

Specific Plan ❖ Madera Highlands Specific Plan

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# MADERA HIGHLANDS

## Specific Plan

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**TABLE OF CONTENTS**

**I. STATEMENT OF FINDINGS .....1**

A. Introduction .....1

B. Plan Objectives .....2

C. Alternate Planning Tools .....2

D. Plan Consistency .....2

E. Community Benefits .....2

F. Context Compatibility .....3

G. Environmental Suitability .....4

H. Public Service Suitability .....4

**II. SITE ANALYSIS AND INVENTORY .....8**

A. Existing Land Uses .....8

B. Topography .....11

C. Hydrology .....13

D. Vegetation .....20

E. Wildlife .....25

F. Soils .....26

G. Visual Resources .....28

H. Traffic .....34

I. Sewers .....36

J. Schools .....38

K. Open Space, Recreation and Trails: .....39

L. Cultural/Archaeology/Historic Resources .....42

M. Air Quality .....45

N. Composite Map .....46

**III. DEVELOPMENT PLAN .....48**

A. Purpose and Intent .....48

B. Goals .....48

C. Land Use Plan .....49

D. Circulation Concept Plan .....53

E. Public Facilities .....61

F. Water Resources Concept Plan .....69

G. Grading Concept .....77

H. Environmental Resources Concept Plan .....79

I. Landscape Concept .....82

J. Recreation and Trails Concept .....85

K. Air Quality (Vehicular Traffic) .....88

L. Railroad and Noise Mitigation .....88

M. Lighting Standards .....88

**IV. DEVELOPMENT REGULATIONS .....89**

A. Purpose and Intent .....89

B. Definitions .....89

C. General Provisions .....92

D. Land Use Plan Designations .....93

E. Development Area Categories .....94

F. Public Facilities Regulation .....98

Table of Contents

---

G.	Hydrology/Drainage Regulations.....	99
H.	Archaeological Regulations.....	99
I.	Lighting Regulations.....	99
<b>V.</b>	<b>DESIGN GUIDELINES .....</b>	<b>101</b>
A.	Introduction .....	101
B.	Design Review.....	102
C.	Site Planning.....	103
D.	Architectural Guidelines .....	107
E.	Landscape .....	114
F.	Signage.....	118
<b>VI.</b>	<b>SPECIFIC PLAN IMPLEMENTATION .....</b>	<b>120</b>
A.	Purpose .....	120
B.	Definitions.....	120
C.	Phasing Plan.....	120
D.	General Implementation Responsibilities .....	121
E.	Roadway (Arterial Streets) Phasing Plan .....	124
F.	Public Facilities Phasing .....	124
G.	Transfer of Density.....	125
H.	Monitoring Program .....	126
I.	Site Plan Review Procedures.....	126
J.	Specific Plan Administration.....	127
<b>VII.</b>	<b>APPENDICES.....</b>	<b>130</b>
Appendix A:	Ownership and Tax Code .....	131
Appendix B:	Legal Description.....	132
Appendix C:	Arizona Game & Fish Letter.....	140
Appendix D:	Pima County Department of Wastewater Management Letter .....	145
Appendix H:	Recommended Plant Palette List.....	146
Appendix J:	Bibliography.....	153

**LIST OF EXHIBITS**

Exhibit I-A.1: Regional and Vicinity Map .....6  
Exhibit I-D.1: Town of Sahuarita General Plan.....7  
Exhibit II-A.2: Existing Land Uses.....9  
Exhibit II-A.3: Existing Zoning ..... 10  
Exhibit II-B.1: Topography ..... 12  
Table II-C.3: Summary of Off-Site Watersheds ..... 14  
Exhibit II-C.1: Off-Site Watersheds ..... 17  
Exhibit II-C.4: On-Site Hydrology ..... 18  
Exhibit II-C.4.C: FEMA 100 Year Flood Hazard Limits Map ..... 19  
Exhibit II-D.1: Vegetation Communities Map..... 23  
Exhibit II-D.2: Vegetation Density Map ..... 24  
Exhibit II-F.1: Soils Map..... 27  
Exhibit II.G.1: Off-Site Vistas ..... 32  
Exhibit II-G.2: On-Site Visibility ..... 33  
Table II-H: Existing Roadways within and Surrounding Madera Highlands ..... 34  
Exhibit II-H.1: Existing Entrances to the Site ..... 35  
Exhibit II-I: Sewers..... 37  
Table II-K: Inventory of Candidate Trails in order of Priority ..... 40  
Exhibit II-J.K: Schools/Recreation..... 41  
Exhibit II-N.1: Composite Map ..... 47  
Exhibit III-C.1: Development Plan ..... 50  
Table III-1: Madera Highlands Land Use by Block ..... 51  
Table III-2: Land Use Summary ..... 52  
Exhibit III-D.1: Circulation Plan ..... 56  
Exhibit III-D.2: Street Cross Section A-A..... 57  
Exhibit III-D.2: Street Cross Section B-B..... 58  
Exhibit III-D.2: Street Cross Section C-C ..... 59  
Exhibit III-D.2: Street Cross Section D-D ..... 60  
Exhibit III-E.1: Schematic Master Water Concept Plan ..... 65  
Exhibit III-E.2: Schematic Sanitary Sewer Concept Plan..... 66  
Exhibit III-F.1: Drainage Concept Plan..... 71  
Exhibit III-F.2: Typical Section A-A Improved Channel..... 72  
Exhibit III-F.2: Typical Section B-B Improved Channel..... 73  
Exhibit III-F.2: Typical Section C-C Levee and Existing Channel ..... 74  
Exhibit III-F.2: Typical Section D-D North Boundary Channel and Levee ..... 75  
Exhibit III-F.2: Typical Section E-E Improved Channel..... 76  
Exhibit III-G.1: Conceptual Grading ..... 78  
Exhibit III-H.1.d: Preserved Natural Washes..... 81  
Exhibit III-I.1: Landscape Concept Plan ..... 83  
Exhibit III-J.1: Recreation and Trails Map ..... 86  
Exhibit III-J.2: Conceptual Neighborhood Mini-Park..... 87  
Exhibit VI-D.1: Preliminary Phasing Plan ..... 123  
Exhibit VI-H.1: Madera Highlands Specific Plan Monitoring Report ..... 129

## I. STATEMENT OF FINDINGS

### A. Introduction

Madera Highlands is a non-age restricted planned community comprised of residential, commercial and recreational land uses. Located in the southeastern portion of the Town of Sahuarita, the 920-acre site lies to the east of Old Tucson-Nogales Highway, 25 miles south of downtown Tucson and 15 miles south of Tucson International Airport. The Santa Rita Mountains are located 11 miles to the southeast of the site (See Exhibit I-A.1: Regional and Vicinity Map). The Specific Plan project area includes portions of Township 18 south, Range 13 east, Sections 12 and 13, and Township 18 south, Range 14 east, Sections 7 and 8. The Pima County Assessor tax parcel numbers are indicated in Appendix A and the Legal Description is provided in Appendix B.

The availability of suitable land and accessibility to transportation corridors will attract Pima County's growing population to Madera Highlands. Madera Highlands is readily accessible through existing roadways with access for the northern portion of the site available from Interstate 19 and the Old Nogales Highway by Duval Road. The site is also accessible from the south by Continental Road.

Environmental features at Madera Highlands are suitable for development. The topography of the property ranges from flat terrain on the west side of the property to steep terrain and gentle slopes on the center and eastside of the site. The east side of the site is characterized by ridges and braided washes, with a general slope towards the Santa Cruz River to the west. The west side of the site contains relatively flat terrain sloping towards the Santa Cruz River. The site is characterized by existing pecan orchards, former agricultural and ranching areas. Major washes provide open space and wildlife corridors across the property to the state and federal lands and Santa Rita Experimental Range.

This Plan focuses on optimizing unique existing site conditions to create a high quality mixed-use community setting. Housing, commercial and public services will be balanced with natural open space and public recreational amenities. The Specific Plan meets goals set forth in the Town of Sahuarita General Plan in developing a community that offers a variety of housing, employment and recreational opportunities. The Town Center and adjacent employment areas will reduce the need for excessive travel and provide opportunities for alternative transportation modes for residents.

The Madera Highlands Specific Plan was developed in accordance with the Town of Sahuarita Zoning Code and General Plan guidelines. This plan provides flexible zoning and regulatory guides appropriate to the Madera Highlands Planned Community.

**B. Plan Objectives**

The Madera Highlands Specific Plan establishes community design standards that take advantage of the unique ranching and agricultural history of the area while meeting the Town's General Plan objectives. Specifically this plan aims to do the following:

- Implement the goals and policies of the Town of Sahuarita;
- Create environmentally sensitive design preserving unique natural features of the site;
- Provide for a range of residential opportunities within a master planned area;
- Create a complete package of regulations for land use, signage, roads, landscaping, trails and recreational features;
- Provide an infrastructure and public facilities systems phased to support development in an efficient and timely manner;
- Provide design guidelines to establish a framework to maximize unique opportunities provided by this site;
- Create a Town Center commercial area;

**C. Alternate Planning and Zoning Tools**

The Madera Highlands Specific Plan responds to unique site constraints, market conditions and community preferences in a master planned community design. This plan provides flexible zoning and regulatory guides needed to implement this unique, phased planned community.

**D. Plan Consistency**

The Madera Highlands Specific Plan is consistent with goals and objectives established by the Town of Sahuarita General Plan (See Exhibit I-D.1: Town of Sahuarita General Plan). This Specific Plan identifies zoning and land use patterns that meet the basic needs of residents. It also creates multi-modal transportation routes, preserves natural resources and provides open space and recreation opportunities.

**E. Community Benefits**

The Madera Highlands Specific Plan will enhance regional planning efforts by increasing surrounding property values by providing homes priced at or above comparable values in the area. Creating quality recreational opportunities and improving street and utility infrastructure systems will enhance property values on and off-site.

The proposed uses within this Specific Plan will provide needed residential and recreational opportunities for the Town of Sahuarita. As the population in southern Pima County increases the demand for housing and services also increases. The master planned Madera Highlands community will provide residential development, a town center, open space amenities, a recreation center and other opportunities for future residents.

**F. Context Compatibility**

Surrounding the Specific Plan area there are a number of properties in the development and planning phases. Quail Creek to the north of the site and the Madera Reserve located south of the site are examples of this. The planning area adjoins undeveloped State, Federal and private land to the east. The property to the north is privately held and partially developed. Properties to the west, south, and southwest of the site contain single-family residential development. Uses detailed in this plan will be compatible with surrounding residential development and add commercial and recreational opportunities for surrounding developments.

Existing zoning in the area is CR-1 Single-Family Residential, Rural Homestead, Transitional, and General Business. Zoning is compatible with the proposed development (See Exhibit II-A.3: Existing Zoning).

## **G. Environmental Suitability**

The Specific Plan area is environmentally suitable for development with appropriate site design. The eastern portion of the site is characterized as typical Arizona Upland - Sonoran Desert. The major plant community is the Palo Verde-Cacti-Mixed Shrub series. Portions of the site are within the Class II Palo Verde-Saguaro Sonoran Desert Community and Class I Riparian habitat according to Shaw's 1986 study, ***Critical and Sensitive Biological Communities Study and Map***. The western portion of the site contains pecan orchards and disturbed agricultural land. Surveys performed on the site by Westland Resources, Inc. found fifty Pima Pineapple Cactus, which is listed as endangered by the U.S. Fish and Wildlife Service.

There are no known species of wildlife designated as threatened or endangered by the Federal Government on the site.

The topography of the subject property ranges from flat terrain on the west side of the property to steep terrain and gentle slopes on the center and east side of the site. The east side of the site is characterized by ridges and braided washes, with a general slope towards the Santa Cruz River to the west. The west side of the site contains relatively flat terrain sloping towards the Santa Cruz River.

Archaeological surveys of the site indicate isolated areas of cultural remains. Mitigation measures may include on-the-ground exploration or in-place preservation. More information is provided in Section I.L: Cultural/ Archaeology/ Historic Resources.

The visual environment in this area contains long-range views of the Santa Rita Mountains. They provide opportunities to maximize views with appropriate land use planning. More information is provided in Section I.G: Visual Resources.

## **H. Public Services Suitability**

Existing transportation networks and plans offer adequate access and circulation opportunities for development at this site. The Old-Tucson-Nogales Highway is on the Major Streets and Routes Plan. Improvements will be made to mitigate increased traffic on roads that access this property as part of this development project.

Wastewater capacity for this development is available at the Green Valley Wastewater Treatment Plant located 1-1/2 miles northwest of the site. An additional 1.5-million gallon per day capacity will be added to the Green Valley Treatment Plant in January 1999.

Tucson Electric Power Company and Southwest Gas serve the project site. A future linear park has been proposed along the Santa Cruz River that will eventually be linked to the Madera Highlands development. The proposed

*Statement of Findings*

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development will provide a variety of public open space recreation areas, and trails uses.

Tucson and Green Valley offer medical facilities for residents in this area. Health care facilities in Green Valley include the Carondelet St. Mary's Hospital's Green Valley Emergency Center, the Clinic Branch of Thomas-Davis Medical Centers, and many private physicians. The closest Tucson medical facility is Kino Hospital on Ajo Way.

The Sahuarita Police Department services the planning area. Fire protection will be provided by Rural Metro by subscription services at cost to owners.

Exhibit I-A.1: Regional and Vicinity Map

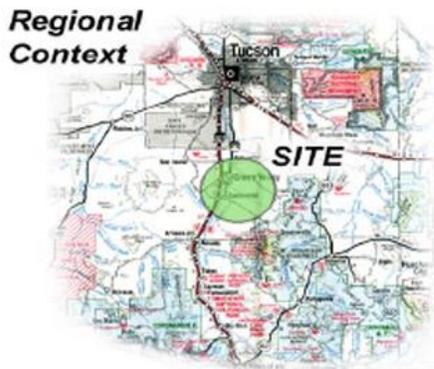
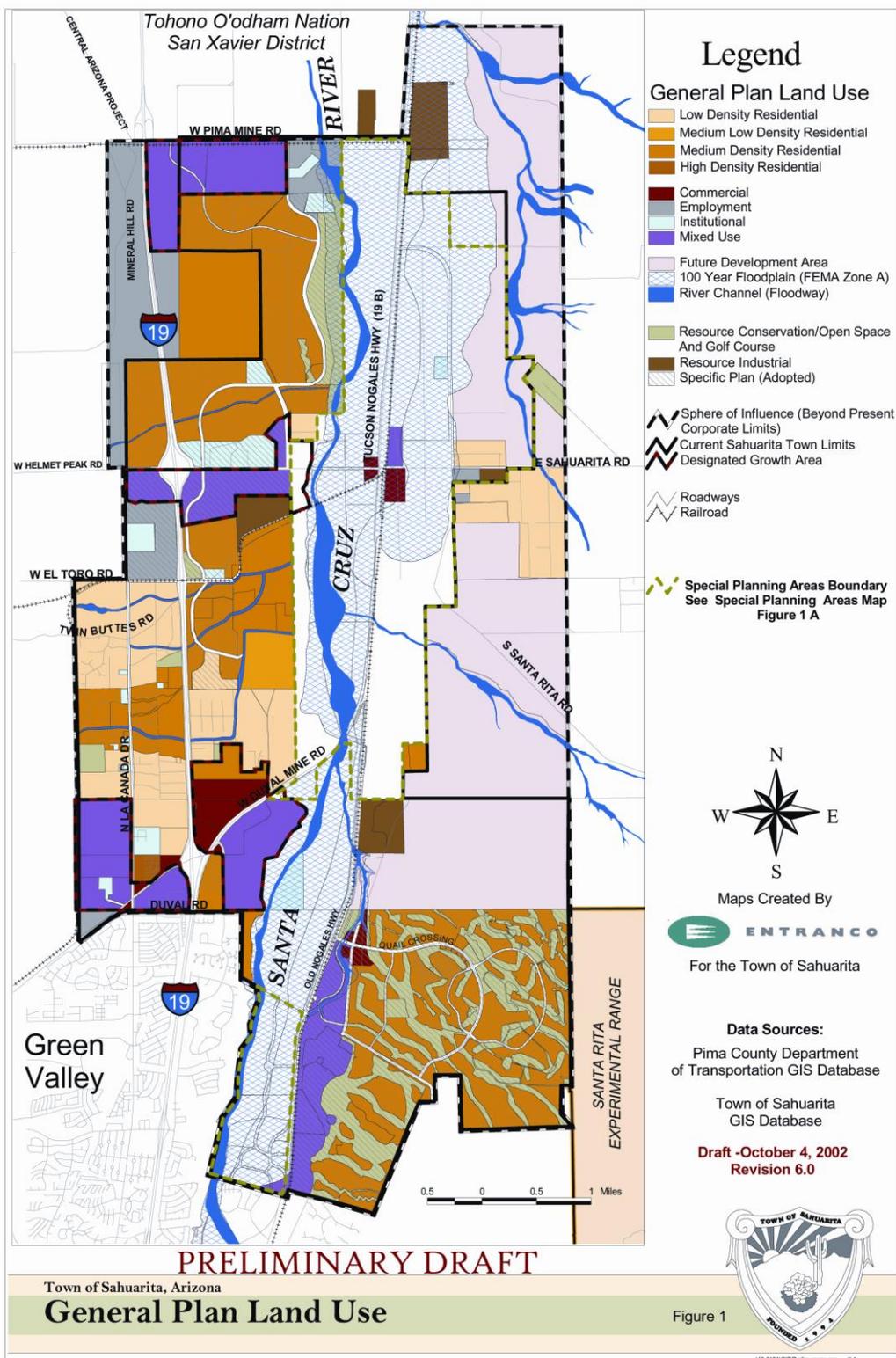


Exhibit I-D.1: Town of Sahuarita General Plan



## II. SITE ANALYSIS AND INVENTORY

### A. Existing Land uses

1. **Site Location in Regional Context:** Madera Highlands is located in the Town of Sahuarita, Arizona (Township 18 South, Range 13 East, portions of sections 12 and 13 and Township 18 South, Range 14 East portions of sections 7 and 8). The 920-acre property is located east of the unincorporated community of Green Valley and lies within the Continental Section of the San Ignacio de la Canoa Land Grant. This portion of the Land Grant is located 25 miles south of downtown Tucson, 15 miles south of Tucson International Airport, and 11 miles northwest of Madera Canyon (See Exhibit I-A.1: Regional and Vicinity Map).
2. **Existing Land Uses on Site:** Existing land uses include agricultural, ranching, and residential development. Approximately 550 acres on the east half of the property are sloping plains dissected by arroyos and broad washes, covered mainly with native vegetation. The remaining 370 acres on the west half are covered by a pecan orchard, abandoned feedlot, and fallow agricultural field. An inholding of approximately 1.75 acres near the center of the property contains a private residence and native vegetation (See Exhibit II-A.2: Existing Land Uses).
3. **Surrounding Property Within 1/4 Mile Radius:** Existing land uses within a 1/4-mile of the site include agricultural and residential use. Much of the surrounding property is vacant. There is State, Federal and private land to the east of the site. A quarter mile southwest of the site there is a multi-family residential complex. Land to the south of the site is zoned and planned for commercial and residential development. Land to the west of the site is composed of pecan orchards (See Exhibit II-A.3: Existing Zoning).

Exhibit II-A.2: Existing Land Use

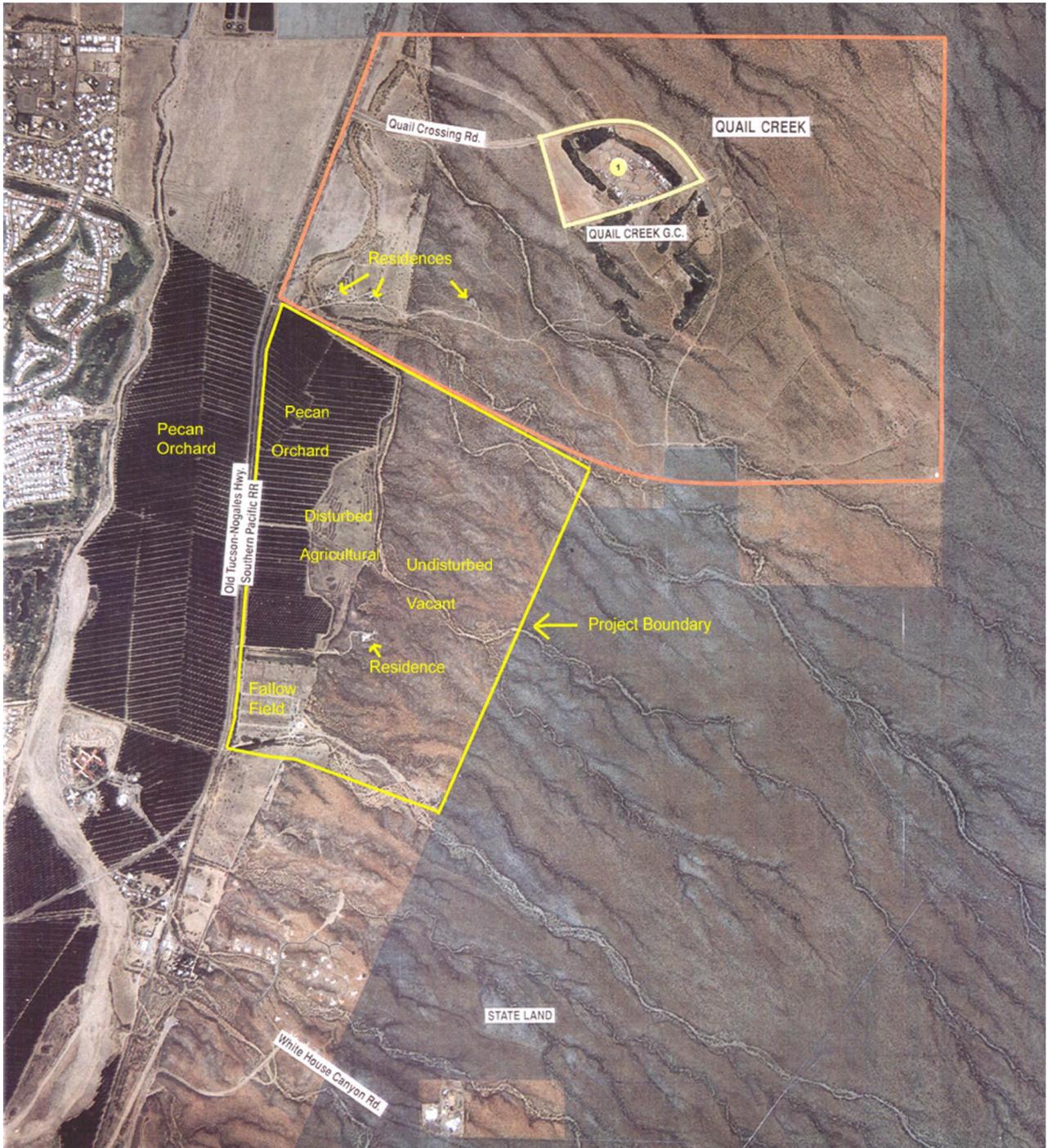
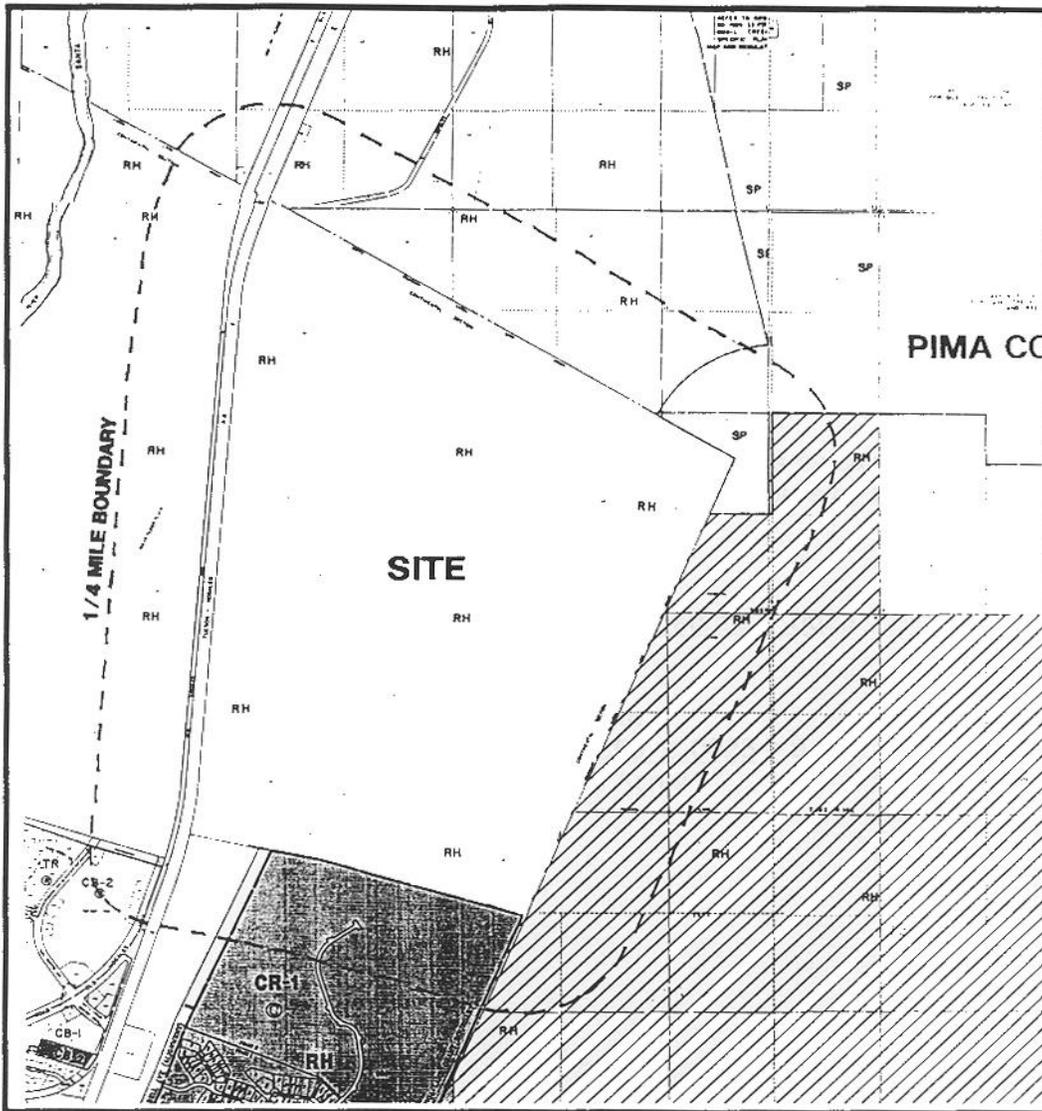


