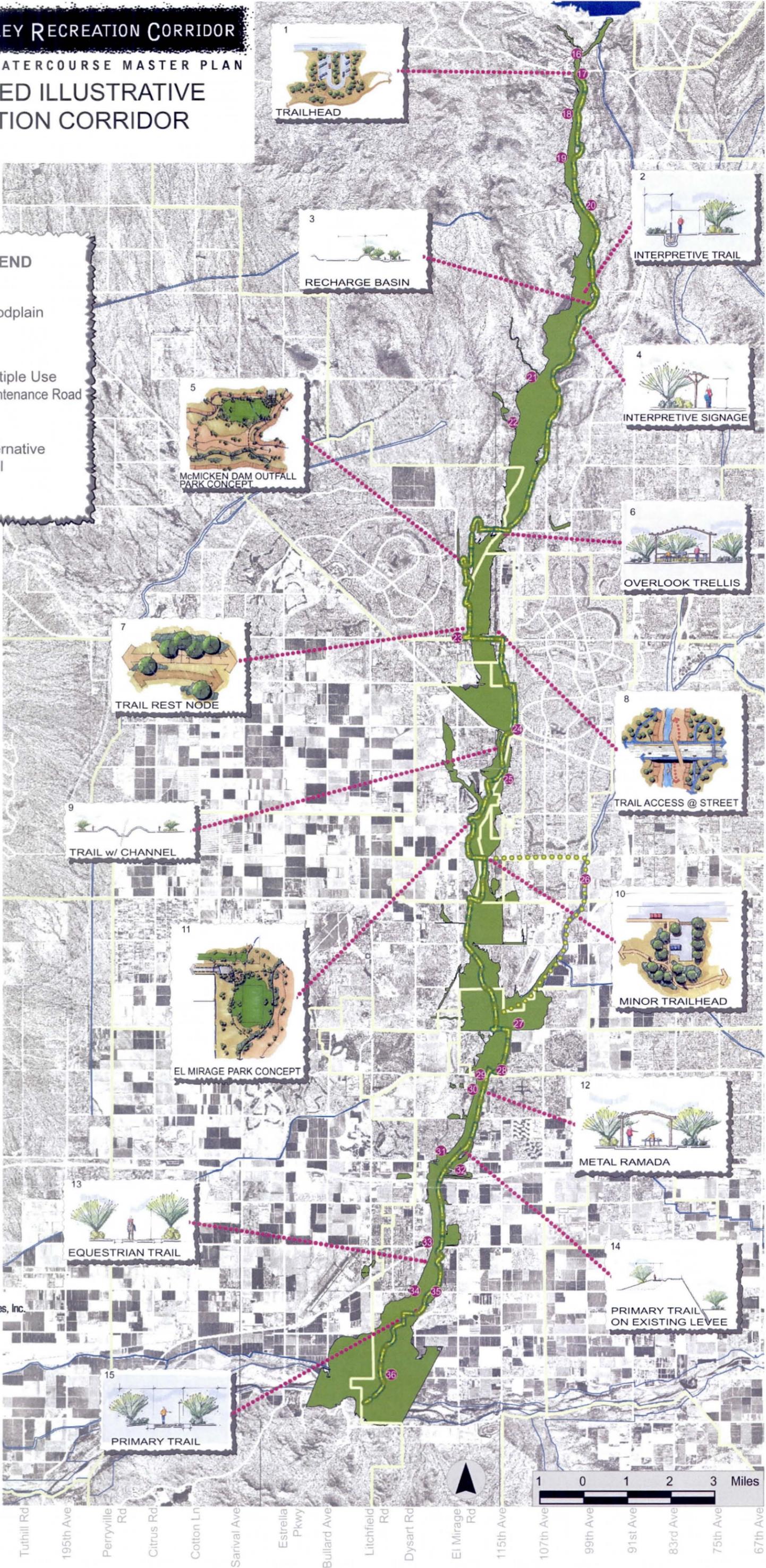
LEGEND

- Floodplain
- Multiple Use Maintenance Road
- Alternative Trail

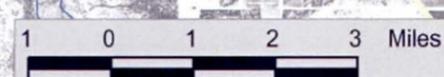


Kimley-Horn and Associates, Inc.