Exhibit II-A.3: Existing Zoning



LEGEND

RH	RURAL HOMESTEAD
CR-1	SINGLE RESIDENCE
CB-1	GENERAL BUSINESS
CB-2	GENERAL BUSINESS
TR	TRANSITIONAL



**B. Topography**

**1. Topographic Characteristics:**

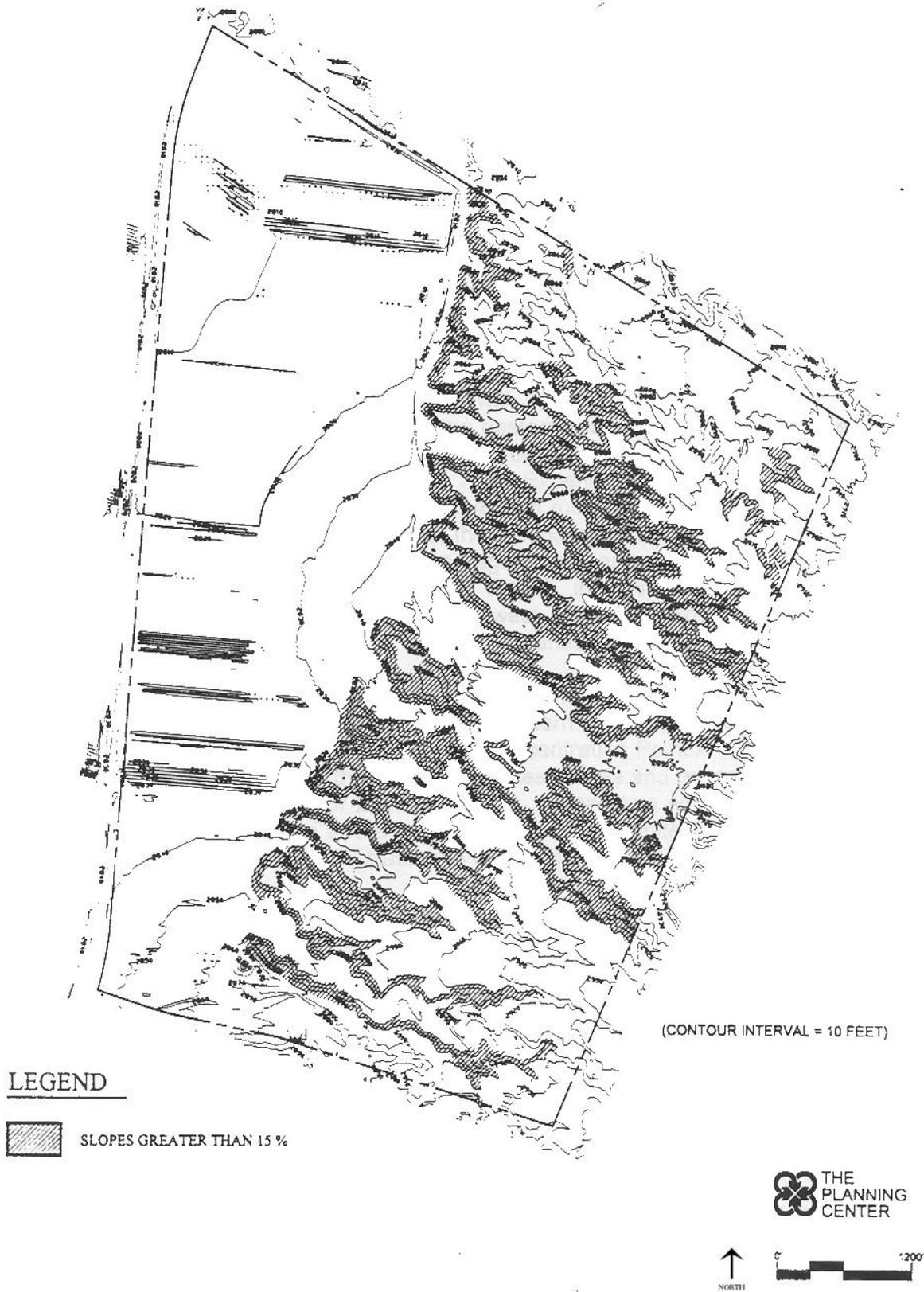
- a. Restricted Peaks & Ridges: There are no restricted peaks or ridges designated on this site in the Town of Sahuarita Zoning Code.
- b. Rock Outcrops: There are no rock outcrops on the site. This information was compiled from examination of aerial photographs at 1"=40 feet scale and verified by on-site investigation.
- c. Slopes of 15% or Greater: (See Exhibit II-B.1: Topography). Slopes over 15% are primarily associated with drainageways.

- 2. Average Cross Slope:** Average cross slope is calculated by multiplying the contour interval by the total length of contours by a constant, divided by the area of the site.

Average Cross Slope Formula:  
$$\frac{\text{Contour Interval} \times \text{Length of Intervals} \times .0023}{\text{Area}}$$

Average Cross Slope for site:  
$$\frac{20' \times 181,850' \times .0023}{920 \text{ Acres}} = 9.1\%$$

Exhibit II-B.1: Topography



## C. Hydrology

### 1. Off-site Watershed:

The largest off-site watershed impacting the site is Sawmill Canyon with a drainage area of 17.6 square miles (See Exhibit II-C.1: Off-Site Watersheds). The upstream watershed originates from the Santa Rita Mountains and is characterized by braided channels and ill-defined basin divides (potential break-over between watersheds). The floodplain for the Sawmill Canyon Wash is located along the southern property boundary with a 100-year peak discharge of 8,050 cubic feet per second (cfs). A portion of the 100-year discharge drains to an off-site culvert beneath a railroad embankment. Flow, which over-tops the existing channel banks, spreads west and north across the subject property.

There are eight off-site watersheds with 100-year discharges in excess of 100 cfs which concentrate at the eastern property boundary. These watersheds have headwaters in the western slopes of the Santa Rita Mountains and in the Santa Rita Experimental Range. Their watercourses drain west and north across the subject property. These watercourses are well defined in the upland region of the property, but lose their definition in the low-lying agricultural areas (pecan groves) in the western portion of the site. Runoff in this area from these watercourses sheet flows in a northwest direction across the subject property (See Exhibit II-C.1: Off-Site Watersheds).

The southernmost portion of these off-site watersheds has a drainage area of 140 acres and drains to the eastern property boundary with a 100-year peak discharge of 514 cfs (Concentration Point A (CP A)). The adjacent watershed to the north is 40 acres in area and generates a 100-year peak discharge of 201 cfs (CP B). These two watercourses join onsite, concentrating at the low-lying area in the western portion of the site with a 100-year peak discharge of 808 cfs (CP A2).

Runoff from four of the off-site watersheds drains west across the central portion of the site. The largest of these watersheds has a drainage area of 1,732 acres and a 100-year peak discharge of 2,491 cfs (CP G). The next largest watershed has a 100-year peak discharge of 1,375 cfs generated on 410 acres (CP E). These two watercourses join onsite and drain west to the low-lying area, concentrating with a combined 100-year peak discharge of 3,143 cfs (CP G3). The adjacent watershed to the south is 87 acres in area and generates a 100-year peak discharge of 365 cfs (CP D). Runoff from this watershed drains west, concentrating at the low-lying areas with a 100-year peak discharge of 512 cfs (CP D3). The northernmost of these centralized watersheds has a drainage area of 26 acres and a 100-year peak discharge of 164 cfs at the eastern property boundary (CP H). The 100-year peak discharge for this watershed at the low-lying area is 452 cfs (CP H2).

The largest of the eight off-site watersheds concentrates runoff at the northeast property corner. The watershed has a drainage area of 4,365 acres and a 100-year peak discharge of 5,809 cfs (CP O). Upstream, this watershed has ill defined watershed boundaries with numerous locations of breakout and break-over. Onsite, runoff from the adjacent watershed to the south (Drainage Area = 100 acres and Q100 = 473 cfs at CP J) joins this watercourse. The combined flow exits the northern property boundary with a 100-year peak discharge of 5,798 cfs (CP O2).

The subject property and associated off-site watersheds are not located in a balanced or critical basin. All 100-year peak discharges are based upon anticipated future development conditions

**2. Off-site Features that may Affect or may be Affected by the Site:**

No significant off-site natural or man-made features that may affect or be affected by the site development are apparent within the above-mentioned off-site watersheds.

**3. Upstream Watersheds With 100 Year Discharges Greater Than 100 cfs:**

Table II-C.3, (See below) summarizes the areas and 100-year peak discharges for off-site watersheds:

**Table II-C.3  
Summary of Off-Site Watersheds**

Concentration Point	Drainage Area	100-Year Peak Discharge
A	140 acres	514 cfs
B	40 acres	201 cfs
A2	248 acres	808 cfs
D	87 acres	365 cfs
D3	137 acres	512 cfs
E	410 acres	1375 cfs
G	1732 acres	2491 cfs
G3	2220 acres	3143 cfs
H	26 acres	164 cfs
H2	84 acres	452 cfs
J	100 acres	473 cfs
O	4365 acres	5809 cfs
O2	4535 acres	5798 cfs

**4. On-Site Hydrology:**

a. 100-Year Floodplain Less Than or Equal to 100 cfs:

Four onsite watersheds generate 100-year peak discharges in excess of 100 cfs. Runoff generated on these watersheds concentrates at the low-lying area with 100-year peak discharges of 116 cfs, 319 cfs, 243 cfs, 181 cfs, and 145 cfs at Concentration Points K, C2, L2, M2, and N respectively. Approximate onsite 100-year floodplains for discharges greater than or equal to 100 cfs are shown on Exhibit II-C-4: On-site Hydrology. Erosion Hazard Setbacks exist for all onsite watercourses with 100-year discharges greater than 100 cfs (typically measured from the top of bank, if definable or 100-year floodplain limits). A 50 foot setback is required for watercourses with 100-year peak discharges of less than 2,000 cfs.

b. Sheet Flooding Areas with their Average Depth:

Existing berms located onsite to contain and direct runoffs emanating from the defined watercourses are assumed to be inadequate to contain 100-year peak discharges. Runoff can be expected to sheet flow west and north at average depths of 1-2 feet to property boundary, adjacent to the pecan groves.

c. Federally Mapped Floodways and Floodplains:

The low-lying areas of the property are located within a federally mapped 100-year floodplain (Zone AE) for the Santa Cruz. (See Exhibit II-C.4.c: FEMA 100-year Flood Hazard Limits). A letter of Map Revision request is will be processed with the Federal Emergency Management Agency (FEMA) to remove this area from the effective Flood Insurance Rate Map based upon a flood control berm.

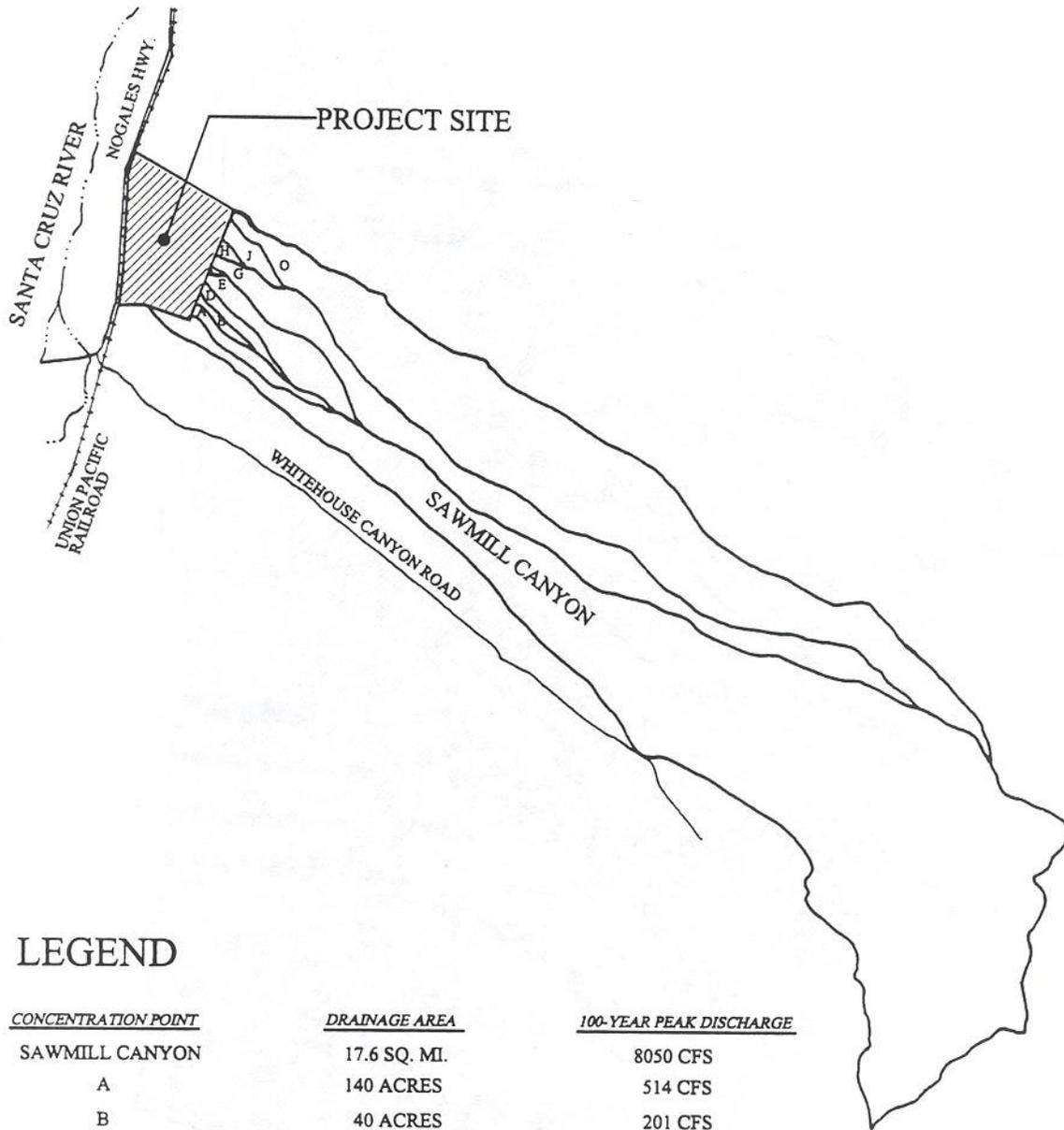
d. Peak Discharges Entering and Leaving the Site:

Peak discharges both entering and leaving the site for 100-year events which exceed 100 cfs are shown on Exhibit II-C.4: On-site Hydrology.

**5. Existing Drainage Conditions Along Downstream Property Boundary:**

The existing trestle at the railroad embankment near the proposed entry road is inadequate to drain the combined 100-year peak discharge concentrating at the railroad embankment on the western property boundary. The balance of runoff not conveyed by the trestle drains north along the Madera Highlands western property boundary and east of the railroad embankment, and continues north beyond the Madera Highlands property. In the low-lying pecan grove area an existing berm at the northern property boundary directs runoff to exit at the downstream terminus of the upland region and at the northwestern property corner.

Exhibit II-C.1: Off-Site Watersheds



LEGEND

<u>CONCENTRATION POINT</u>	<u>DRAINAGE AREA</u>	<u>100-YEAR PEAK DISCHARGE</u>
SAWMILL CANYON	17.6 SQ. MI.	8050 CFS
A	140 ACRES	514 CFS
B	40 ACRES	201 CFS
D	87 ACRES	365 CFS
E	410 ACRES	1375 CFS
G	1732 ACRES	2491 CFS
H	26 ACRES	164 CFS
J	100 ACRES	473 CFS
O	4365 ACRES	5809 CFS



Exhibit II-C.4: On-Site Hydrology

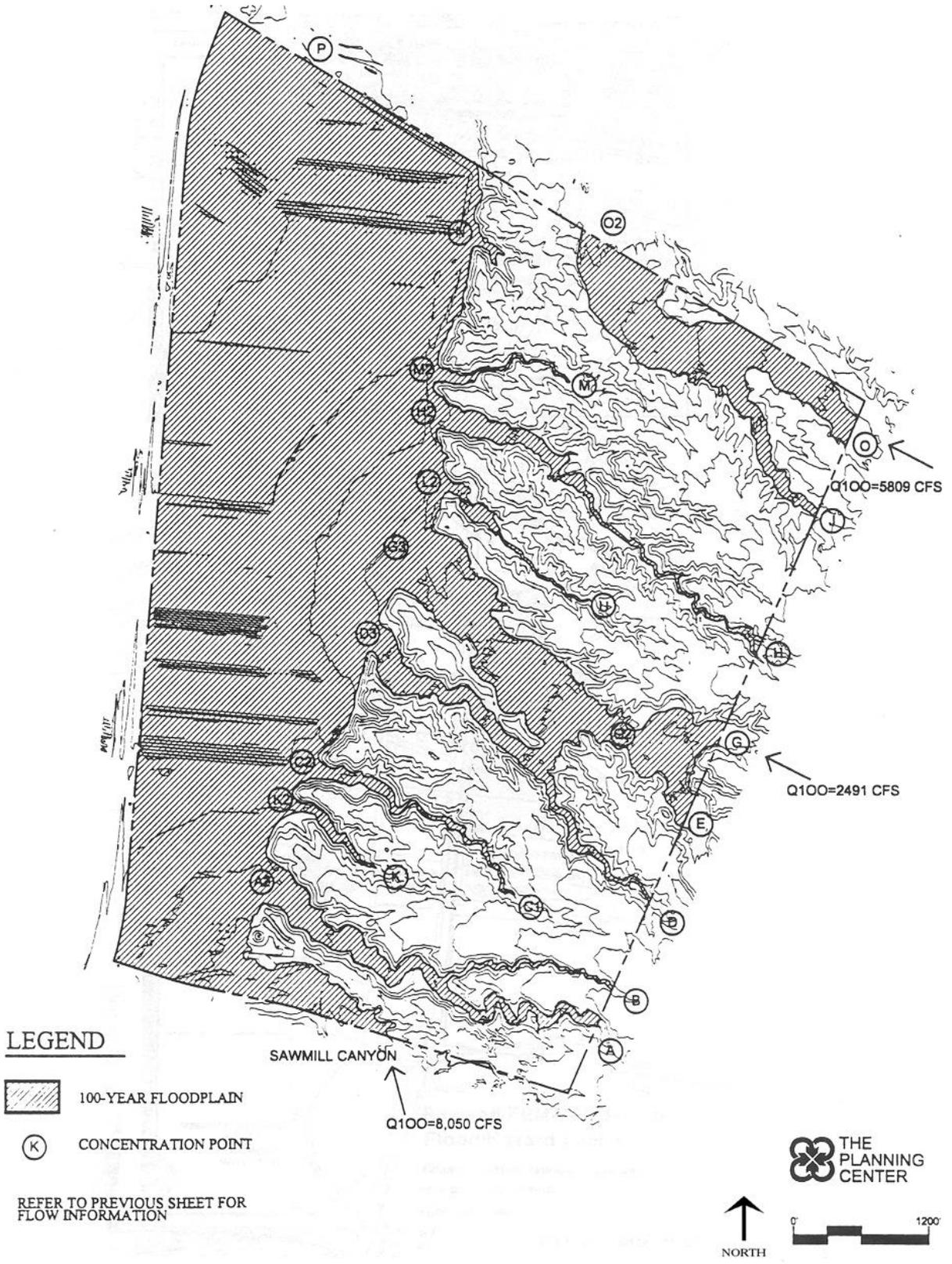
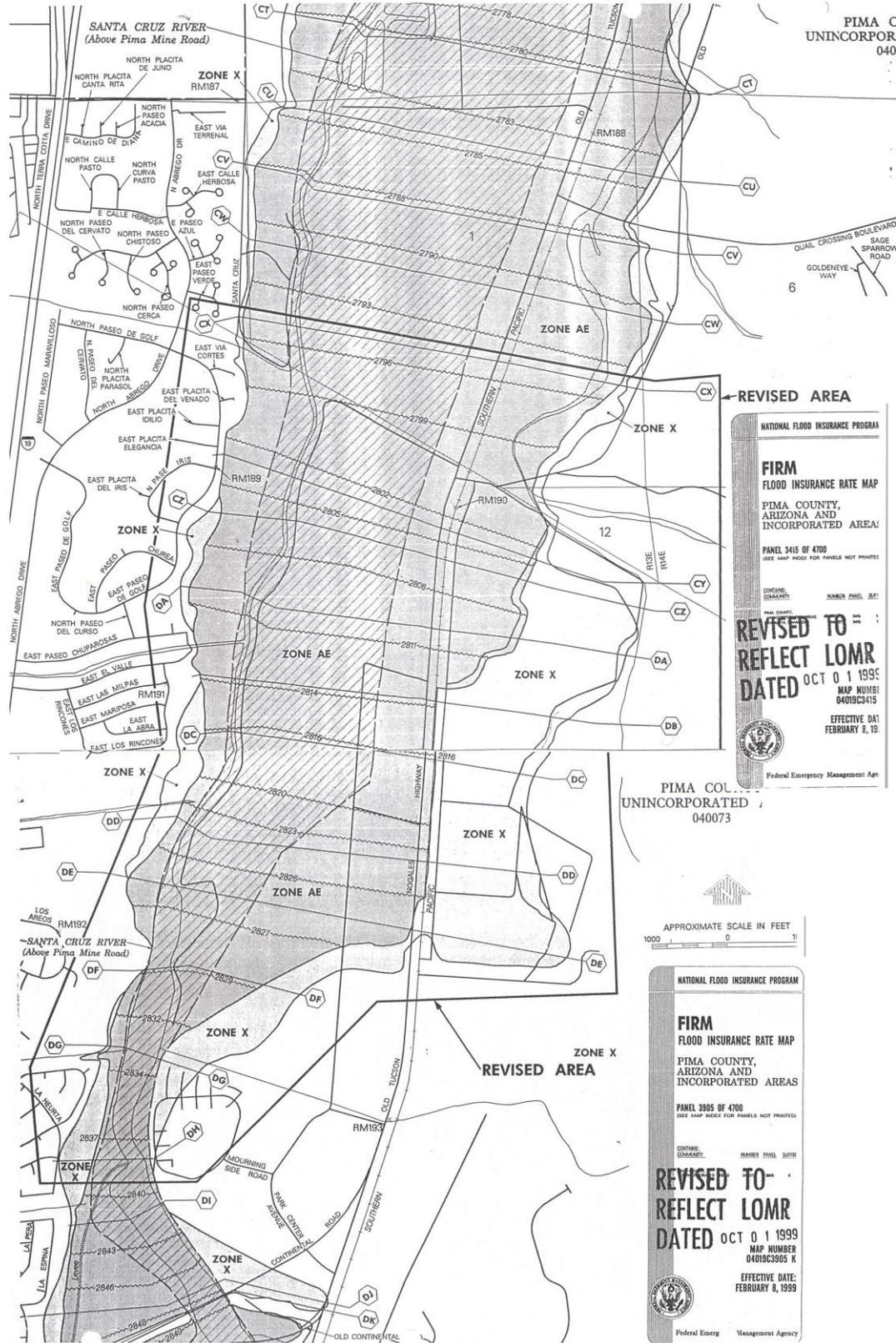


Exhibit II-C.4.c: FEMA 100-year Flood Hazard Limits Map



## D. Vegetation

1. **Vegetation Inventory and Description:** WestLand Resources, Inc. (WRI) conducted a site survey for biological habitats in January 1998. The detailed results of this Biological Evaluation have been submitted to the Town under separate cover. A Biological Assessment of Madera Highlands has also been performed by Darling Environmental and has been submitted to the Town of Sahuarita and the Army Corps of Engineers under separate cover.

a. Vegetation Communities and Associations: (See Exhibit II.D.1: Vegetation Communities Map). Vegetation within the property is somewhat variable, fitting the description of the Arizona Upland subdivision of the Sonoran desertscrub biome, with components of semi-desert grassland. The uplands are mainly Arizona Upland vegetation of creosotebush (*Larrea tridentata*) associations. Prominent associations on the uplands include near monocultures of creosotebush, creosotebush-desert zinnia (*Zinnia acerosa*)-mixed shrub, and creosotebush-mixed cacti, sometimes with a high density of cacti. The western portion of the site lies within the historical floodplain of the Santa Cruz River and is covered by a pecan orchard, feedlot, and fallow agricultural field.

Mature saguaros are found at low density throughout the property, but appear to have a particularly high number of holes created by woodpeckers. Burroweed (*Isocoma tenuisecta*) and desert senna (*Senna covesii*) are abundant in patches throughout the property, and little-leaved ratany (*Krameria erecta*) and (*Tiquilia canescens*) are abundant in restricted areas on the northern uplands. Foothills paloverde (*Cercidium microphyllum*) is found only on small portions of the property, most notably near and within the inholding. Slopes typically have denser vegetation, often with thick stands of creosotebush or whitethorn (*Acacia constricta*), and a variety of grasses.

Wash bottoms are likewise often densely vegetated with creosotebush, whitethorn, oreganillo (*Aloysia wrightii*), and grasses. Mesquite (*Prosopis juliflora*) and blue paloverde (*Cercidium floridum*) are also more abundant and larger in washes. Semidesert grassland components present on the property are typified by black grama grass (*Bouteloua eripoda*) associations, which are common on north-facing slopes.

b. Federally Listed and Threatened Endangered Species: The Arizona Game and Fish Department (AGFD) prepared a report for threatened and endangered species on the subject property in a letter dated June 10, 1998. No field investigation was conducted in support of the literature search findings. The preliminary search confirmed species of special concern that include the federally endangered Pima Pineapple Cactus (*Coryphantha scheeri robustispina*). The cactus is listed as

endangered by the U.S. Fish and Wildlife Service (USFWS) and as highly safeguarded by Arizona Game and Fish. It is found only in a small area south of Tucson, between the Santa Rita and Baboquivari Mountains, where it occurs in alluvial soils in desert grassland and desert scrub between the 2,300 and 4,500-foot elevation. The Tumamoc Globeberry (*Tumamoca macdougalii*) and Western Red Bat (*Lasiurus blossevillii*) are also listed as endangered by the USFWS and as special status species by the Arizona Game and Fish. It was determined by WRI that the proposed project is unlikely to adversely impact the lesser long-nosed bat or the Tumamoc globeberry.

Two Pima pineapple cactus surveys were performed on the site by Westland Resources, Inc. (*Madera Highlands Biological Evaluation, January 1998*). These surveys were done in accordance with guidelines established by the Pima Pineapple Cactus 3 Tier Survey Methods provided by USFWS (Roller 1996), with exceptions for steep banked arroyos and wide washes noted in the Biological Evaluation. Transects east to west, then north to south were completed by three to five people walking parallel transects approximately five meters apart. Two coverages of upland areas were accomplished. Pima pineapple cacti were located and mapped on a 1" = 200' scale topographic map. A total of fifty Pima pineapple cacti individuals were found during the two WRI survey passes completed on the property. Thirty-nine were found during the first pass and 11 during the second (28 percent of the first pass total).

The Westland Resources map was used by Darling Environmental & Surveying, LTD in December 1998 and January 1999 to relocate and tag the cacti. Forty-nine Pima pineapple cacti were mapped, numbered, and tagged. For ease of future relocation, the coordinates of each cactus were recorded with sub-centimeter level global positioning system equipment.

A report entitled "Madera Highlands Pima Pineapple Cactus Mitigation Plan" was prepared by Darling Environmental & Surveying, LTD. and submitted to U.S. Fish and Wildlife Service on February 11, 1999 during the first informal consultation meeting between Harvard Investments and the Agency. A site visit to discuss the mitigation plan with U.S. Fish and Wildlife biologists took place on site on April 6, 1999. The Biological Assessment prepared by Darling Environmental addresses the proposed action, affected environment, effects of the proposed action, and mitigation measures including avoidance, transplantation, and monitoring of Pima pineapple cacti during and after project construction. The document provides information that assures construction of the proposed project will be performed in a way that results in conservation of Pima pineapple cactus and their habitat, as well as other Arizona native wildlife and plant species.

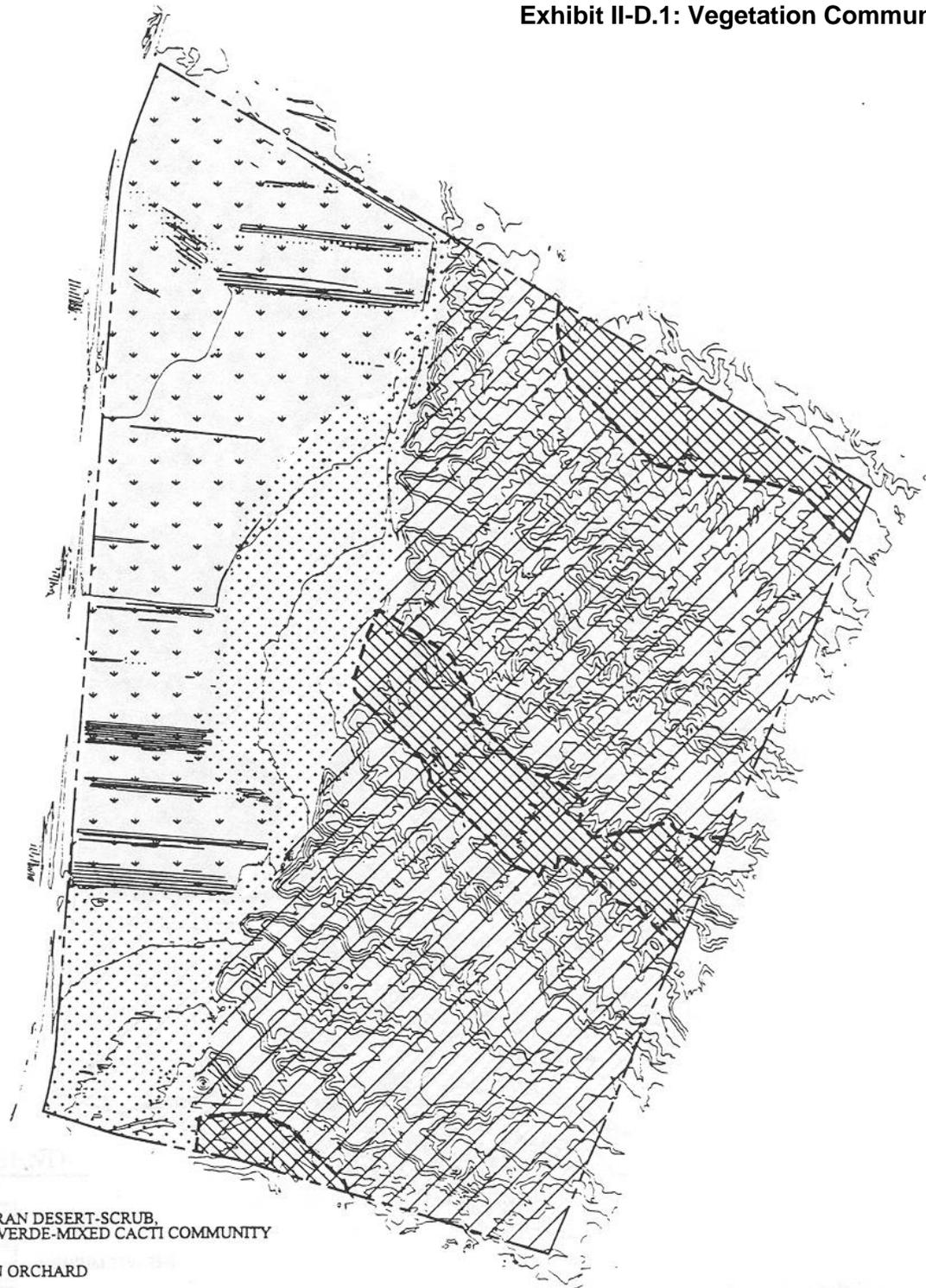
- c. Pecans: Pecan (*Carya illinoensis*) trees are currently being farmed in the northwest portion of the site.

2. **Vegetative Densities:** Field visits on the Madera Highlands Property were conducted in December 1997, by WRI biologists. Vegetation types follow Brown (1994), and plant nomenclature follow Kearney and Peebles (1960) and Benson and Darrow (1983). Following initial reconnaissance of habitat types, field personnel walked transects through as much of each habitat type as possible, and 1) compiled a list of common plant and wildlife species, and 2) determined the presence or absence of Pima pineapple cactus.

Exhibit II-D.1.a: Vegetation Communities Map shows the distribution of xeroriparian and wildlife habitat Class I in the project area. Relative cover is shown in Exhibit II-D.2: Vegetation Densities. Vegetation densities are based on canopy coverage of trees and shrubs and are divided into three categories:

- High Density 67%-100%
- Medium Density 34%-66%
- Low Density 0%-33%

Exhibit II-D.1: Vegetation Communities Map



LEGEND

-  SONORAN DESERT-SCRUB,  
PALO VERDE-MIXED CACTI COMMUNITY
-  PECAN ORCHARD
-  DISTURBED AGRICULTURAL LAND
-  CLASS I RIPARIAN PLAN



Exhibit II-D.2: Vegetation Density Map



**LEGEND**

-  LOW 0-30%
-  MEDIUM 31%-75%
-  HIGH 76%-100%



## E. Wildlife

1. **Letter From the Arizona Game and Fish Dept:** A response letter dated June 10, 1998, from the Arizona Game and Fish Department (AGFD) is located in Appendix C. This letter includes recommended measures for future mitigation of development.
  - a. State-listed Threatened or Endangered Species: The AGFD prepared a literature search for threatened and endangered species on the subject property in a letter dated June 10, 1998. No field investigation was conducted by AGFD in support of the literature search findings. However, biologists from WestLand Resources, Inc. (WRI) conducted a biological evaluation of the property in December 1997. The site visit confirmed AGFD species of special concern that include the Lesser long-nosed bat (*Leptonycteris curasae yerbabuena*) and Desert tortoise (*Gopherus agassizii*).

WRI also lists the American Peregrine Falcon (*Falco peregrinus*) as endangered by the USFWS and it is unlikely that the proposed project would adversely impact the falcon or its habitat. Arizona Game and Fish lists the Western red bat (*Lasiurus blossevillii*) a Wildlife of Special Concern in Arizona species as a possible inhabitant of the property.
  - b. Density/Diversity of Species: No high densities or unusually high diversity of species was noted by AGFD.
  - c. Aquatic or Riparian Ecosystem: Native riparian vegetation can be found along many of the tributary water courses within Madera Highlands. These areas have been classified as either Class B or Class C Xeroriparian Habitat by Pima County. These areas delineated by Pima County on the Riparian Habitat Classification maps are shown on Exhibit II-D.2.a: Vegetation Communities Map.
2. **Cactus Ferruginous Pygmy Owl Survey:** WestLand Resources Inc. completed a full survey for the presence of the Cactus Ferruginous Pygmy Owl in the fall of 1998 under previous protocol requirements. One site visit/survey under current protocol was completed in February 1999. The original survey determined the project would be unlikely to impact the cactus ferruginous pygmy-owl. Habitat on the property is marginal for the owl and it is approximately 45 miles from the nearest known nesting location, in northwest Tucson.

## F. Soils

1. **Soils Testing:** The southeastern portion of the site has been mapped by the Soil Conservation Service. The site's surface is composed of four different major soil series as identified and mapped (See Exhibit II-F.1: Soils Map). This area includes soils from two associations, the Calciorthids-Haplargids Association and the Torrifuvents and Haplustolls Association. Soil types include the Anthony series, and the Eba series.

The soil properties important in engineering design include permeability, shear strength, compaction, expansion, drainage, and shrink and swell. The on-site soils are usable for development with proper engineering design.

### Anthony Series

The Anthony series consists of well-drained sandy loams or loams. They formed in mixed material deposited on flood plains/alluvial fans by streams. Slopes are 0 to 5 percent. Vegetation is mostly annual grasses, weeds, mesquite, scattered paloverde, creosotebush, saguaro cactus, and cholla cactus. The soil is mildly alkaline to moderately alkaline, and is calcareous throughout.

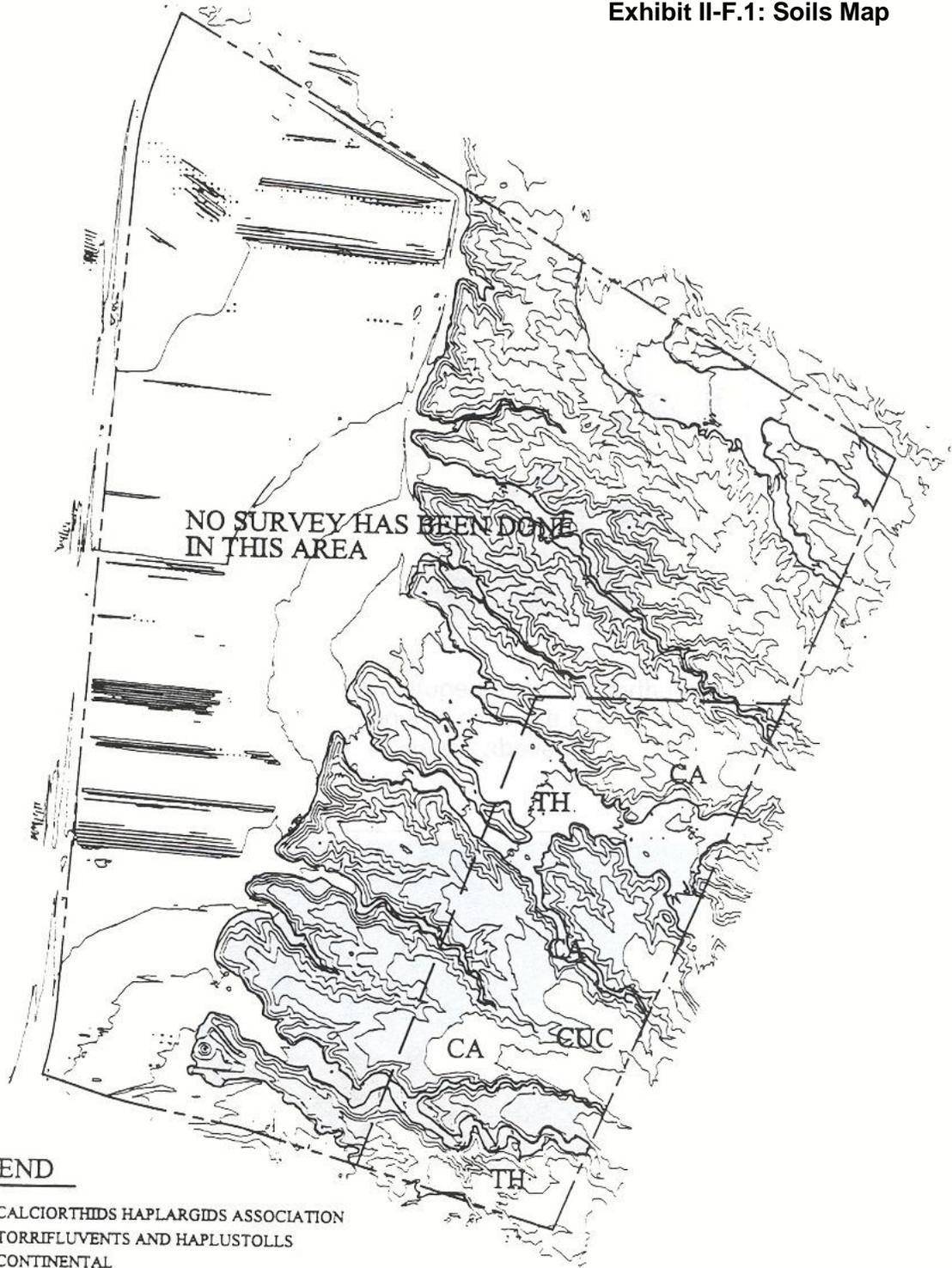
Permeability of these soils is moderately rapid. Runoff is slow to medium and the erosion hazard is slight to moderate. Anthony soils are used for irrigated crops and desert range. They also are used for urban development and water supply purposes, as wildlife areas, and as a source of material for engineering work.

### Eba Series

The Eba series consists of well-drained, very gravelly soils that are 60 inches or more in depth. These soils formed in old alluvium weathered from granite, rhyolite, andesite, tuffs, and limestone. They are on old piedmont surfaces that have slopes of 0 to 10 percent. Elevation is 3,000 to 3,800 feet. Vegetation is dominantly mesquite, paloverde, ocotillo, burroweed, grammas, three-awns and cacti.

Permeability of these soils is slow. Runoff is medium and the erosion hazard is slight.

Exhibit II-F.1: Soils Map



**LEGEND**

- CA CALCIORTHIDS HAPLARGIDS ASSOCIATION
- TH TORRIFLUVENTS AND HAPLUSTOLLS
- CUC CONTINENTAL



**G. Visual Resources**

**1. From Offsite to Onsite – Long Distance Viewsheds:**

a. Onto and Across from Adjacent Properties:



**PHOTO 1**

Views and vistas from adjacent properties to the north include the higher elevations of the Santa Rita Mountains to the east and Mt. Wrightson to the south of the project site, as shown above (see Exhibit II-G.2: On-site Visibility).



**PHOTO 2**

Views from adjacent properties south of the site include the Catalina and Rincon Mountains in the far distance looking north.



**PHOTO 3**

Adjacent properties to the west of the site have obstructed views of the Santa Rita Mountains to the east due to the height and number of pecan trees located on their property and those located on the western portion of the subject property (See Exhibit II-G.2: On-site Visibility).



**PHOTO 4**

Views and vistas looking west from land to the east of the site provide significant views of the tailing ponds and the greater Green Valley area (See Exhibit II-A.2: On-site Visibility).

b. Views and Vistas from Beyond Adjacent Properties:

Due to the level site topography of the western portion of the site and the low vegetation height on the eastern portion, views and vistas from beyond adjacent properties will not be adversely affected by development.

2. **On-site Visibility from Off-site:** The quality of on-site visibility from nearby off-site locations described in the next paragraph is dependent on several factors, including topography, and density of vegetation. The following criteria has been used to define areas of high, medium, and low visibility:

<u>HIGH</u>	<u>MEDIUM</u>	<u>LOW</u>
Steep slopes, Ridgetops, Promontories, rock Outcrops	Low/moderate slopes; few rock outcrops	Little/no slope
Minimal perimeter Vegetative variety to Buffer visibility into site	Medium degree of perimeter variety/density limiting visibility into site	High degree of vegetative density/variety, perimeter vegetation limiting visibility into site

Views of Madera Highlands were evaluated from adjacent off-site locations to the north, south, and west. Due to the terrain and lack of roads, aerial photographs were used to determine the views from the east side of the site. Exhibit II-G.2: On-Site Visibility denotes what percentage of the site can be seen from the viewpoints indicated. Outlying vantage points of the property from Old Nogales Highway, I-19, Whitehouse Canyon Road, and the adjacent subdivision to the south have been noted.

Due to the vegetation and topography, the entire site cannot be seen from these roads. The primary view of the site from these locations is north of the property on Old Nogales Highway and the property located directly south of the project site. The west half of the site, which is comprised of pecan orchards, is highly visible from Interstate 19.

Pecan trees located along most of the western edge of the site are highly visible from Old Nogales Highway. From the highway, views onto the property are obstructed completely by the trees in the northwest corner of the site. From the southwest, the flat area located in the center of the property is somewhat visible along with the ridge that runs through the site.

The edges of the west half can be seen, however, the east half is totally obscured by vegetation and topography on sections of Whitehouse Canyon Road. Continental Road provides low visibility of the southwest portion of the site only.

The view south from Quail Crossing Boulevard provides a minimal view of the site. The pecan orchards are barely visible from this point and the eastern half of the site is not visible at all due to the topography and vegetation.

Exhibit II-G.2: On-site Visibility depicts areas of low, medium, and high visibility on-site from various off-site viewpoints. Visibility onto the site is affected by viewpoint elevation and topography, as well as type and on and off-site vegetation density. The high, medium and low visibility designations on this exhibit were determined by overlapping individual viewpoint designations. The results show medium visibility areas along Old Nogales Highway and in sections of Whitehouse Canyon Road, and low visibility from Interstate 19 and sections of Old Nogales Highway and Whitehouse Canyon Rd.