CORNOYER-HEDRICK

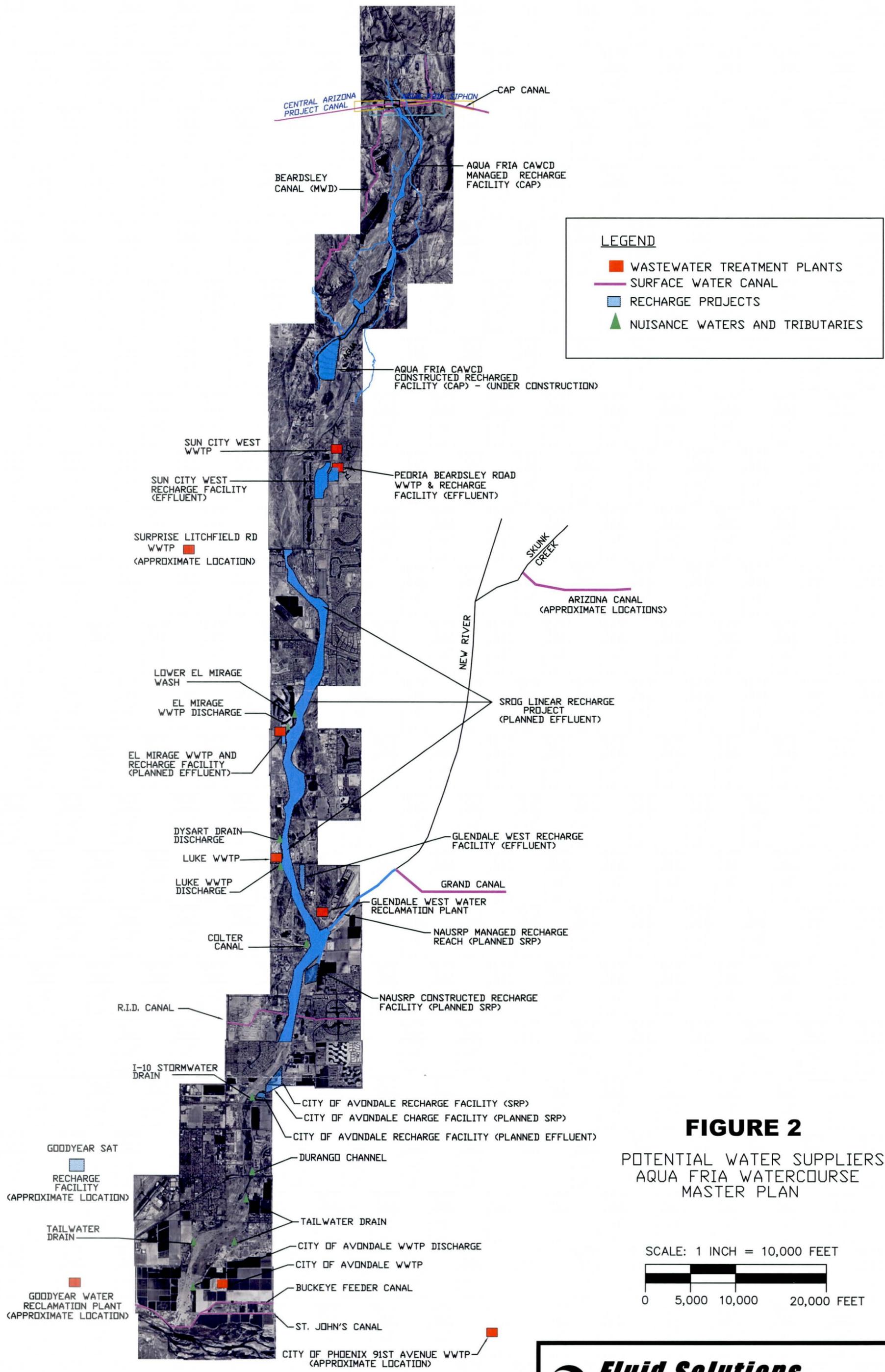


- Desert Hills Dr
- Joy Ranch Rd
- Cloud Rd
- Carefree Hwy
- Dove Valley Rd
- Lone Mountain Rd
- Dixileta Dr
- Dynamite Blvd
- Jomax Rd
- Happy Valley Rd
- Pinnacle Peak Rd
- Deer Valley Rd
- SR 101
- Union Hills Dr
- Bell Rd
- Greenway Rd
- Thunderbird Rd
- Cactus Rd
- Peoria Ave
- Olive Ave
- Northern Ave
- Glendale Ave
- Bethany Home Rd
- Camelback Rd
- Indian School Rd
- Thomas Rd
- McDowell Rd
- I 10
- Van Buren St
- Buckeye Rd
- Lower Buckeye Rd
- Broadway Rd
- Southern Ave
- Baseline Rd



- Tuthill Rd
- 195th Ave
- Perryville Rd
- Citrus Rd
- Colton Ln
- Sanval Ave
- Estrella Pkwy
- Bullard Ave
- Litchfield Rd
- Dysart Rd
- El Mirage Rd
- 115th Ave
- 107th Ave
- 99th Ave
- 91st Ave
- 83rd Ave
- 75th Ave
- 67th Ave

CLIENTS/KIMELY HORN/ACAD/POTENTIAL WATER SUPPLIERS 6/25/01



Fluid Solutions
 Water, Wastewater, Engineering & Environmental Services
 1121 EAST MISSOURI AVENUE • SUITE 100 • PHOENIX ARIZONA 85014