Exhibit II-G.1: Off-Site Vistas

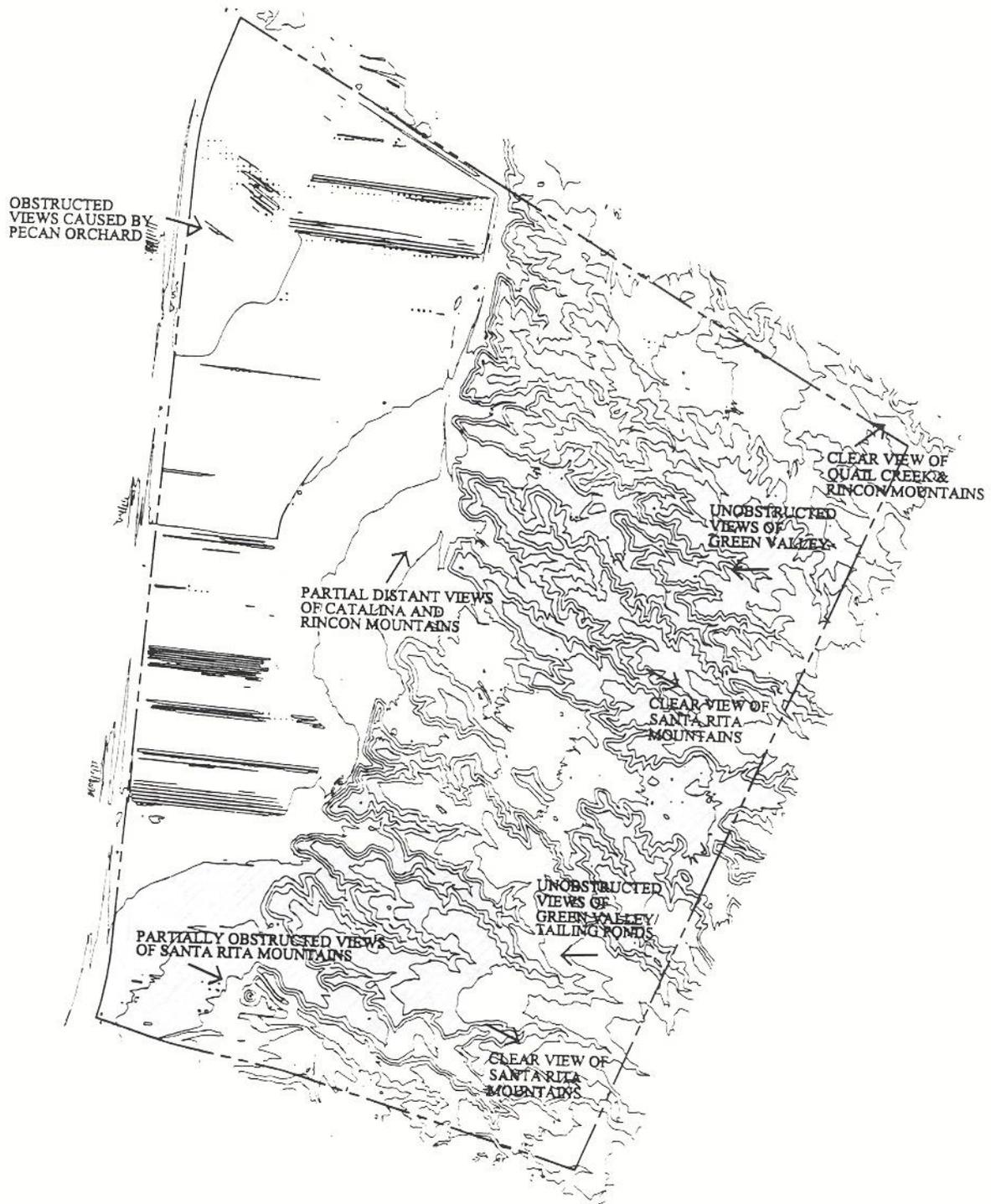
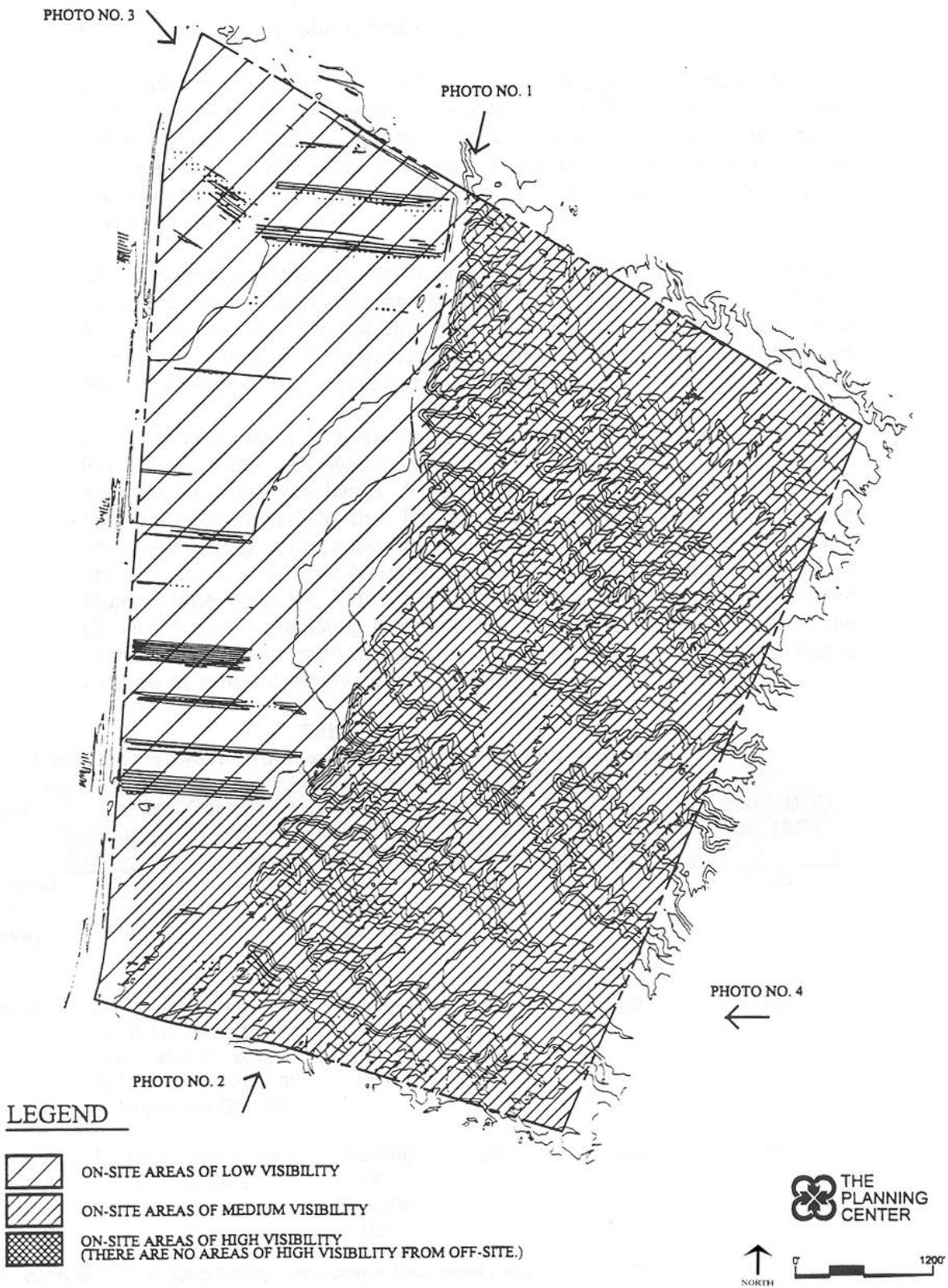


Exhibit II-G.2: On-Site Visibility



## H. Traffic

### 1. Existing Off-site Conditions

Old Tucson-Nogales Highway is the primary road near Madera Highlands. This road contains three entrances to the property, a dirt road in the northwest corner of the site, a road that leads to a residence inside the site, and a dirt road that also leads to a ranch located in the southwest corner of the site (see Exhibit II.H.1: Existing Entrances to Site).

Other roadways within the immediate area include Quail Crossing Blvd, about ¼ mile north of the property, Whitehouse Canyon Road, approximately ¾ mile south, and Continental Road which is a continuation of Old Tucson-Nogales Highway to the south. Table II-H below provides information for these roadways.

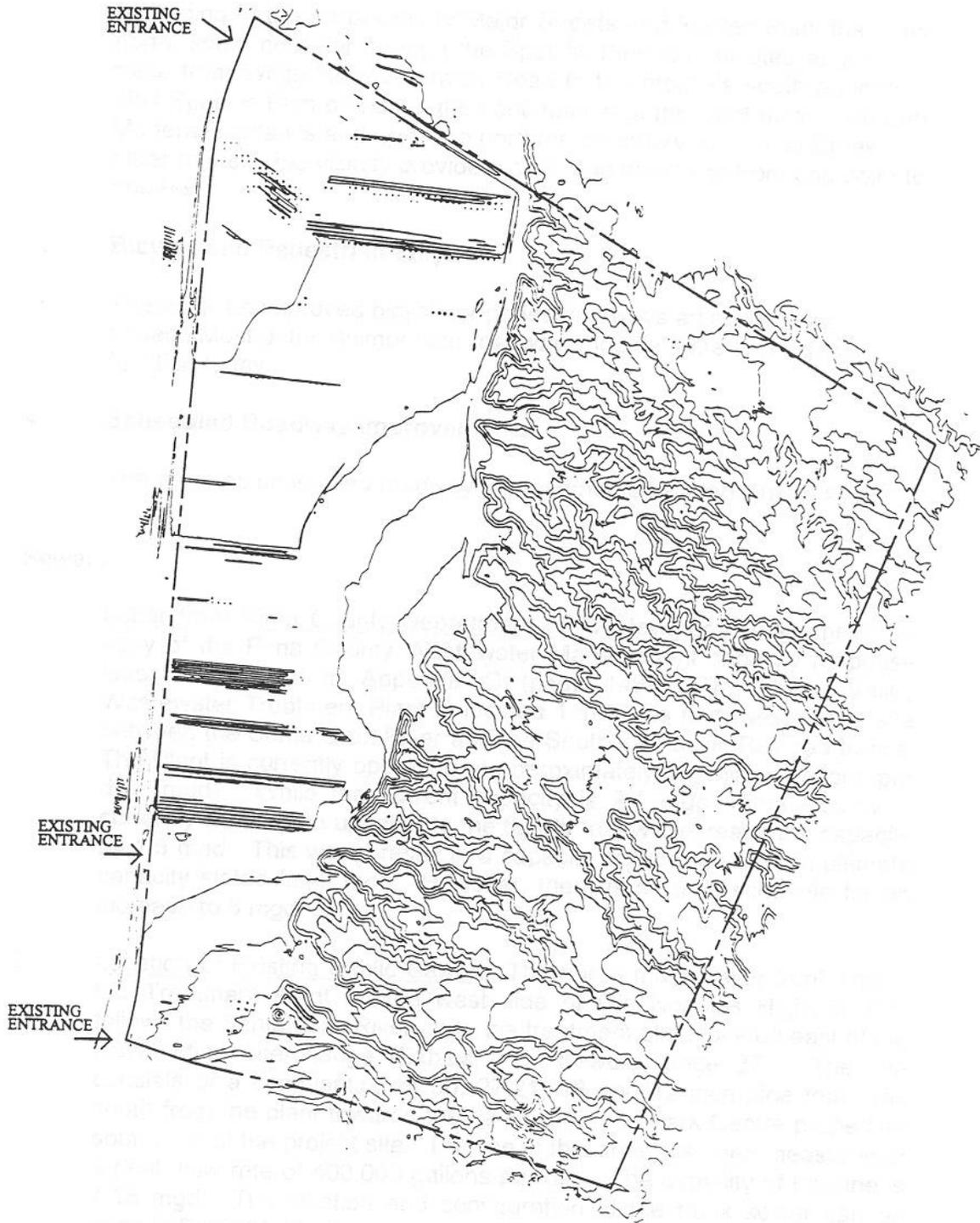
A review of existing Arizona Department of Transportation (ADOT) and Pima County Records was conducted in order to identify existing traffic volumes for these roadways. A traffic report by PFS Traffic Engineering has been submitted to the Town under separate cover. There are several existing and proposed major routes on and adjacent to the project site. Old Tucson-Nogales Highway is the only designated Scenic Major Route adjacent to the site. Continental Road and White House Canyon Road are existing Scenic Major Routes located within one mile of the site. Scenic route designation for these roads is not expected to change as a result of development on the site.

**Table II-H  
Existing Roadways within and Surrounding Madera Highlands**

Street	Existing Condition	Required ROW width	Speed Limit (mph)	Traffic Capacity (VPD) <sup>1</sup>	Average Daily Traffic (ADT)
Old Tucson Nogales Highway	2-lane undivided highway	Existing 200' Required 200'	50	16,000	5,300
Continental Rd.	2-lane undivided road with 12' lanes then turns into 20' lanes before intersection at Whitehouse Cyn Rd	Existing 150' Required 150'	50	16,000	4,500
Whitehouse Canyon Rd.	2-lane undivided road with 12' lanes	Existing 66' Required 66'	35	16,000	1,800

1. Traffic Capacity provided by Pima County Transportation Department (Level of Service "D").

Exhibit II-H.1: Entrances to Site



**2. Continuity of Rights-of-Ways**

According to the Pima County Major Streets and Routes Plan, the main north, south collector through the Specific Plan is dedicated as a major route from White House Canyon Road to the project's south boundary. This Specific Plan proposes the continuation of this right of way through Madera Highlands and up to the northern boundary with Quail Creek. All other roads in the vicinity provide a clear and direct line from one point to another.

**3. Bicycle and Pedestrian Ways**

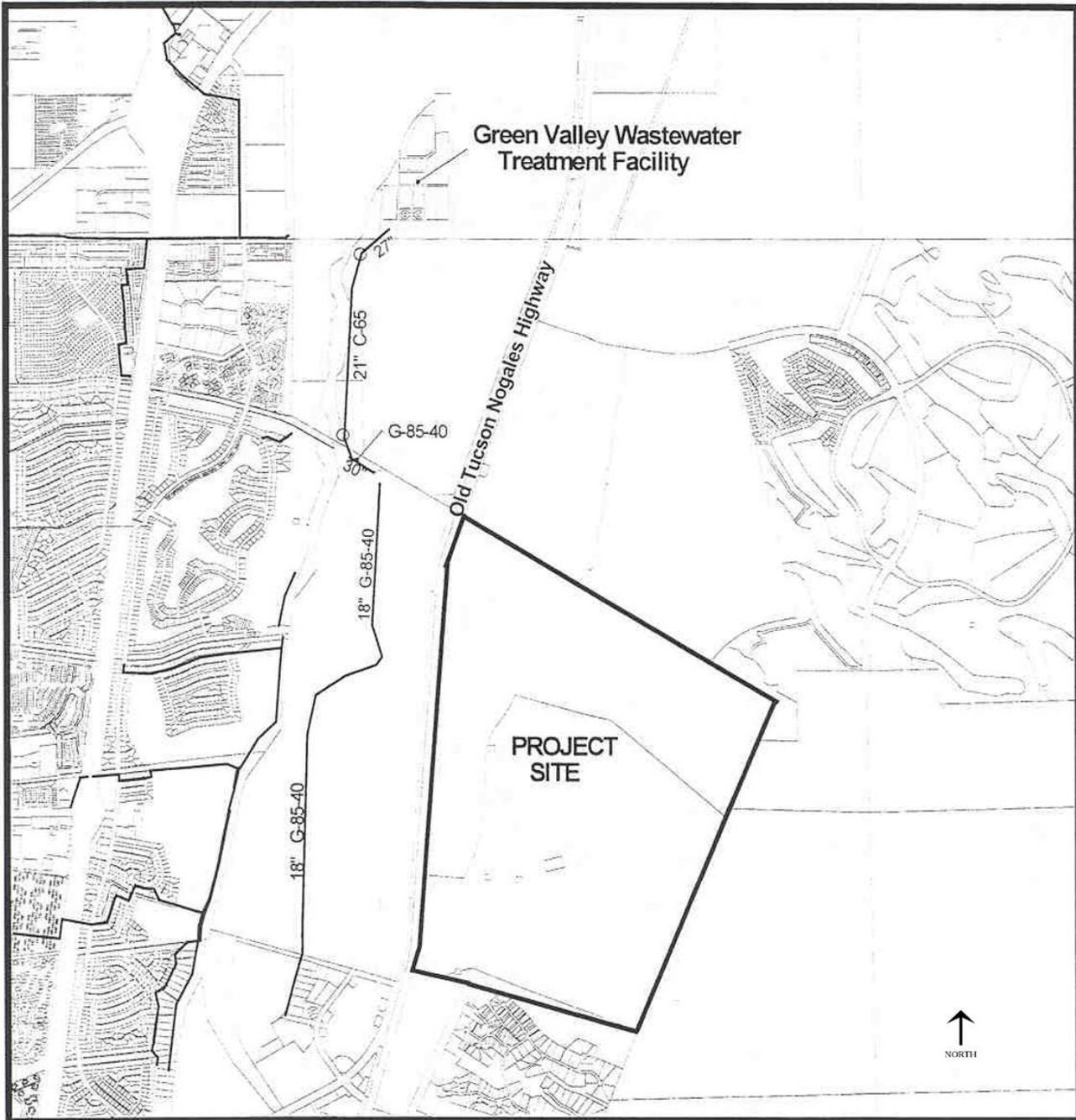
There are no improved bicycle or pedestrian ways adjacent to the project. Most of the unimproved roadway shoulders are serving this function today.

**4. Scheduled Roadway Improvements**

There are no scheduled roadway improvements for roads in the area.

**I. Sewers**

1. Letter from Pima County Department of Wastewater Management: A copy of the Pima County Wastewater Management capacity response letter is included in Appendix D. The Green Valley Wastewater Treatment Plant is located 1-1/2 miles northwest of the site between the Santa Cruz River and the Southern Pacific Railroad tracks. The Plant is currently operating at approximately 1.7 million gallons per day (mgd). While the current capacity is 2.1 mgd, Pima County is currently working on updates to the facility that will increase the capacity by 1.5 mgd. This would result in a capacity of 3.6 mgd with an ultimate capacity slated for 5 mgd. However, there is no time schedule for an increase to 5 mgd.
2. Location of Existing Public Sewers: There is a main sewer trunk line to the Treatment Plant on the west side Old Nogales Highway that follows the Santa Cruz River up to the treatment plant located east of the Duval Mine interchange (Exhibit II-1: Sewers). The line consists of a combination of 30, 27, 21, 18 and 12 inch pipe that runs south from the plant towards the La Posada and Park Centre properties southwest of the project site. The line in this area has been measured at a peak flow rate of 400,000 gallons per day. The capacity of this line is 1.18 mgd. The location and configuration of the trunk sewer can be seen in Exhibit II.1.2: Sewers).



**J. Schools**

- 1. Existing/Proposed Schools:** Madera Highlands is located within the boundaries of Continental School District (No. 39) see Exhibit II-J.K: Schools/Recreation). Most students in the area attend Continental Elementary and Middle School and Sahuarita High School. Some high school students attend other high schools, but bussing is not provided and the students must provide their own transportation.

Below is a list of the various schools serving the site:

**School**

Continental Elementary and Middle School  
1991 E. Whitehouse Canyon Road  
Green Valley, Arizona 85622  
Ph. (520) 625-4581  
Fax (520) 648-2569

These schools are located approximately 1.5 miles southeast of the site and about 1 mile east of the Continental Rd./Whitehouse Canyon Rd. intersection. The school has 271 students currently enrolled with a capacity of 500 students. See Appendix F section for school district letter of response.

Sahuarita High School  
350 W. Helmet Peak Road  
Sahuarita, Arizona 85629  
Ph. (520) 625-4249  
Fax (520) 625-4609

The high school is located approximately 5 miles north of the site and a ½ mile east of the Helmet Peak Road Interchange of I-19. The school has 750 students currently enrolled with a maximum capacity of 1200 students. See Appendix F for school district letter of response.

**K. Open Space, Recreation, and Trails:**

- 1. Parks, Recreation Areas, and Adopted Public Trails:** State land, the Experimental Range and Santa Rita Mountains are located east of the site and provide hiking opportunities. Of special interest is the Madera Canyon recreation area, located approximately 12 miles to the southeast of the site. This area includes three campgrounds, several picnic facilities and a trail system. Trailheads connect to a system that leads to the summit of 9,453-foot Mt. Wrightson.

The most significant trails on the site are the Juan Bautista de Anza National Trail (Anza Trail) and the Madera Canyon Wash Trail. The Anza Trail was officially established by the National Park Service in 1990 and stretches from Horcasitas, Mexico to San Francisco, California. The total length of the Trail is 1,200 miles (1,930 km). In 1775, a party of Spanish colonists led by Colonel Juan Bautista de Anza set out from Mexico to establish an overland route to California. They sought to build a presidio and mission overlooking the Golden Gate and secure it from threats by the Russians and British. This party of 30 families, a dozen soldiers, and 1,000 cattle, horses, and mules spent three months traversing the deserts of the Southwest before reaching the missions of the California coast. Another three months were spent traveling up the Pacific Coast to the Golden Gate where the city of San Francisco now stands. In 1975-1976 and again in 1996, expeditions reenacting the trek took place along the route.

Tubac Presidio State Historic Park is located 20 miles to the south on Interstate 19 and provides a picnic ground, visitor's center, archaeological display and historic schoolhouse. Tumacacori National Monument, located 24 miles to the south, is the site of a former Spanish mission and includes trails, picnic areas and an interpretative museum. San Xavier Mission lies approximately 12 miles northwest of the site.

Anamax Park, with lighted athletic fields, play areas, and ramadas is located 3 ½ miles northwest of the site. Approximately 6 miles northeast of the site is Sahuarita District Park.

There are 3 private golf courses and 4 public golf courses located within the Green Valley area.

According to the 1989 Eastern Pima County Trail System Master Plan there are four existing trails within one mile of the site as described in Table II-K: Inventory of Candidate trails in order of priority. The Santa Cruz River Trail is located west of the site and runs north from the Santa Cruz county line to the Pinal County line. The Madera Canyon Road trail runs from Continental Road along Whitehouse Canyon Road and up to the Madera Canyon Recreation Area. The West Loop-Green Valley/Arroyo Trail is located west of the project site. This trail runs from the substation (near the intersection of Continental Road and Tailings

Pond Road Trail) on Powerline Road, Arroyo #7 and cross-country (approximately 2-mile utility easement) and continues east on Arroyo #7 via Esperanza Blvd. This trail then travels under Interstate 19 to the Santa Cruz River.

There are no county planned parks or trails within one mile of the site and there are no existing public parks in Green Valley. The Abrego Drive Trail is located west of the project site and runs along Abrego Drive from Continental Road to Helmet Peak Road. There are no other planned trails or parks located within one mile of the site.

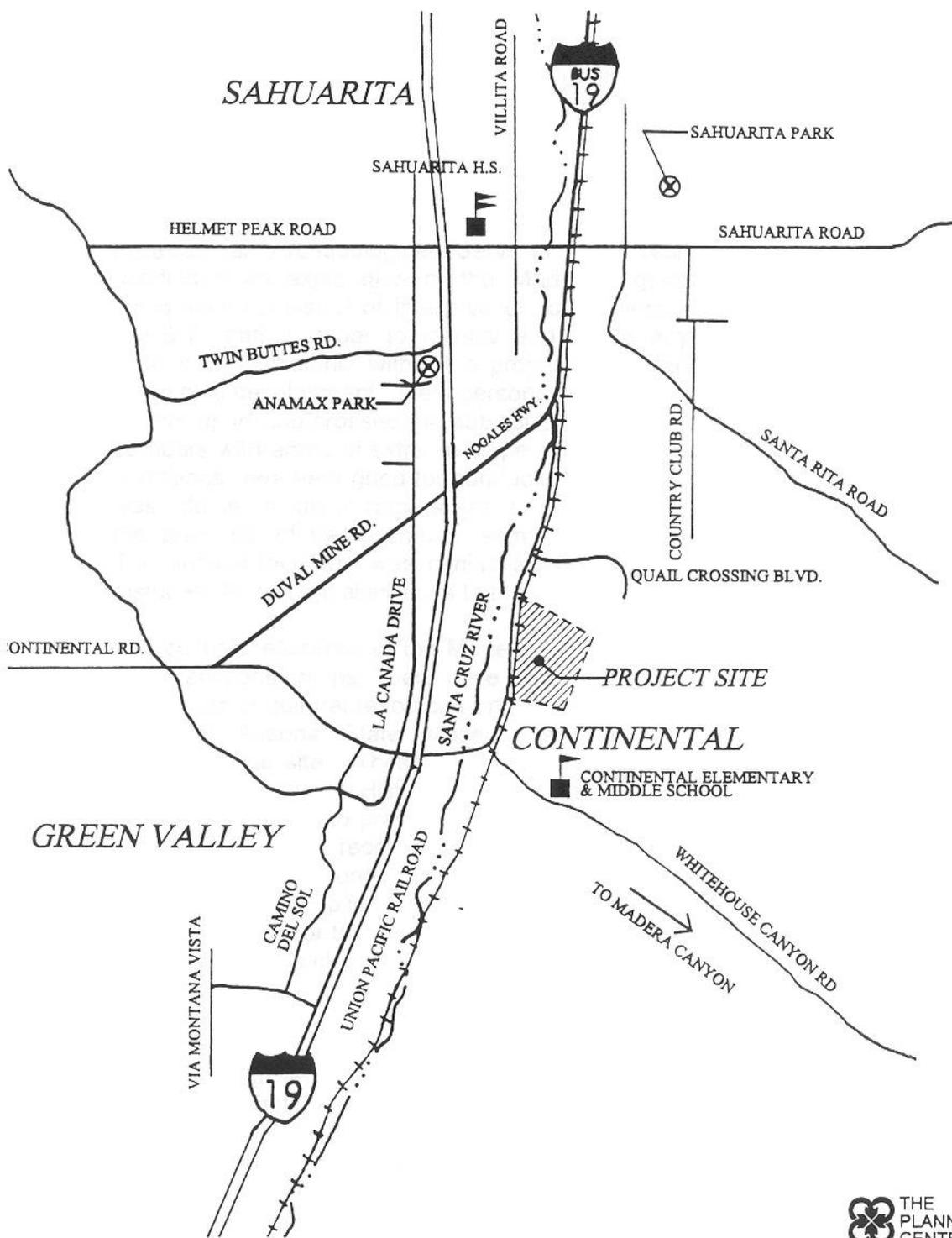
**Table II-K  
Inventory of Candidate Trails in order of Priority**

Trail Description			Trail Setting					Recreational Uses				
Candidate Trail	Trail Map Code	Trail Type	Wash	Cross-Country	Road Row	Utility ESMT/ROW	Linear Park	Whole Access	Foot	Horse	Mountain Bike	Road Bike
Santa Cruz River	8	P	X				X	X	X	X		X
Madera Canyon Rd.	86	C			X				X	X		
West Loop Green Valley/Arroyo #7	292	L	X	X	X	X			X	X	X	
Abrego Dr.	295	L			X			X	X		X	X

P = Primary Trail, C = Connector Trail, L = Local Trail

Source: Eastern Pima County Trail System Master Plan, July 1989.

Exhibit II-J.K: Schools/Recreation



NOT TO SCALE  
Schools & Recreation

**L. Cultural/Archaeology/Historic Resources**

- 1. Letter from Professional Archaeological Services and Technologies (P.A.S.T):** An archaeological survey of the site was conducted by personnel from Professional Archaeological Services and Technologies (P.A.S.T). Detailed results of this survey have been forwarded to the Town of Sahuarita under separate cover.

From December 30, 1997 to January 16, 1998, personnel from Professional Archaeological Services and Technologies (P.A.S.T.) conducted an exploration of the Madera Highlands property. This exploration consisted of intensive on-foot coverage of the property by P.A.S.T. staff in order to identify and locate any cultural resources, historic or prehistoric, within the property boundaries in anticipation of residential development. Field personnel were spaced approximately 20 meters apart and crossed the subject property in a series of contiguous corridors with areas of extreme slope covered less intensively. General conditions were very good for conducting the fieldwork. Ground visibility was affected mildly in ridge areas, to moderately in floodplain areas by the presence of trees, shrubs, semi-shrubs, succulents and grasses. The original landform was minimally (ridges) to severely (floodplain) disturbed by historic alterations to the ground surface.

The cultural resources of the Madera Highlands property are of historic and prehistoric origins. There were thirteen areas that contained surface indications of cultural resources on the property that appear to meet the minimum Arizona State Museum standard for recording as an archaeological site. These areas may be eligible for inclusion in the National Register of Historic Places. Archives at the Arizona State Museum revealed no previously recorded sites on the subject property. However, there are recorded archaeological sites in the immediate and general vicinity. In order to preserve the location and integrity of the sites, a detailed map is not included in this Specific Plan. A detailed map will be available for the Pima County Archaeologist, as well as State and Federal Agencies charged with protection of cultural resources.

Discoveries of archaeological resources made on this and surrounding sites may qualify this property under criteria "d" for inclusion in the National Register. Under these criteria, if significant materials are discovered that can't be avoided during construction they must be preserved in place and suitable data recovery procedures should be initiated. This should be initiated as part of an overall cultural resources management plan that should be developed.

Ground disturbing activities on the property should not commence without consultation with the agency archaeologist(s) and the State Historic Preservation Office. There remains the possibility that ground-disturbing activities could reveal the presence heretofore undiscovered archaeological resources. If such materials are discovered construction

activities should stop. Consultation should be initiated with the agency archaeologist if applicable under ARS 41-841, 41-865 and 41-844 *et seq.* If human skeletal remains or funerary objects are discovered on either public or private lands the Arizona State Museum must be notified immediately, and a consultation process must be initiated with affected Native American tribal members.

An Archaeological Test Excavations was also undertaken on the Madera Highlands Property by Charles Riggs of Statistical Research, Inc (SRI). In March of 1998 archaeologists from SRI conducted subsurface testing at seven of the thirteen archaeological sites within the project area. Only one site failed to produce evidence for cultural materials. Ten sites were recommended for inclusion in the National Register of Historic Places. Recommendations for treatment including avoidance, site burial, and mitigation through data recovery were identified in this report for development actions at this site.

- 2. Prehistory Overview of the Green Valley Area:** Previous archaeological investigations indicate that people have occupied southern Arizona for at least 11,000 years. Three major prehistoric archaeological cultures, the Paleoindian, Archaic, and Hohokam are recognized in the region surrounding the Madera Highlands project area. Artifacts diagnostic of two other cultures contemporary with the Hohokam, the Mogollon and Trincheras, have also been found in the region but it is uncertain whether they represent the presence of ethnically different people in this area or simply exchange with peoples who lived to the east and south, respectively. Archaeological materials observed on the ground surface during the Madera Highlands survey were predominantly Hohokam sites.

**The Hohokam Culture** The Hohokam were a sedentary agricultural society who constructed houses built in shallow pits and produced both plain and decorated pottery, along with numerous other crafts of shell, stone, and clay. In the Salt and Gila River Valleys, they constructed extensive irrigation canal systems. Canal systems of a more limited extent were used in the Santa Cruz Valley.

For the purpose of the Specific Plan, the Hohokam chronological sequence can be divided down into two phases, the Preclassic Hohokam (A.D. 450-1150) and the Classic Hohokam (A.D. 1150-1450). Preclassic Hohokam villages were generally comprised of houses-in-pits, cremation burials, distinctive red-on-buff or red-on-brown pottery, and a subsistence base dependent on but not limited to agriculture.

Some major changes took place in the Hohokam culture during the Classic period. Many large village sites that had been occupied throughout the Preclassic period in the Tucson Basin were abandoned or moved and sedentary populations were concentrated into a smaller number of large, integrated central communities (Elson 1986). Architectural styles changed, with adobe-walled, above ground houses

becoming more common. Other changes include the addition of inhumation to cremation as a method for disposing of the dead, the growth of walled village compounds, a drastic reduction in the number of ballcourts (which may have been replaced by a different architectural form, the platform mound), and the use of upland environmental zones for agriculture (Wallace and Holmlund 1984).

3. **Overview of the Protohistoric and Historic Occupations (Stephen, Jones, Walhart 1998):** The historic sites on the Madera Highlands property are considerably fewer in number than the prehistoric sites. However, they represent significant associations with the historic occupation of the area through the protohistoric, Spanish Colonial, Mexican, Territorial, and early Statehood periods that span from A.D. 1450 onward. The major recognizable historic sites on the property include ranching facilities and pecan orchard.

**Protohistoric Period** Around A.D. 1450 Arizona's Hohokam population decreased dramatically. The subsequent "Protohistoric" period, lasted from about A.D. 1450 until the time of the first Spanish arrival into the Santa Cruz Valley in the 1690s. The O'odham (Piman) peoples of the region, were called Sobaipuri by the Spanish. The differences between the Hohokam and the Protohistoric period people have led archaeologists to debate whether the Hohokam were genetically ancestral to the Sobaipuri, or whether the latter represent a separate people who migrated into southern Arizona from northern Mexico following the drastic Classic period decline in the Hohokam population (Teague 1993).

**Spanish Colonial Period (1691-1821).** During their first exploratory expeditions into this region in the 1690s, Spanish military men and clergy found people who spoke the O'odham (Piman) language living in numerous villages of up to a hundred or more people. Many of these villages were at or near sites still occupied today (Bolton 1936). The introduction of Europeans and Christianity changed the native ways of life profoundly. Livestock, wheat, and other domesticates were added to the economy. Diseases introduced by Europeans wiped out entire Indian communities and the native settlements of Sonora and Arizona were reorganized with a new focus on mission communities. *Presidios*, or forts, established by the Spanish at strategic places, originally for protection against Apaches, were also occasionally utilized to keep the usually friendly Pimans in check. The creation of the San Ignacio De La Canoa land grant itself during the Spanish Colonial period was an important event that helped shape the future of the grant property as well as the region.

**Mexican Period (1821-1854)** The missionization and military protection programs of the Spanish colonial government encouraged an influx of Spanish colonists early in the eighteenth century that eventually brought an end to the dispersed pattern of Indian villages along the length of the Santa Cruz River. The Santa Cruz valley became dominated by

inhabitants of Spanish and Mexican descent who survived mainly by farming, ranching, and trade. As discussed below, it was toward the beginning of this period the Ortiz brothers petitioned to establish the Land Grant but were forced by Apache depredation to abandon living there by 1830. Apaches raided extensively in southern Arizona after 1830 and were a major threat to the Mexican settlements. By the time of the Gadsen Purchase by the United States in 1853, Spanish and later Mexican settlements were well established, ranching and mining had replaced much of the traditional agricultural subsistence base.

**The Gadsen Purchase of 1854 and the Territorial Period (1863-1912).** The Mexican War of 1846 and the subsequent transfer of the Gadsen purchase to U.S. ownership in 1854 were primary historical events leading to the end of Spanish and Mexican dominance of the Santa Cruz Valley. Arizona officially became a U.S. territory in 1863, during the War between the States. Ranching and mining dominated the Territorial economy and brought in transient Anglo-Americans in search of gold, silver, and other minerals. The war with the Apaches ended, and the coming of the railroad to Tucson in 1880 brought with it a more commercially oriented economy dominated by Anglos. The San Xavier Indian Reservation was established for the Papago (Tohono O'odham) Indians in 1874.

**Statehood (1912 and Later).** Since Arizona became a state in 1912, government-sponsored programs of the United States and Arizona have brought improvements in transportation, education, and agriculture. Copper mining has become a major economic force, but farming and ranching have remained important in the Santa Cruz Valley. In 1912, the entire Canoa land grant was purchased by Levi H. Manning for cattle ranching, but by 1916 he had divested himself of the northern half of the property.

## **M. Air Quality**

Madera Highlands is located in the predominant air current path along the major system paths that affect the greater Tucson Valley. There are no significant physical features on the Madera Highlands site to shift existing air movements.

In general, the air pressure patterns flow from the Santa Cruz River Valley from the southeast to the northwest in the evenings and early mornings, and northwest to southeast or westerly in the afternoon. The Santa Cruz geological depression has a minor effect on wind direction by channeling airflow along the low valley from the southeast to northwest.

Generally, the area enjoys some of the best air quality in the Tucson Basin. The air patterns from the Santa Cruz River Valley today tend to clean the air of any dust or auto emission particulates in the air. However, dust from the mine tailings do cause periodic problems when winds are from the west.

**N. Composite Map**

The purpose of the composite map is to identify areas on-site with multiple site characteristics that may require special evaluation for proposed development. The Composite Map, Exhibit II-N.1 graphically illustrates the synthesis of site opportunities and constraints identified in the Inventory and Analysis section.

The site characteristics identified on the composite map are those specified in the "Town of Sahuarita Site Analysis Requirements". The following characteristics are considered:

1. **Existing Uses:**
  - Utility easements on site
  - Power transmission lines
  - Railroad tracks
  - Residence
  
2. **Topography:**
  - Protected peaks and ridges
  - Rock outcrops
  - Slopes greater than 15 %
  
3. **Hydrology:**
  - 100-year floodplains with a discharge greater than or equal to 100 cfs
  - Sheet flooding areas with flood depths greater than or equal to one foot
  - Federally mapped floodways, floodplains and xeroriparian areas.
  
4. **Vegetation:**
  - Areas of high vegetative density
  - Areas where vegetation is needed for soil stabilization
  
5. **Wildlife:**
  - Wildlife habitats of state-listed threatened or endangered species
  
6. **Viewsheds:**
  - On-site areas that are highly visible from off-site locations. The majority of the site is appropriate for development with preservation and/or mitigation plans for hydrology and vegetation.

Exhibit II-N.1: Composite Map



### **III. DEVELOPMENT PLAN**

#### **A. Purpose and Intent**

Madera Highlands is a non-age restricted planned community with residential, recreational, and neighborhood commercial uses. The proposed land use for this area includes recreational facilities and trails which have been integrated throughout this project, linking all residential development areas. A system of pedestrian, bicycle and equestrian trails is also provided throughout the project.

This section contains a description of Plan goals, combined with various specific plan components that provide the rationale for Development regulations found in Section IV.

The development plan is the result of thorough site analysis and research. As a result, the Plan resolves development related issues in the form of proposed physical plans, improvements, guidelines for future development, phasing plan, technical information, and regulations.

#### **B. Goals**

Recognizing the major development issues, the landowners' objectives and the Town of Sahuarita's requirements, the following development goals have been established for the Madera Highlands Specific Plan:

- Implement and clarify the goals and policies of the Town of Sahuarita;
- Ensure coordinated, responsible planning through the use of cohesive procedures, regulations, standards and guidelines;
- Provide a development phasing plan, which is a general and logical estimate of how development will occur;
- Provide land uses, based on current, anticipated, and future demands with a range of opportunities;
- Provide a backbone infrastructure system and public utilities to support development in an efficient and timely manner;
- Utilize the drainageways as a community amenity for recreation, open space, habitat preservation and neighborhood linkage;
- Provide a development plan that not only respects the adjacent land uses but will contribute to the overall quality of the community;
- Incorporate and implement standards that are economical for the developer, are consistent with the Town of Sahuarita's standards and can reasonably be accommodated in the project;
- Provide an infrastructure system that will adequately serve full build-out of the development;
- Establish Design Guidelines covering four topical areas including site planning, landscape architecture, architecture, and signage to ensure a quality appearance and identity for Madera Highlands;

- Establish a conceptual landscaping treatment with recurring elements to unify the development and reinforce the circulation and open space components of the project;
- Enhance the existing Town of Sahuarita community atmosphere;
- Promote the new development as a pedestrian and bicycle oriented community;
- Develop design guidelines for the project that will provide for and encourage variations in the design of all structures;
- Create lighting regulations for the planning area; and,
- Process and adopt this Specific Plan that provides an understanding of development and future growth for the region and the specific plan area.

### **C. Land Use Plan**

The Madera Highlands Specific Plan encompasses approximately 920 acres and is divided into seventeen (17) residential and commercial land use planning areas (See Exhibit III-C.1: Development Plan). The proposed primary land use allocation is summarized in Table III-1, Madera Highlands Specific Plan; Land Use by Block. The acreage of the planning areas are gross acreages and include land to be allocated to the residential circulation system. As much as possible, the design of the project presents the area as a planned residential/recreational community supported by the Town Center service base. All land uses are integrated including circulation, infrastructure, open space, drainageways, environmental resources, visual setting, development standards and guidelines.

There are a total of six different land use categories within the Specific Plan boundaries. These include two residential, one mixed-use town center, one open space, and one recreation category. Residential densities vary depending on their location. The lowest densities are generally located in the higher elevations of the site along the eastern boundary. Higher densities are generally located in flatter areas previously disturbed by agriculture and ranching. The Madera Highlands Development Plan is in substantial conformance with goals and objectives of the Town of Sahuarita General Plan. In addition, it reflects the original concepts proposed in the Green Valley Community Plan, originally adopted in 1989.

Open space found along drainageways and along the eastern boundary will provide additional area for the community's recreation and open space. Parks will also be integrated into site design to provide recreational areas for surrounding residential areas and will be privately owned and maintained.

Exhibit III-C.1: Development Plan



LEGEND

- TC TOWN CENTER (162-1191 D.U.)
- MHDR MEDIUM HIGH DENSITY RESIDENTIAL (492-983 D.U.)
- MDR MEDIUM DENSITY RESIDENTIAL (111-336 D.U.)
- MLDR MEDIUM LOW DENSITY RESIDENTIAL (268-666 D.U.)
- PF/OS PUBLIC FACILITIES/ OPEN SPACE
- POTENTIAL SCHOOL SITE
- \* POTENTIAL PARK/ MINI-PARK SITE



HARVARD INVESTMENTS



THE PLANNING CENTER  
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TUCSON, AZ 85701 (520) 823-6148

**TABLE III-1  
MADERA HIGHLANDS LAND USE BY BLOCK**

<b>BLOCK</b>	<b>LAND USE</b>	<b>GROSS ACRES</b>	<b>MINIMUM LOT SIZE (SQ. FT.)</b>	<b>GROSS DENSITY RANGE</b>	<b>TOTAL DU'S RANGE</b>
1	MHDR	16.3	3500	5-10	76.5-153
2	MHDR	32.7	3500	5-10	164-328
3	MHDR	23.3	3500	5-10	84-168
4	MLDR	85.6	8000	1-3	98-295
5	MLDR	44.4	8000	1-3	49-147
6	MHDR	31.3	3500	5-10	134.5-269
7	MHDR	10.2	3500	5-10	54-108
8	MHDR	25.6	3500	5-10	124.5-249
9	TC	10.6	2000	3-22	27-200
10	MHDR	29.6	3500	5-10	102-204
11	MLDR	176.5	8000	1-3	141-423.5
12	TC	14.4	2000	3-22	42.5-312
13	TC	13.5	2000	3-22	27-198
14	TC	4.4	3500	3-22	21-156
15	TC	8.1	2000	3-22	30-222
16	TC	7.6	2000	3-22	14-103
17	SCHOOL	20			
OS		365.9			
<b>TOTAL</b>		920			1189-3535.5
<b>TARGET DENSITY UNITS</b>					1800

**TABLE III-2  
MADERA HIGHLANDS SPECIFIC PLAN LAND USE SUMMARY**

<b>NEW LAND USE DESIGNATION</b>	<b>MIN. LOT SIZE (SQ. FT.)</b>	<b>GROSS DENSITY RANGE (RAC)</b>	<b>GROSS DEVELOPABLE ACRES*</b>	<b>DWELLING UNITS RANGE</b>	<b>% OF TOTAL PROJECT</b>
MLDR	8,000	1-3	306.5	289-867	33%
MHDR	3,500	5-10	169	752.5-1505	18%
TC***		3-22	58.6	172.5-1265	6%
School			20		.6%
Open Space (OS)			365.9		
<b>TOTAL</b>			<b>920.0</b>	<b>1214-3637</b>	
<b>TARGET DWELLING UNITS**</b>				<b>1800</b>	

\* Gross acreages are approximate.

\*\* Target dwelling units may change depending on actual developable area.

\*\*\* Maximum residential area for Town Center will be 56 acres.

## D. Circulation Concept Plan

1. **General Description:** All internal public roads will be designed for public ownership, operation and maintenance. Private roads, proposed on collector roadways (illustrated on Exhibit III.D.1: Circulation Plan) will be approved by the Mayor and Council at the time of development. These roads will be local in both their scale and character and are appropriate for this use given the relatively low volumes of traffic and the rural setting of the site. The general alignment for the primary street network for the plan area has been delineated on Exhibit III-D.1: Circulation Plan.

There will be two primary entrances to the project site. One of these entrances will be from Old Nogales Highway near the southwestern portion of the project. This entrance connects through a roundabout to the main project road, which runs north south through the project. The other primary entrance will be from the main north, south collector throughout the specific plan located at the north or south end of the project site. This entrance also connects via a roundabout to the main project road. Two loop roads will serve the remainder of the project. The southern loop begins at the south roundabout and loops through the residential area reconnecting with the main road north of the roundabout. The northern loop runs from another roundabout southeasterly through the project area and then loops back northward to connect to Quail Crossing Boulevard.

2. **Proposed Street Cross-Sections:** Initially the project will utilize different street cross-sections as indicated on Exhibit III-D.1: Circulation Plan. These cross-sections depict the development cross-sections, represent a minimum standard and will include landscape and streetscape elements.

Street Section A-A represents the main entry road west of the railroad. (See Exhibit III-D.2: Street Cross-Section A-A). This road will be the widest and most utilized in the project. It will be comprised of two 12-foot travel lanes in each direction, an 11-foot landscaped median, 6-foot bike lanes on each side of the road, and a 4-foot sidewalk on one side of the road. The sidewalk may meander into a utility easement if the utility company permits.

Street Section B-B illustrates the main entry road 20-foot east of the railroad to the roundabout (See Exhibit III-D.2: Street Cross Section B-B). This road will include two 12-foot travel lanes in each direction, a 12-foot turn lane, 6-foot bike lanes in each direction, and a 5-foot sidewalk on one side of the road. The sidewalk may meander into a utility easement with permission from the utility company. Curbs shall be vertical. The design speed for this road will be 35 miles per hour (mph). Signed, marked and handicap accessible crosswalks shall be provided at all major intersections within the Town Center and residential development.

Street Section C-C illustrates the main road between the roundabouts and north and south of the roundabouts (See Exhibit III-D.2: Street Cross Section C-C). This road includes two 12-foot lanes, 6-foot bike lanes in each direction, and a 4-foot sidewalk that may meander into a utility easement with permission from the utility company. Curbs shall be vertical. The design speed for this road will be 30 mph.

Street Section D-D depicts the two loop streets that will connect with the main road and with Quail Crossing Boulevard (See Exhibit III-D.2: Street Cross-Section D-D). Curbs will be vertical. This road will consist of two 10-foot travel lanes, two 4-foot bike lanes, and 4-foot sidewalks that may meander into a utility easement with permission from the utility company. The design speed for these streets will be 25 mph.

All of the Project's on-site residential streets will be designed according to adopted cross-sections unless designated as private in the subdivision process. The scale and character of these cross sections will be small-scale and community-oriented. The developer will maintain streets until they are dedicated to the Town.

Private streets would be identified on a case-by-case basis by the individual developer or builder. Waivers to adopted street standards shall be considered by the Planning and Zoning Commission on a case by case (or plat by plat) basis.

The proposed street cross-sections vary depending upon their functional requirements and specific settings. For example, low-density and medium low-density lots located in the southern and eastern portions of the project will be served by a relatively narrow street with a minimum 40-foot right-of-way width.

In addition, design that promotes pedestrian-oriented and minimizes automobile traffic on local streets will be encouraged. This includes multiple use private drives and hammerhead designs for clustered development. Five-foot sidewalks will be maintained in the Town Center to promote pedestrian scale and use.

3. **Change in Average Daily Trips (ADT):** This project will generate additional ADT's over the course of development as described in the Traffic Analysis Study prepared by PFS Traffic Engineering and submitted under separate cover. The Development Agreement negotiated between the Developer and the Town of Sahuarita will address improvements necessary to meet General Plan requirements for development impacts.
4. **Minimization of Impact Upon Local Streets:** This project will utilize an almost entirely self-contained street network employing limited ingress/egress routes to the old Tucson Nogales Highway, Quail Crossing Boulevard and the main north, south collector through the Specific Plan. Proposed ingress/egress routes represent off-site extensions of new

roadway design areas and existing and proposed public rights-of-way. These routes shall be constructed by the developer and may be dedicated to the Town of Sahuarita.

The completion of the railroad crossing or an all-weather extension of the Campbell Road alignment will occur prior to the receipt of a certificate of occupancy or release of subdivision assurances prior to Phase I except for sales or construction trailers. The completion of the railroad crossing and a two-inch overlay of Old Nogales Highway will be completed prior to the issuance of the 301<sup>st</sup> residential building permit for this project. A Development Agreement will be negotiated between the Town and the developer to set forth additional private participation in other roadway improvements. The Development Agreement will be signed before any certificates of occupancy are issued. The developer shall construct roadway safety projects within the Madera Highlands Specific Plan area as deemed necessary by the Town Engineer at the time of platting or development plan.

The Master Transportation Impact Analysis will be approved by the Town Engineer prior to submission of any subdivision plats or development plans to the Town of Sahuarita. The horizontal and vertical geometry of the loop streets shall be coordinated so there is sufficient amplitude in the curves to ensure that the operating speed on the streets is consistent with the design speed. The main north, south collector through the Specific Plan will match the "Campbell Road" alignment on the south, and provide access to the Quail Creek property on the north.

5. **Transit Routes:** No mass transit bus routes or attendant facilities are proposed at this time.
6. **Pedestrian and Bike Paths:** Pedestrian and bike paths and/or refuge areas shall be provided as part of site design. These facilities will be adjacent to the project's major boulevards as proposed on Exhibit III-D-2: Street Cross-Section A-A. Bike paths will parallel the major collectors and enter into adjacent development areas. These paths will be provided where possible along collectors and boulevards.

Pedestrian linkages shall be designed throughout the project and shall connect through developed residential and commercial areas.

Sidewalks along streets will be designed and located no closer than three feet to automobile travel lanes.

7. **Emergency Access:** Emergency access will be provided to all planning areas. Emergency access may consist of graded roads.



HARVARD INVESTMENTS



Exhibit III-D.2: Street Cross-Section A-A  
Existing / Propose Public ROW

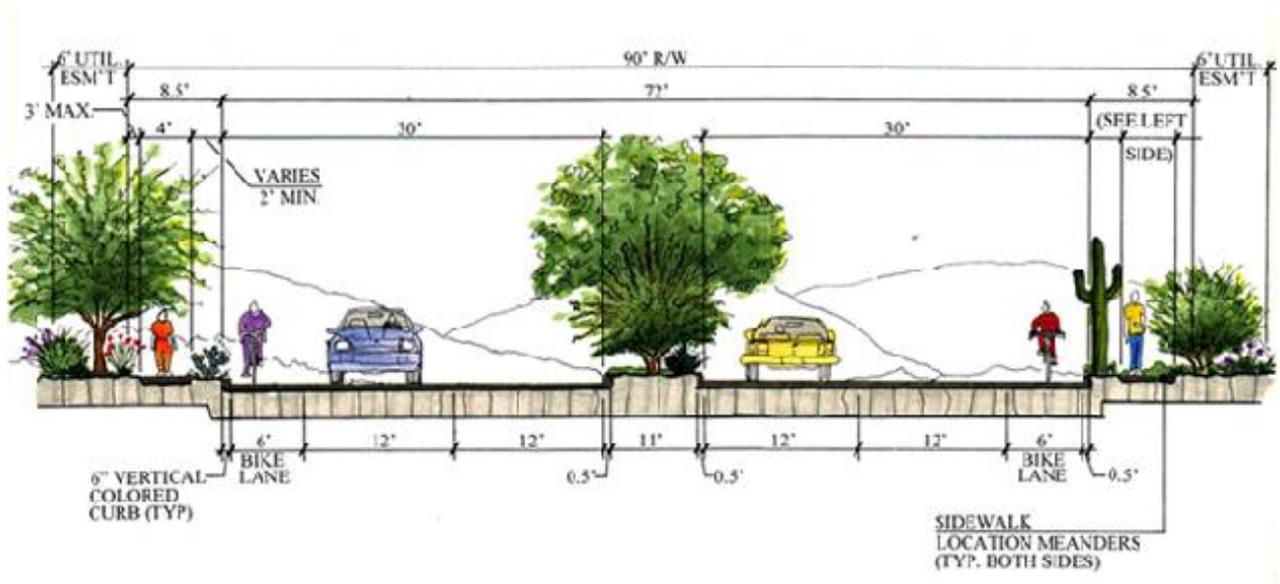


Exhibit III-D.2: Street Cross-Section B-B  
Primary Roadway

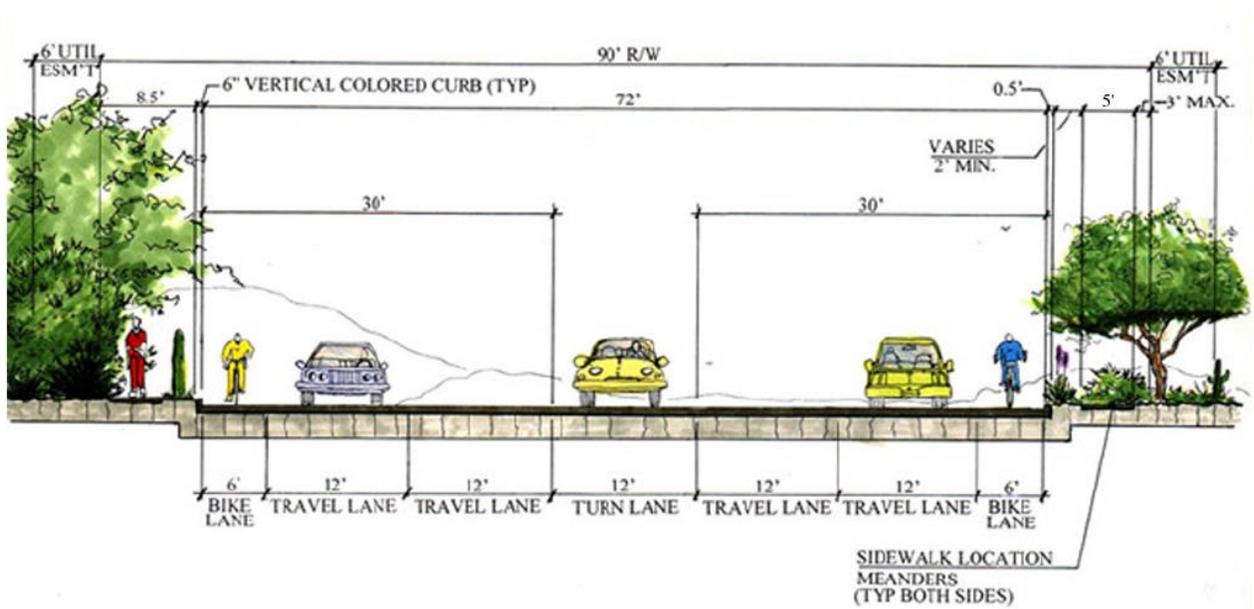


Exhibit III-D.2: Street Cross-Section C-C

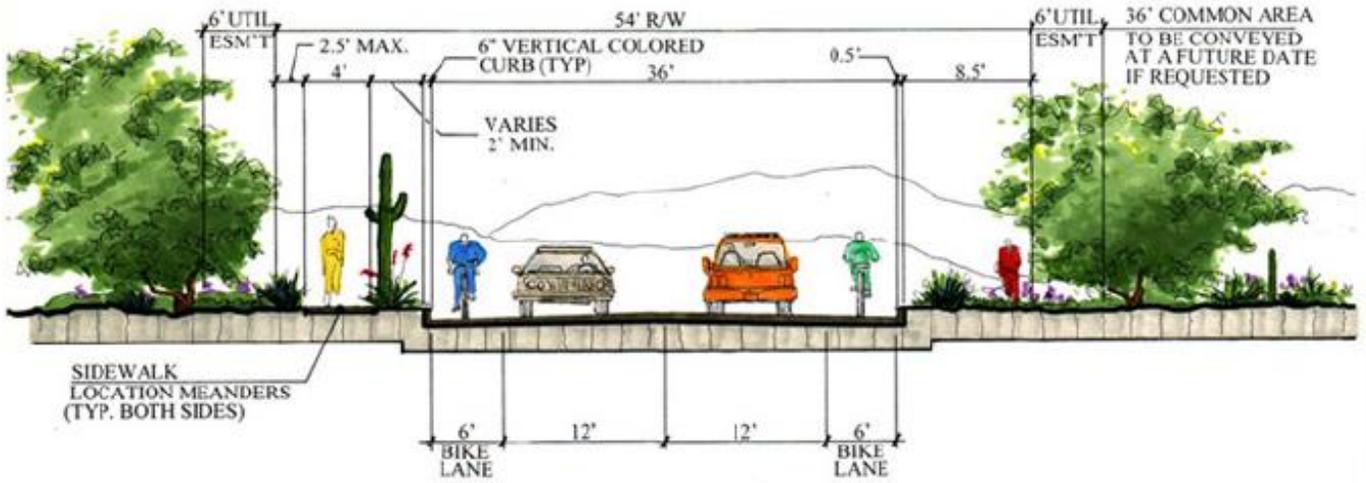
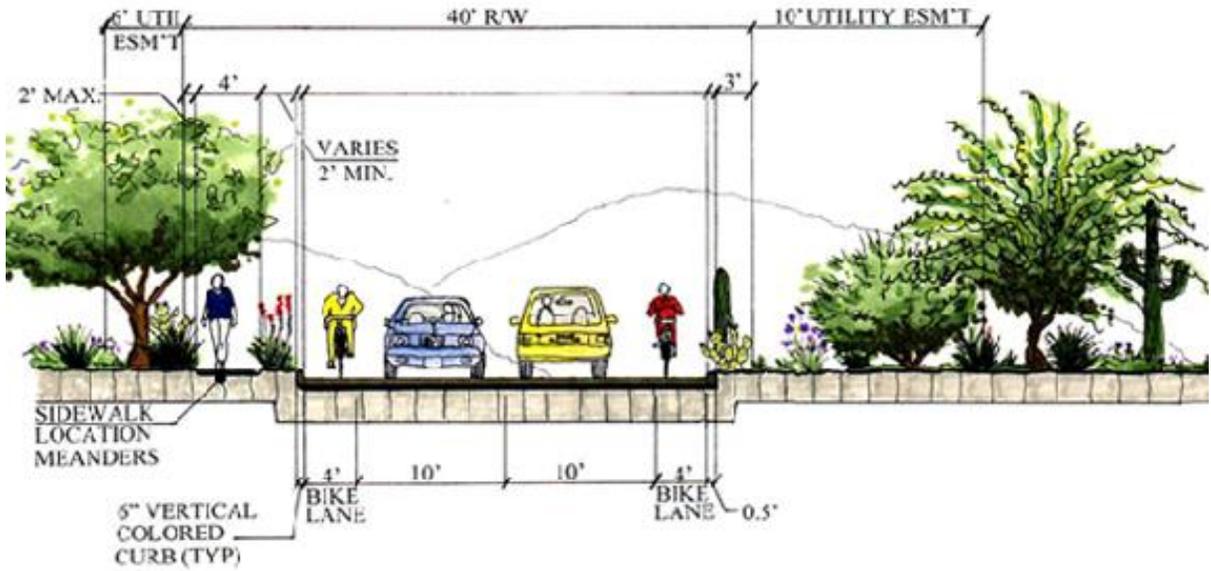


Exhibit III-D.2: Street Cross-Section D-D



**E. Public Facilities**

**1. Water:**

a) Service Provider:

The local water service provider for the Madera Highlands project site is Farmers Investment Co. (FICO), 1525 East Helmet Peak Road, Sahuarita, AZ 85629. The system number for the area now in operation is 10049 and is located in a Ground Water Replenishing District.

b) Fire District:

The project site is located within the fire district served by Rural Metro Fire Department, 3005 South Camino del Sol, Green Valley, AZ 85614. The water distribution system for Madera Highlands will be designed for fire flows of 1,500 gpm @ 2 hour duration for residential and urban fire flow, and 2,500 gpm @ 2 hour duration for commercial fire flow.

c) Water Facility Concept Plan:

Water supply for Madera Highlands will be derived by the conversion of two existing on-site wells (well #E12-A, & #E-13) from agricultural to potable use. An additional on-site well (well #7-A), which is currently supplying the residence, will be used as an interim backup or second source of supply for initial development stages of the project. Existing well pumps will be replaced, and a storage tank(s) will be constructed to provide the necessary reserve water volumes for fire flow. Booster pumps in combination with a hydropneumatic tank will draw water from the storage tank(s) and provide the necessary system pressures and flow rates for both domestic and fire flow demands. Approximately 39,600 feet of 8, 12, and 16-inch primary water distribution main will be constructed in the primary and collector roadways to distribute water across the 920-acre site (inclusive of 3400 feet of off-site water south of this project). The main water supply for all domestic and fire flow consumption for the development will come from Well E-13, which has a pumping capacity of 1,152 gallons per minute (gpm). A storage tank with a capacity of 1.0 Mgal, booster pumps (domestic & fire), and two hydropneumatic tanks will be located onsite just east of Well E-13 in development area #11. Well E-12 A will be converted and developed similarly to E-13 for potable use, but will serve primarily for landscape irrigation, and as a potential back-up supply source. Irrigation of park areas, and functional open space areas shall utilize reclaimed water at the time it becomes available.

The Madera Highlands distribution system will be interconnected with an existing FICO distribution system (FICO well #5-A) located approximately 4,000-feet to the south of Madera Highlands site. The two systems will be interconnected to create a single pressure distribution zone. This interconnection will provide a back-up flow of

up to 1,700 gpm to Madera Highlands. The interconnection is not intended to serve as a continual supply source to one system or the other, except under emergency conditions. The single pressure zone for the water supply system will provide a maximum pressure head elevation of 3,062 feet (max. pressure = +/- 107 psi). The associated direct service elevation range is from 2,862 to 2,962 feet. Any service connection located below 2,862 feet will provided a supplemental pressure-reducing valve (individual). The highest ground elevation for Madera Highlands is 2,936 feet, the lowest is 2,800 feet. Thus some service areas will require pressure-reducing valves so as not to exceed a supply pressure of 80 psi.

The total average daily demand for the site is estimated at 810,000 gpd, based upon a maximum of 1,800 planned residential dwelling units (5,400 persons @ 150 gpcpd) and 20 commercially developed acres (@ 750 g/ac.). The maximum peak day flow is approximately 1,044 gpm and the total instantaneous flow peak hour is 1,272 gpm.

The primary (backbone) distribution system will consist of 8, 12 and 16-inch PVC water mains extended from the existing FICO distribution system to the south up through the main north-south roadway through the Madera Highlands site. A dead-end extension will be placed in the entry road from Old Tucson-Nogales Highway and 8 inch lines in the loop roadways extending east from the main north-south road. The two mains in each of the east loop roadways will be interconnected near the eastern boundary of the site with a segment of 12-inch PVC.

For an illustration of the proposed water system see Exhibit III-E.1: Schematic Master Waster Concept Plan For Madera Highlands.

d) Existing and Future Water Use:

Currently, there are 212.9 acres of pecan orchards being irrigated by FICO. The water use, as given by FICO, is 6 to 7 acre-feet/year/acre. Well E-13 is being used for this purpose and as the farmland is retired and becomes urbanized, so will the farm irrigation water now being used. The rate of retirement shall be the same as the present rate of use as land is converted from agricultural use.

**2. Sewer:**

The layout presented in Exhibit III-E.2: Schematic Sanitary Sewer Concept Plan represents the intended sanitary sewer service for this site. The sewer lines proposed within this development slope to the northwest corner of the property boundary. The main sewer line will run north-south following the main road alignment (Campbell Avenue) collecting the various site areas as it flows to the north. This sewer line collector will then discharge to an outfall sewer located at the northwest corner of the property, which has an associated invert elevation at 2,796.30 feet. The outfall sewer consists of an 18 inch diameter pipe, extending offsite a distance of approximately 1,600 feet and connecting to an existing 30 inch trunk sewer (PCWWM sewer line #G-85-40). The

offsite sewer will be located in a 30 foot wide easement following more or less the Canoa Land Grant Boundary in a northwesterly direction. The north-south sewer collector consists of 8 inch, 10 inch, 12 inch, and 15 inch pipe on approximate slopes varying from 0.15% to 0.5%. All sewer lines planned for the site will be Polyvinyl Chloride (PVC) except for areas crossing existing washes or other areas where requirements warrant the use of Ductile Iron Pipe (DIP).

Estimations of peak flows have been computed using the maximum land use and the Arizona Department of Health Services, Engineering Bulletin No. 11. Projected average daily sewage flows were developed using of 2.25 to 3.5 persons per unit, depending on the land use, and a per capita daily flow rate of 100 gallons (100 gpcpd). The projected peak hourly flow was based on a peaking factor of 3 times the average daily flow. A table presented in the following page entitled Madera Highlands, Projected Sewage Flow Calculations For Individual Blocks, identifies the peak flow generated by individual areas within this project. The table below presents the total peak flow at established concentration points as presented in Exhibit III-E:1: Schematic Sewer Concept Plan.

**Madera Highlands  
Estimation of Peak Discharges**

Concentration Point	Peak Discharge	Concentration Point	Peak Discharge
	(cfs)		(cfs)
A	0.235	G	2.368
B	0.417	H	0.569
C	0.591	I	0.422
D	1.057	J	0.203
E	0.236	K	2.662
F	0.1482		

From the projected peak flows computed, an analysis was made to determine the approximate size of pipes needed. The size required and their locations are presented in Exhibit III-E.1: Schematic Sewer Concept Plan. A total of approximately 34,900 feet of sewer line will be provided within this project.

More specifically, 23,060 feet of 8", 3,420 feet of 12", 6,820 feet of 15" pipe, and 1,600 feet of 18" pipe (offsite) will be required.

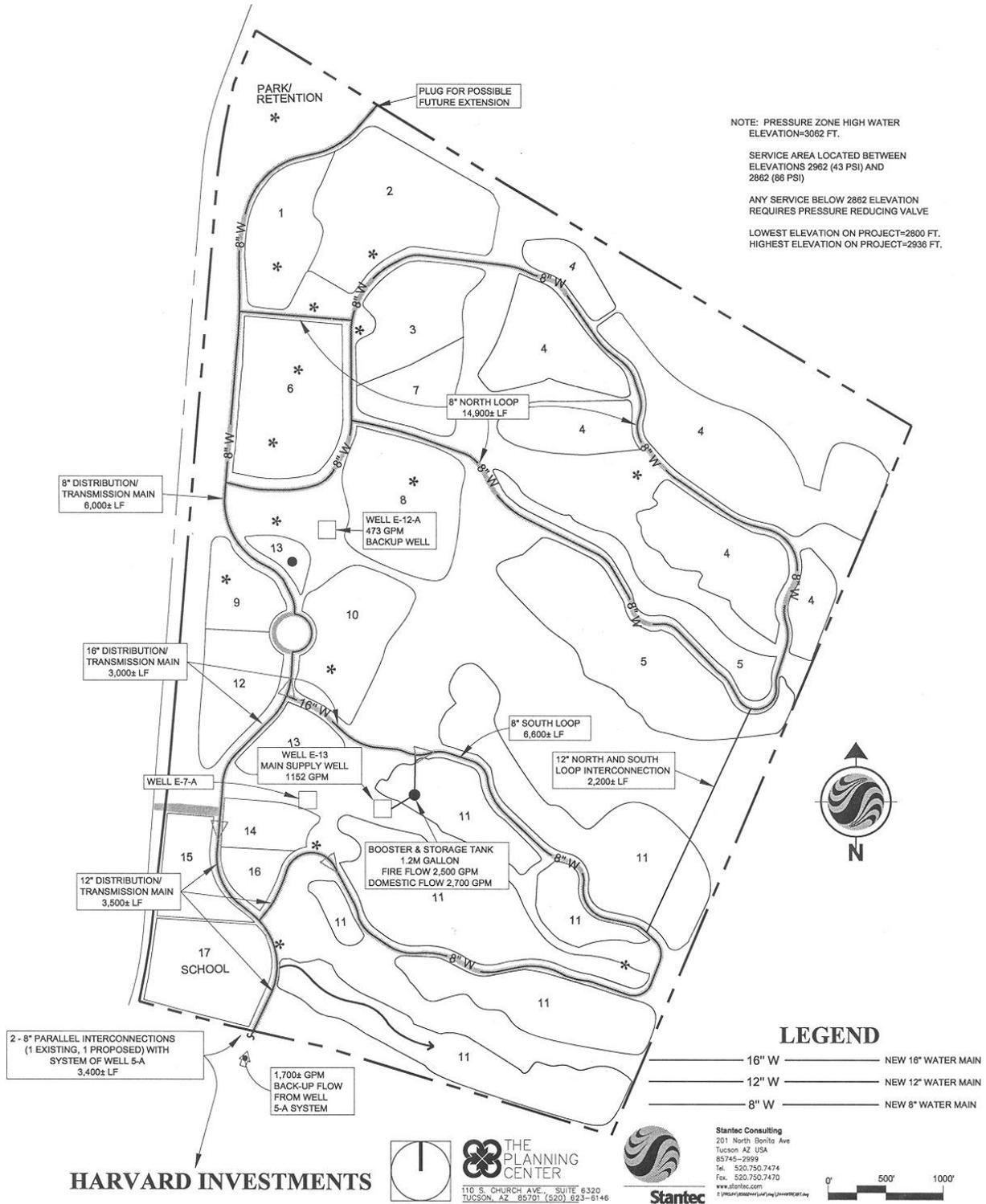
The intent within this project will be to locate as much as possible sewer lines in planned roadways. There are certain remote development areas within the project site that may not be economically viable to public sewer. Some of these may require off-roadway routes with dedicated sewer easements. Because of the highly varying topography and many environmentally sensitive riparian corridors in the eastern portion of the project site, sewer mains will need further evaluation with specific site development intentions before sewer main routing requirements can be made.

Area #	Area	Land Use	Max RAC	No. of DU's	Pop. per DU	Equiv. Pop.	Average Flow	Peak Flow
	(ac)						(gpd)	(cfs)
1	16.3	MHDR	10	163	2.5	407.5	40750	0.189
2	32.7	MHDR	10	327	2.5	817.5	81750	0.379
3	23.3	MHDR	10	233	2.5	582.5	58250	0.270
4	85.6	MLDR	3	256.8	3.5	898.8	89880	0.417
5	44.4	MLDR	3	133.2	3.5	466.2	46620	0.216
6	31.3	MHDR	10	313	2.5	782.5	78250	0.363
7	10.2	MHDR	10	102	2.5	255.0	25500	0.118
8	25.6	MHDR	10	256	2.5	640.0	64000	0.297
9	10.6	TC	22	233.2	2.25	524.7	52470	0.244
10	29.6	MHDR	10	296	2.5	740.0	74000	0.344
11	176.5	MLDR	3	529.5	3.5	1853.3	185325	0.860
12	14.4	TC	22	316.8	2.25	712.8	71280	0.331
13	13.5	TC	22	297	2.25	668.3	66825	0.310
14	4.4	TC	22	96.8	2.25	217.8	21780	0.101
15	8.1	TC	22	178.2	2.25	401.0	40095	0.186
16	7.6	TC	22	167.2	2.25	376.2	37620	0.175
17	20.0	SCHOOL	-	(15gpcd)	-	(600 students)	9000	0.042
PF	43.0							
OS	322.9							
Total	920.0	-	-	3898.7	-	10344.0	1043395	4.843

**Madera Highlands  
Projected Sewage Flow Calculations for Individual Blocks**

**\*\* FOR TARGET DENSITIES OF 1800 UNITS, ESTIMATED PEAK FLOW WILL BE 2.66 CFS**

Exhibit III-E.1: Schematic Master Water Concept Plan



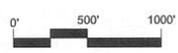
*Development Plan*  
**Exhibit III-E.2: Schematic Sanitary Sewer Concept Plan**



**HARVARD INVESTMENTS**

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 Fax. 520.750.7470  
 www.stantec.com  
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3. **Community Facilities District (CFD) and Municipal Improvement District (MID):** If deemed economically feasible, the developer and builders may petition the Town of Sahuarita to form a Community Facilities District or Municipal Improvement District to acquire existing public facilities or construct new public facilities.
4. **Other Utilities:** Gas, electric, cable television, and telephone services exist in the vicinity of the Specific Plan Area. Final design shall take place at the time of actual construction, subdividing, and site development. Actual service facility design will be coordinated with the individual utility companies.
5. **Schools:** Based on the Dwelling Unit Average method for estimating student populations, the ultimate scenario of Madera Highlands at maximum build-out will produce approximately 1,286 students (pre-K-12). Grade level enrollment (GLE) is calculated by multiplying Dwelling Units (DU) by .5 (Sahuarita School District) or .8 (Continental School District), and dividing by the number of grades at each school.

**Continental Elementary and Middle School (Pre-K-8)**

Current Enrollment: 275  
Current Capacity: 550  
Number of students generated by project: 1,029

**Sahuarita High School (9-12)**

Current Enrollment: 750  
Current Capacity: 1,200  
Number of students generated by project: 257

Based on discussions with the Continental School District, it is anticipated that 35% (630) of the project's dwelling units will include school aged children. This scenario would then produce approximately 450 students pre-K-12.

**Continental Elementary and Middle School (Pre-K-8)**

Current Enrollment: 275  
Current Capacity: 550  
Number of students generated by project: 360

**Sahuarita High School (9-12)**

Current Enrollment: 750  
Current Capacity: 1,200  
Number of students generated by project: 90

Based upon requests from the Continental School District, a donation of 20 acres for a future school site will be provided to the Continental School District by the developer. A response letter from the Continental School District is provided in Appendix F.

As a result of discussions with the Continental School District, a school site location has been identified on Exhibit III-C.1: Development Plan west of Old Nogales Highway and south of Quail Crossing. The school site may be dedicated or reserved in accordance with future agreement with the Continental School District. In the event that a school site is not transferred to the school district by 80% build-out, the school site will remain property of Harvard Investments.

**6. Parks:**

Parks and recreation areas will be provided throughout the planning area (See Exhibit III.J.1: Recreation and Trails Map, and III.J: Recreation and Trails Concept). Passive recreational facilities will be accommodated on the eastern portion of the site due to difficult terrain. Active recreation areas associated with Town Center, schools and detention areas will be provided on the lower portions of the site (See Exhibit III.J.1: Recreation and Trails Map). A minimum of three mini-parks will be provided during the platting and development process (See Exhibit III.J.2: Conceptual Neighborhood Mini-Park). These parks will be oriented for passive use by neighborhood residents, and start at a 0.25-acre minimum. Parks have been included in the public facility category and will be incorporated throughout the planning areas. A Master Recreation and Trails Plan will be refined from the conceptual base presented in this plan and submitted to the Town under separate cover.

A series of pedestrian trails will be established along streets that tie neighborhoods together within the community and surrounding areas and minimize conflicts with surrounding land uses. These trails will also tie together drainageways and public lands and provide access to the Santa Cruz River at locations where it's safe to cross the railroad. Trails and parks will be designated for private use and maintenance. Parks and trails will be built and maintained by private entities, including the Madera Highlands Homeowners Association. Open space and vegetation resources will be preserved in drainageways (See Section III.H.2: Open Space Resources).

**F. Water Resources Concept Plan**

**1. Response to Existing Conditions:**

The drainage concept addresses delivery of storm water runoff generated offsite and within the onsite upland areas through low-lying areas to existing downstream points of concentration. In upland areas washes will remain predominantly natural with the exception of roadway crossings. The drainage master plan attempts to minimize disturbance in 404-permit jurisdictional washes while controlling runoff at the mouths of the upland washes. Additional channels and/or conveyance systems may be necessary to accommodate individual development schemes as detail layout and design is completed. Recommended roadway drainage crossings (box culverts) are approximate and may vary as roadway design and onsite grading is fine-tuned. To provide for all weather access, additional roadway drainage crossings will be necessary for the loop roads.

**2. Effect Upon Site Drainage Patterns.**

A 12 cell 12 feet X 6.5 feet con-arch culvert is proposed to convey the 100-year peak discharge for the Sawmill Wash under the north-south collector at the southern property boundary. Downstream channel stabilization/improvements will be necessary to protect proposed development in the southwest property corner. Runoff from the Saw Mill Wash will exit the Madera Highlands property per existing conditions.

Runoff emanating from Watershed A (refer to Exhibit III-F.2 Drainage Concept Plan) will be directed northward by approximately 1000 feet of levee and channel to a 3 cell 10 feet X 4 feet concrete box culvert (CBC) structure at the proposed southern loop road. Runoff from Watershed D will be conveyed south in an improved channel to a 2 cell 10' x 4' CBC at proposed south loop road. Runoff from watersheds K, C, D, and A combine within an improved channel. The existing well site (E-7) will be protected from the 100 year flood by a levee. The combined flow from the above watersheds will be delivered, westerly under the Campbell Ave. alignment, via a 4 cell 10 feet X 4 feet CBC for discharge to an improved channel (See Exhibit III-F.2: Typical Section B-B). This improved, stabilized channel will be approximately 4 feet deep with 3:1 sides slopes, varying from approximately 112 feet. to 132 feet top width (including 16 feet for an access easement) and will extend westerly for approximately 1,200 feet. At this point, the channel will turn northward, paralleling the Union Pacific right-of-way and an existing utility easement for approximately 5,000 feet. This channel will outlet into a proposed retention basin to be located at the northwest property corner, will remain private and be privately maintained by the Master Homeowners Association. This basin will be constructed in order to effectively control storm water runoff prior to exiting the site, and to provide for threshold retention (i.e., reduce quantity of runoff exiting the developed site).

Runoff associated with Watershed G and watersheds to the north is partially contained by an existing berm, which directs runoff to the north property line. To contain the 100-year runoff and to minimize impacts to the 404-permit jurisdictional area, a parallel levee will be constructed for approximately 1,600 feet, to the northern loop access road (See Exhibit III-F.2: Typical Section C-C). A bridge or con-arch structure will convey the 100-year runoff under the roadway. North of the roadway, 100-year runoff in excess of the amount contained by the existing berm will be contained by a levee system to be constructed adjacent to proposed residential development. A channel will also be incorporated along the northern property boundary to convey runoff to the retention basin (See Typical Channel Section D-D). A bridge or con-arch structure will be required to convey runoff under the Campbell Ave. alignment at the northern property boundary. Runoff will be allowed to exit the northern property boundary as per existing conditions.

Onsite generated runoff will be conveyed via internal street networks and channels to the improved channel/retention basin system.

Flooding that impacts the subject property from the Santa Cruz River is proposed to be contained along the western boundary of the property by a flood control berm.

Exhibit III-F.1: Drainage Concept Plan

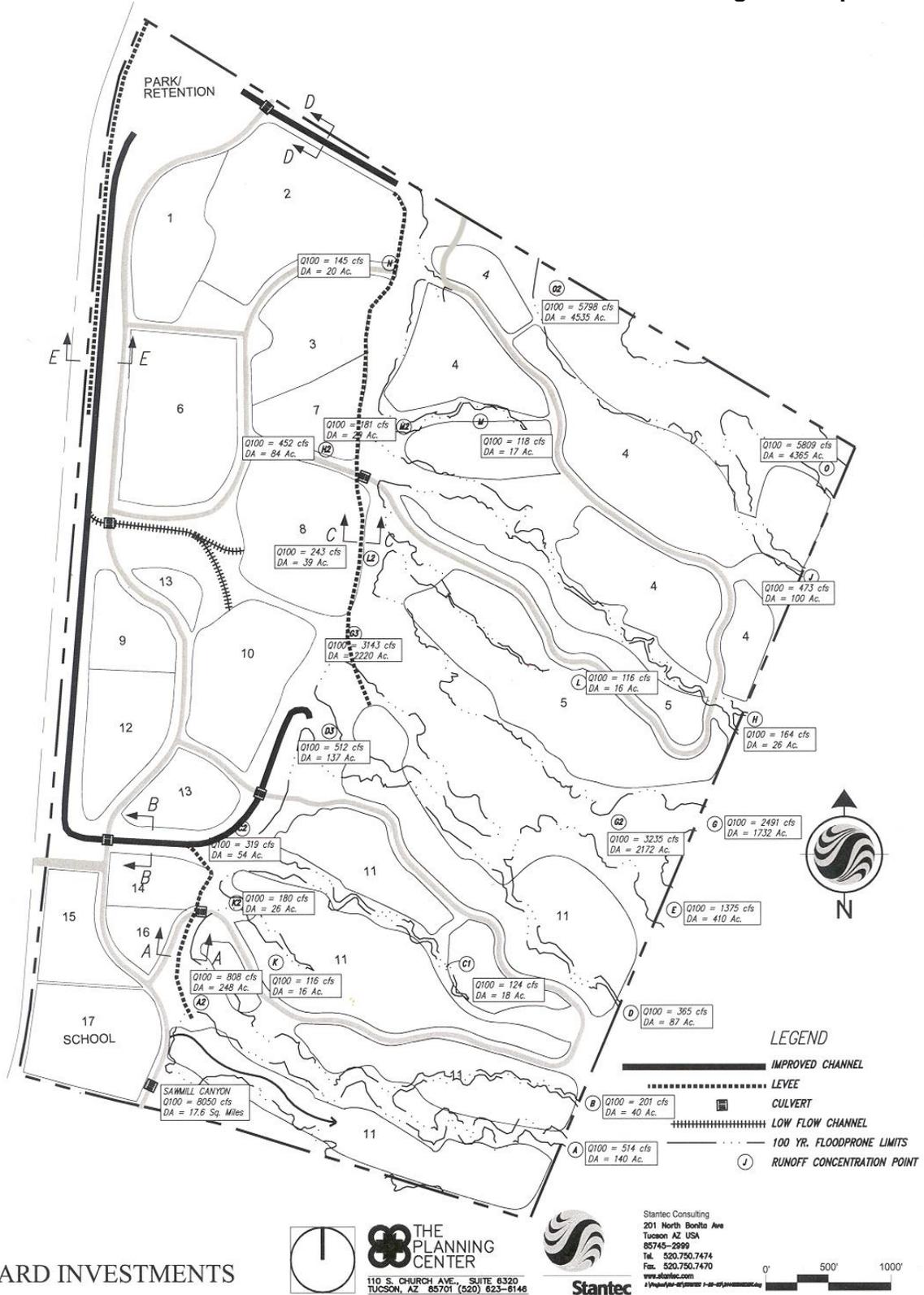


Exhibit III-F.2: Typical Section A-A Improved Channel

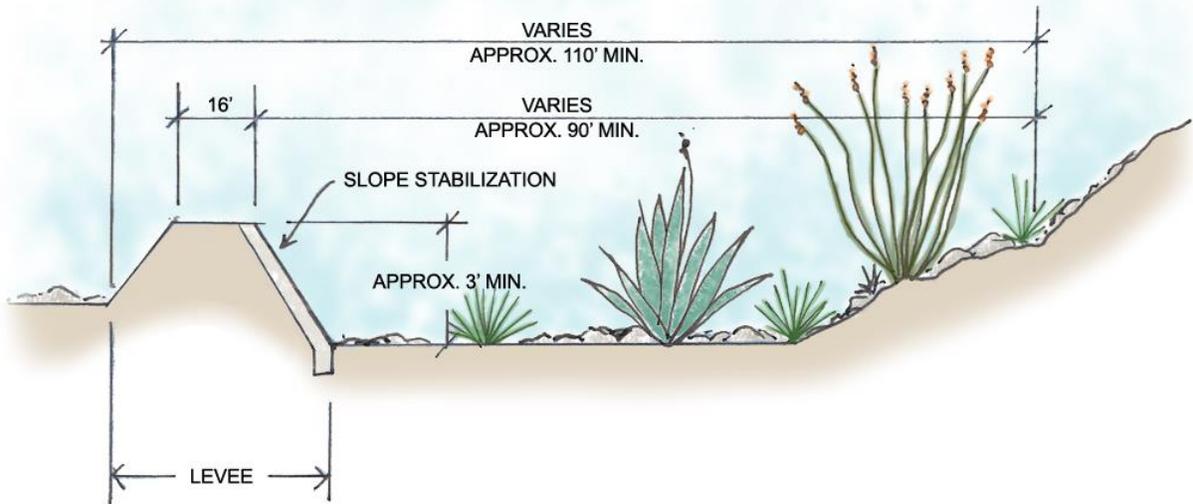


Exhibit III-F.2: Typical Section B-B Improved Channel

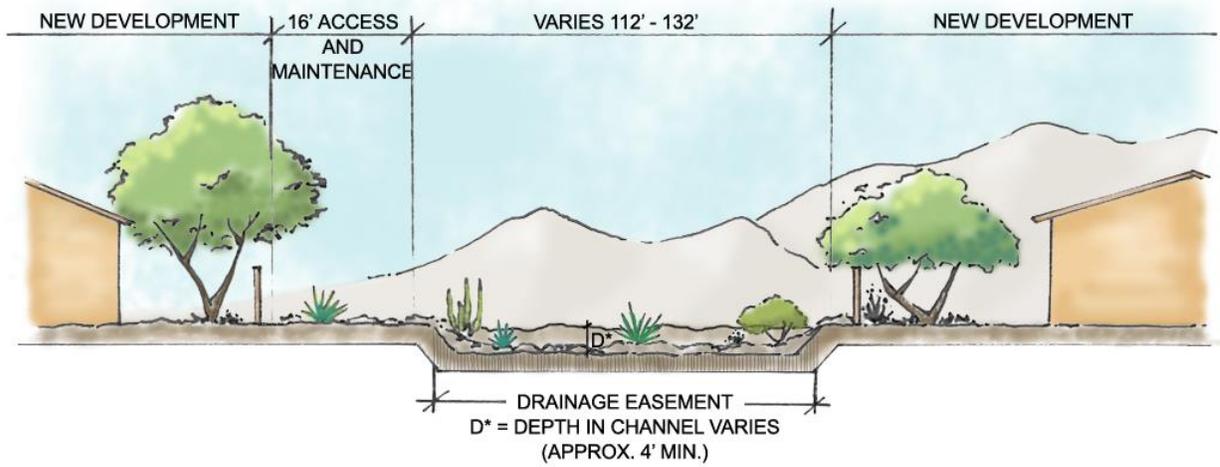
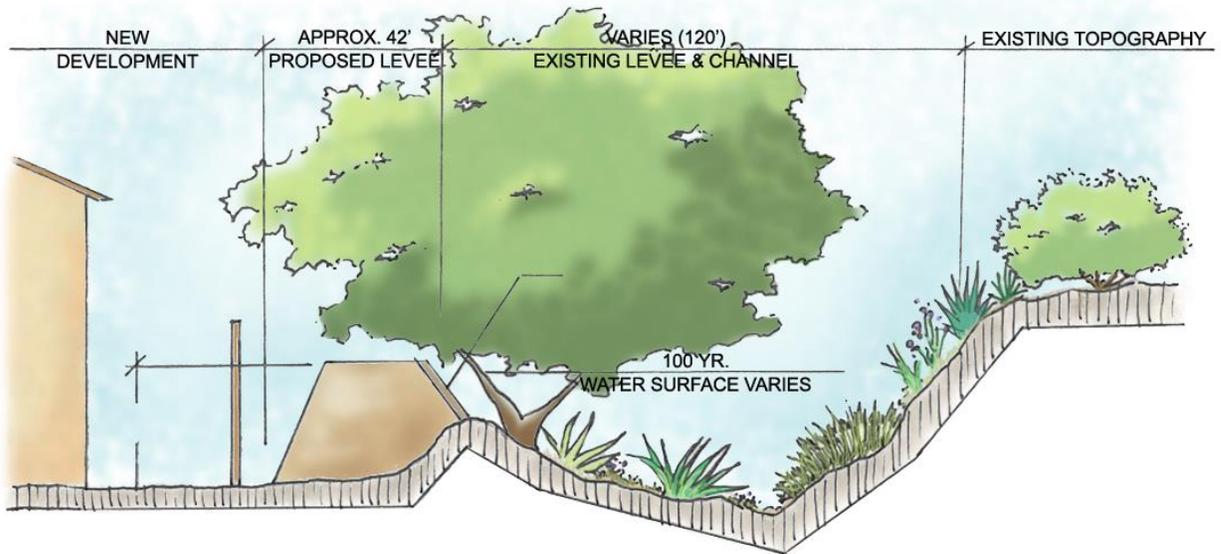


Exhibit III-F.2: Typical Section C-C Levee and Existing Channel



**Exhibit III-F.2: Typical Section D-D North Boundary Channel and Levee**

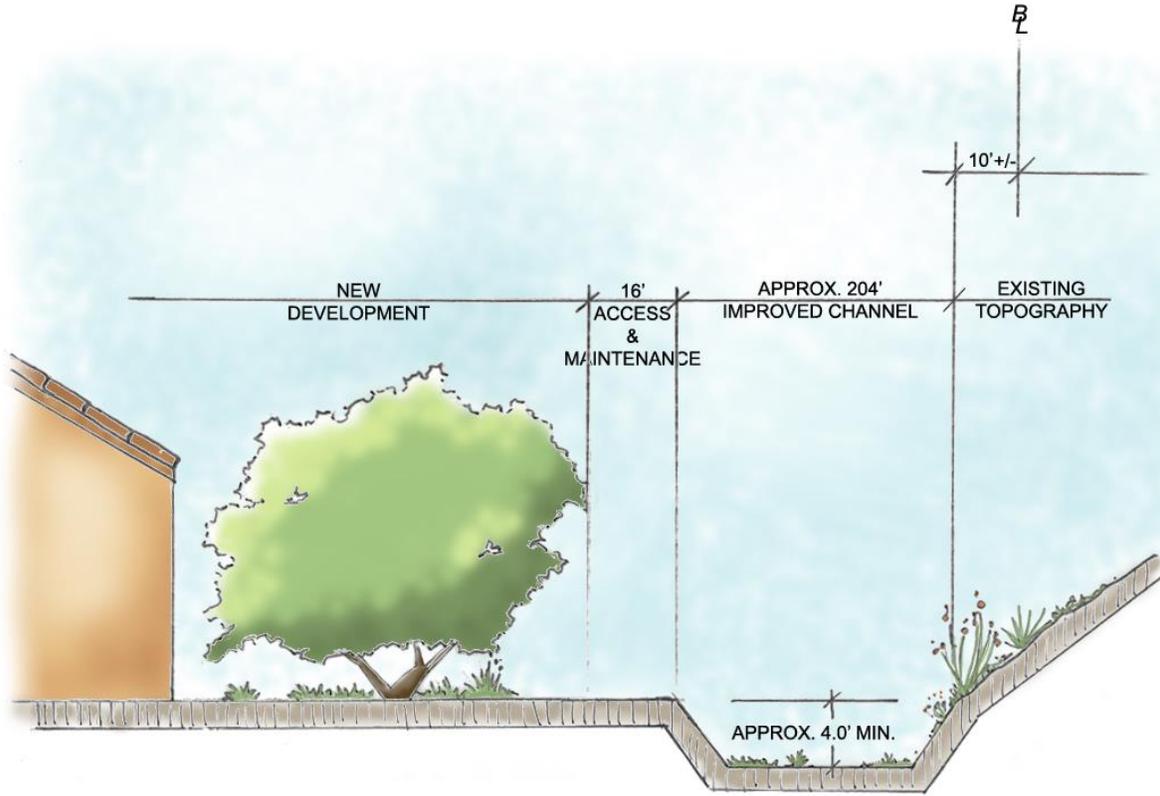
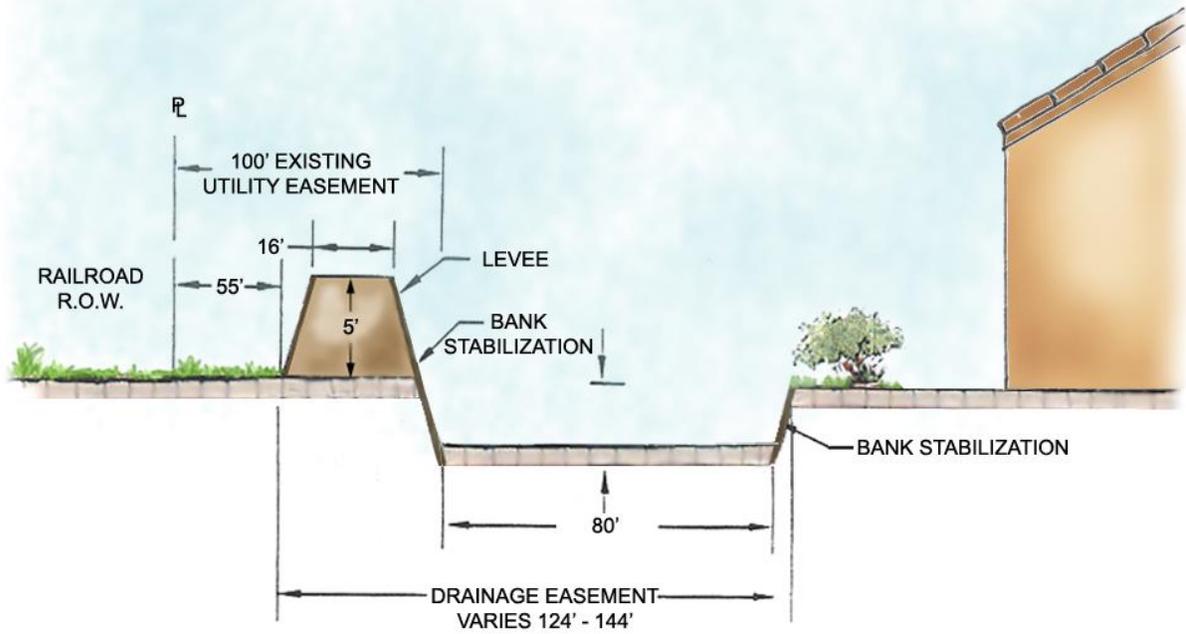


Exhibit III-F.2: Typical Section E-E North Boundary Channel and Levee



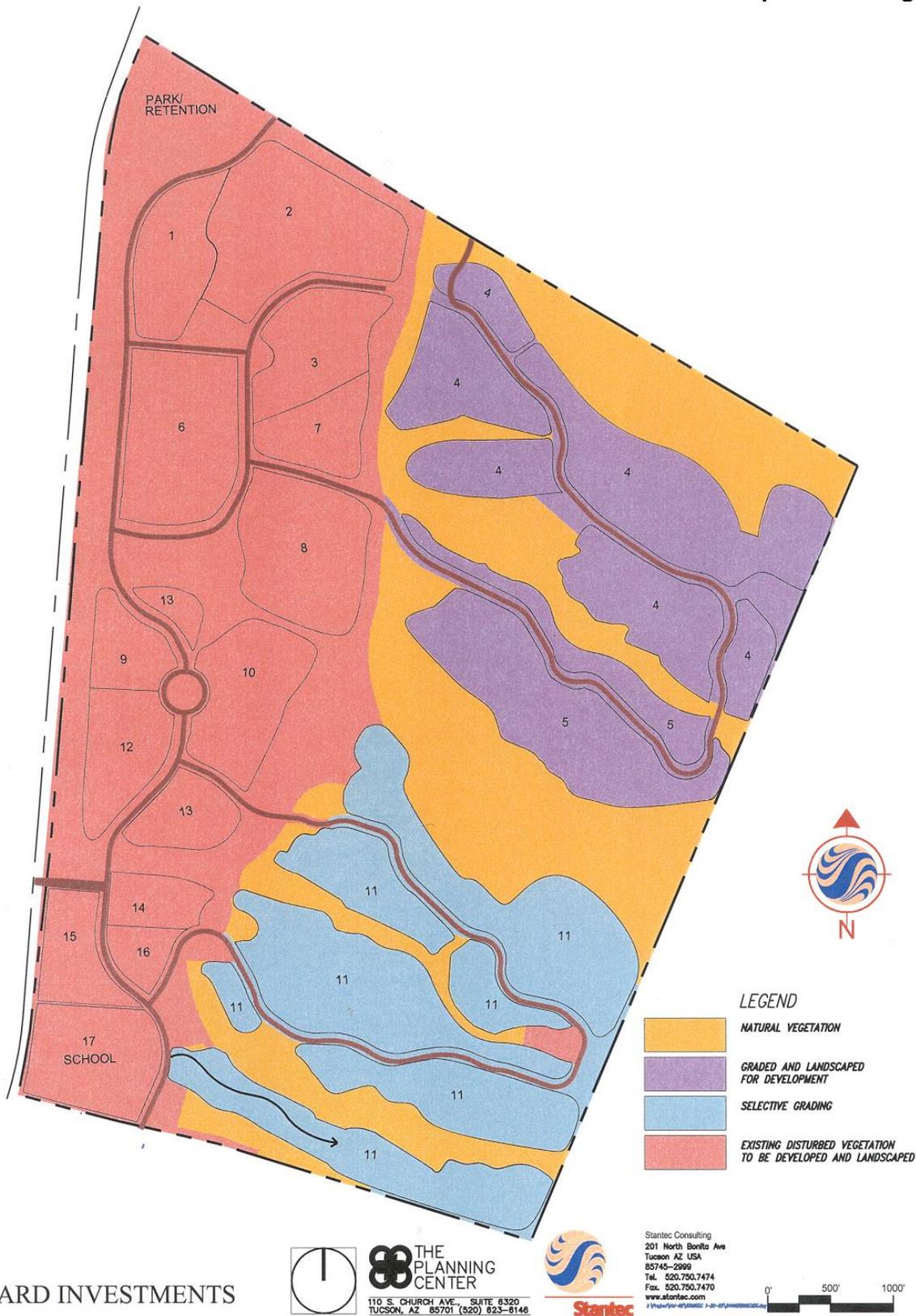
**G. Grading Concept**

- 1. General Characteristics.** Exhibit III-G.1: Conceptual Grading Plan depicts the primary grading characteristics of the developed site. The site will include a variety of grading treatments that will be utilized in developing roadways, residential lots, and the recreational facilities.

Existing drainageways within jurisdictional 404 permit limits will remain natural and undisturbed, except for isolated areas where roadway and utility crossings are to occur. Site development has been planned so as to avoid disturbance to jurisdictional areas. Levees will be placed down gradient along some of the natural washes to ensure control of drainage across the site (breakout flows from existing washes) while avoiding disturbance to jurisdictional areas. The overall disposition of the post-graded site includes:

Graded Areas:

- Planning Areas
  - Building Sites
  - Local, Collector and Main Entry Roads
  - New Drainage Channels
  - Portions of Transition Areas (i.e., Areas between Development Blocks, Recreation Facilities, Trails and Washes)
  - Retention Basin Facility
  - Other areas as needed for infrastructure and utilities
  - Roadway and utility crossings of natural washes
- 2. Cut and Fill.** Grading shall be in accordance with the Town of Sahuarita Grading Standards as outlined in the Zoning Code Section 18.61.080. To help mitigate cut and fill situations, a hydroseed revegetation treatment will be employed where erosion is likely at each cut/fill location to help in smoothly transitioning to the wash channel as the specific case may require.



## H. Environmental Resources Concept Plan

The Madera Highlands Specific Plan does not fall within any officially adopted resource or environmentally sensitive zone currently identified by Pima County.

1. **Habitat Resources:** The most significant wildlife habitat resources are concentrated in identified Class 1 Wildlife Habitat areas, Class B and Class C Xeroriparian Habitat Areas, and areas of medium to high density vegetative cover. Vegetation on the property is somewhat variable, fitting the description of the Arizona Upland subdivision of the Sonoran desertscrub biome with components of semi-desert grassland. The uplands are mainly Arizona Upland vegetation of creosotebush associations. Prominent associations on the uplands include near monocultures of creosotebush, creosotebush-desert zinnia-mixed shrub, and creosotebush-mixed cacti, sometimes with a high density of cacti. The western portion of the site is covered by a pecan orchard, former feedlot, and fallow agricultural field.

The following discussion describes how damage to those areas of relative environmental significance will be mitigated, preserved or enhanced during the site planning process.

- a. Areas of High Density Vegetation: Areas of high-density vegetation fall almost entirely within washes designated as open space and therefore will not be disturbed (See Exhibit III-H.1.d: Preserved Natural Washes). Where disturbance is unavoidable, appropriate mitigation measures will be taken in accordance with the native plant preservation standards.
- b. Special Status Species: A Biological Assessment prepared by Darling Environmental has been submitted to the Town under separate cover and addresses the proposed action, affected environment, effects of the proposed action, and mitigation measures including avoidance, transplantation, and monitoring of Pima pineapple cacti during and after project construction. The document provides information that assures construction of the proposed project will be performed in a way that results in conservation of Pima pineapple cactus and their habitat, as well as other Arizona native wildlife and plant species. Federally listed threatened or endangered animal species were assessed in detail in the *Madera Highlands Biological Evaluation* (1998) for this project. In summary, the project is unlikely to impact and threatened or endangered species other than the Pima pineapple cactus.
- c. Natural Washes: Preserved washes shall be those found in the Specific Plan on Exhibit III-H.1.d.

2. **Open Space Resources.** The Madera Highlands Specific Plan is designed as a recreational and residential community. Open space areas contained within this plan provide environmental opportunities and a higher quality of life. This plan has identified areas of preserved open space within drainageways.

Revegetated drainageways will help maintain wildlife connections. The recreational/open space land use in conjunction with the washes will provide a larger area for animal forage and cover. This treatment also helps to preserve existing floodplain areas by providing increased setbacks from structural developments.

Constructed drainageways shall include revegetation within or adjacent to the channel. The drainageways design shall provide landscape buffers along both sides of the channel. Trees will be appropriately spaced to provide sufficient maintenance access.

3. **Archaeological Resources.** See Archaeological Regulations, Section IV-H.



**I. Landscape Concept**

Madera Highlands is planned as a Desert Community with landscape plant materials from the Sonoran Desert. A landscape-planting theme will be established creating a community framework for all common and public areas. Consistent landscape planting will use native southwestern plants and other drought tolerant species. This landscape structure will link the various development areas together in a cohesive community setting. The landscape concept is depicted on Exhibit III-1: Landscape Concept Plan.

1. **Entry Features.** The Landscape Plan identifies three types of entry features: the primary or community entry, the secondary or collector entry, and the tertiary or residential entry. Entry features delineate passage into or out of the community. The Madera Highlands entry points shall include signage and landscaping that communicate the theme and identity of the community. The primary feature will be designed to incorporate project monumentation and signify arrival. Secondary entry statements will be similar, but smaller in scale and amount of detail. Residential entry statements will be smaller in scale but will communicate the entrance into residential areas.

The two primary entry features are located at the major entry points to the Town Center from the Old Tucson Nogales Highway and the main north, south collector through the Specific Plan. This has been designated as the "front door" of the community. The secondary entry features will be located at the north entrance of the project. Residential entry statements delineate entrances into individual residential areas. The majority of the residential entry statements are located along the project collector or residential road.

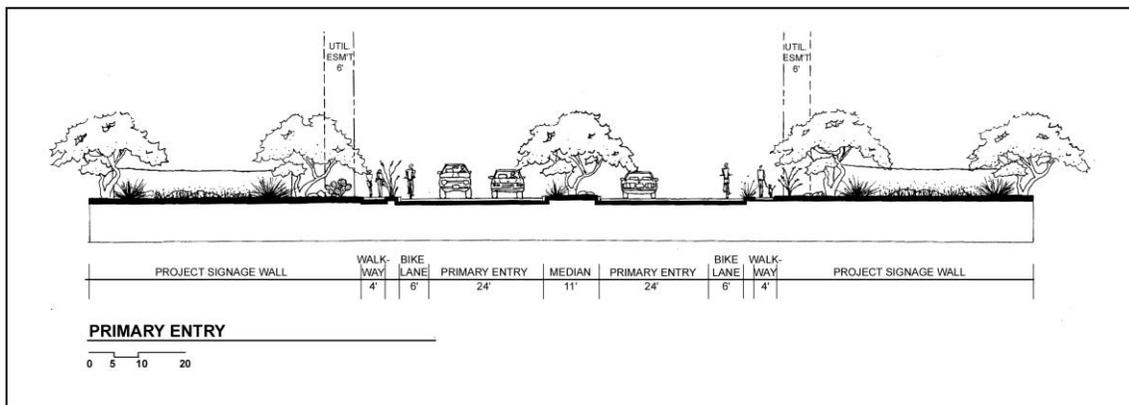


Exhibit III-I.1: Landscape Concept Plan



HARVARD INVESTMENTS



THE PLANNING CENTER

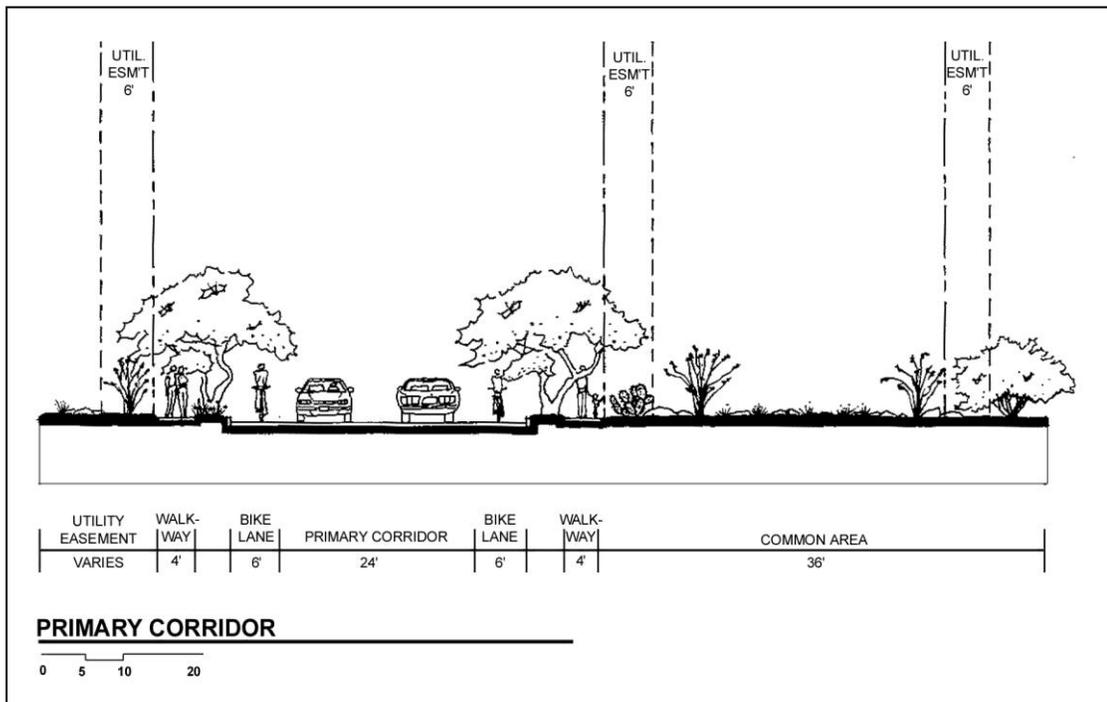
110 S. CHURCH AVE. SUITE 6520  
TRINIDAD, AZ 85755 (602) 842-8148

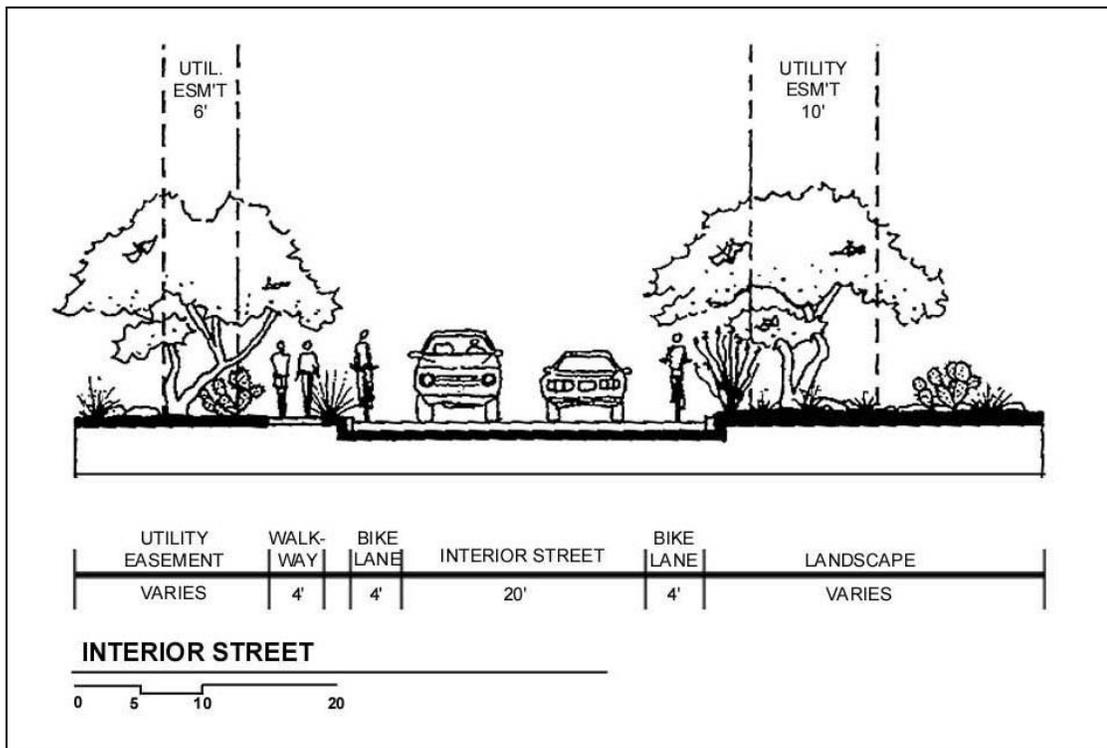


2. **Streetscape Concept:** The three levels of streetscape identified - Primary, Collector, and Residential - correspond to the entry feature landscape. The design for all three levels of streetscape will be consistent with Madera Highlands' Sonoran Desert theme. The Primary Streetscape will provide a safe and attractive progression along the core road. The scale will vary from a larger scale at the primary streetscape, to a smaller scale at the residential street level. A bufferyard will be located along portions of the perimeter of the Specific Plan area consistent with the Town of Sahuarita Zoning Ordinance, Chapter 18.73.040, Screening and Bufferyard Requirements. Areas of revegetation will include drought tolerant and indigenous plant materials to be consistent with the overall project. Signed, marked and handicap accessible crosswalks shall be provided at all major intersections within the Town Center and residential development.

Retention/detention areas will be hydroseeded or landscaped per Developer standards with plant materials able to withstand inundation. The Madera Highlands plant palette includes plant species identified on-site and listed in the Recommended Plant Palette List.

All plant materials for Madera Highlands are to be selected from on-site vegetation or nursery stock selected from the Recommended Plant Palette List (See Appendix E). Plant materials for each of the landscape zones shall be selected from the plant palette identified in Appendix E.





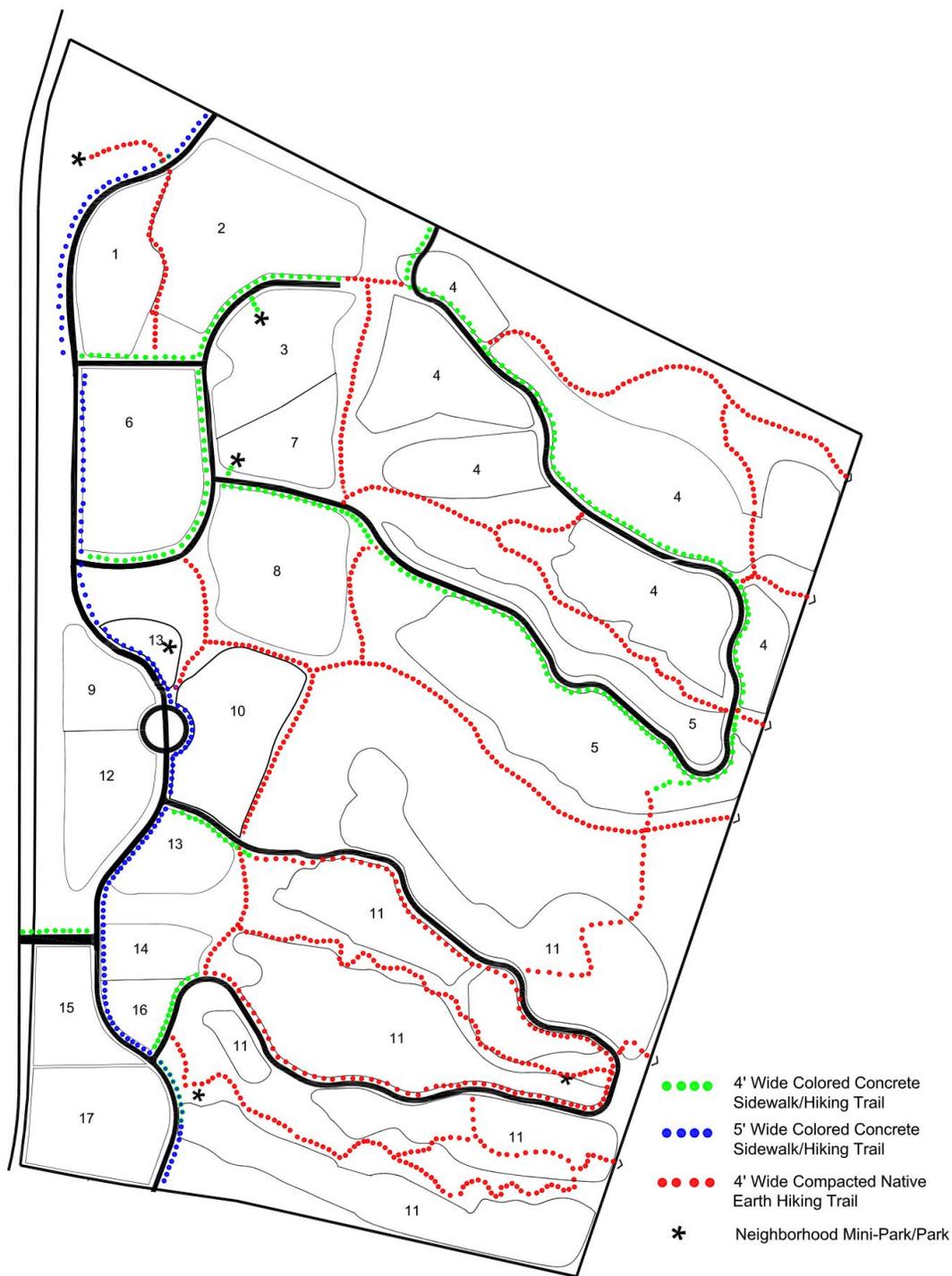
**J. Recreation and Trails Concept**

The Madera Highlands Specific Plan is a recreation-based community that relies on parks and open space areas to create its unique character and quality of life. Elements include open space associated with major drainageways, and a pedestrian/bike path system (See Exhibit III-J.1: Recreation Map). Trails will be non-lighted meandering paths made of compacted earth or decomposed granite.

Open space areas will help preserve natural vegetation, create buffers between incompatible land uses and create neighborhood linkages. Neighborhood parks and play areas will be accommodated in subdivision design wherever possible (See Exhibit III-J.2: Conceptual Neighborhood Mini-Park).

A master recreation and trails concept will be refined and submitted to the Town during the platting process. Trail and recreation improvements will occur in accordance with Exhibit VI-D.1: Preliminary Phasing Plan. All blocks will be linked by the trail system provided through open space areas and washes. A detention park located at the northwest corner of the planning area will be developed at the same time as the detention facility (See Exhibit III.J.1: Recreation Map). This will most likely occur during Phase I of development. The park that is planned along the southern boundary will likely be developed at the same time as the subdivision that surrounds it. The park associated with the proposed school site located in the Town Center will be developed with the school.

Exhibit III-J.1: Recreation and Trails Map



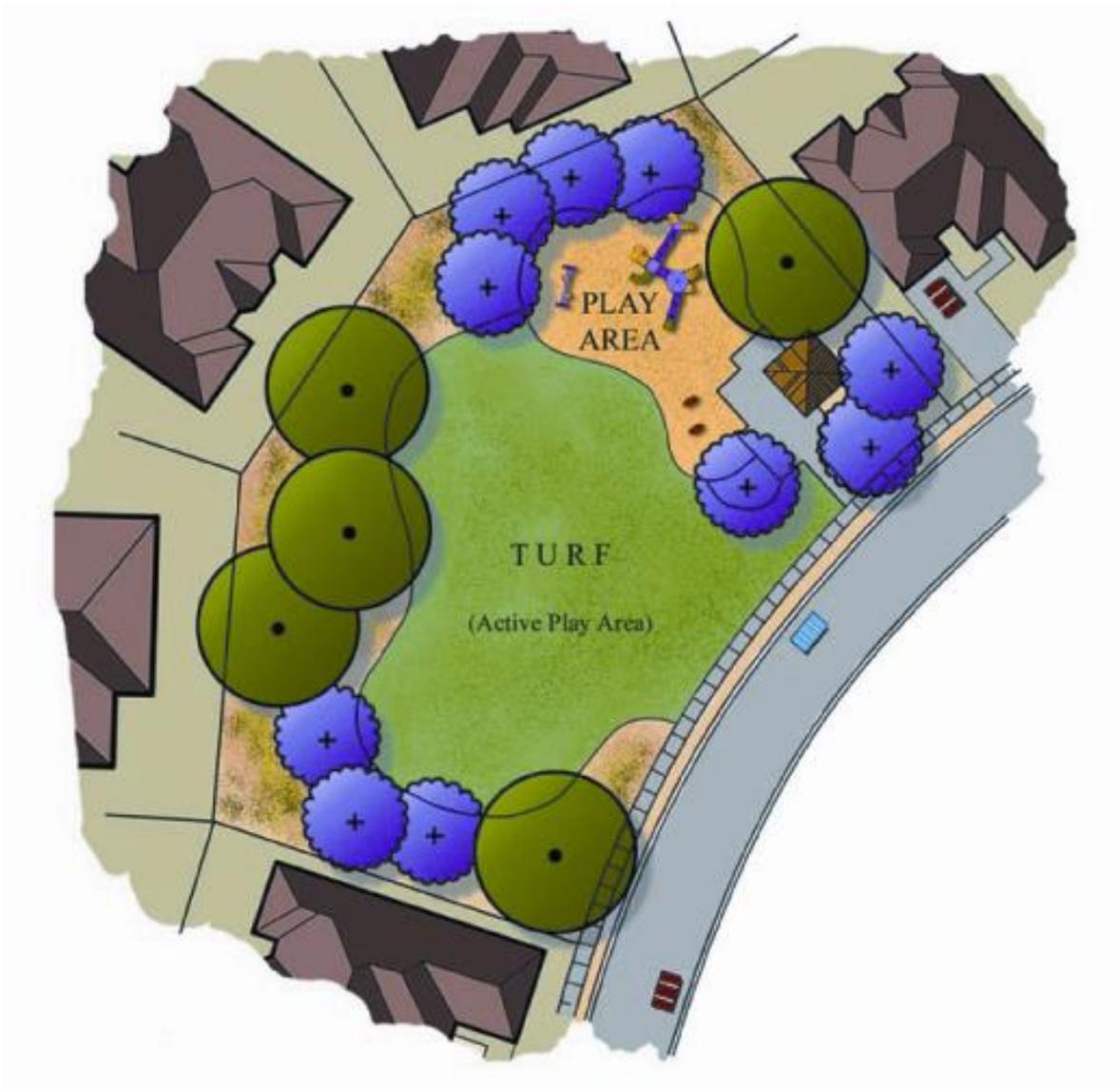
HARVARD INVESTMENTS



THE PLANNING CENTER  
110 S. CHURCH AVE., SUITE 6320  
TUCSON, AZ 85701 (520) 623-6146



Exhibit III-J.2: Conceptual Neighborhood Mini-Park



**K. Air Quality (Vehicular Traffic)**

Pedestrian and bicycle use will be encouraged to help mitigate any vehicular emissions caused by this project.

**L. Railroad and Noise Mitigation**

An open space buffer will be put in place on the eastside of the Southern Pacific Railroad. Buffering for residential development may include sound walls, vegetation, commercial uses, offices, and school facilities associated with the Town Center complex.

**M. Lighting Standards**

All outdoor electrically powered illuminating devices will be installed in conformance with the Pima County Outdoor Lighting Code as augmented by Section IV-I: Lighting Regulations. All development within Madera Highlands shall be subject to standards set forth in Section IV.B to ensure compliance with dark sky requirements.

## IV. DEVELOPMENT REGULATIONS

### A. Purpose and Intent:

These regulations will serve as the primary mechanism for implementation of the land uses for the Madera Highlands Specific Plan area after adoption by the Town of Sahuarita. The regulations contained herein provide an appropriate amount of flexibility to anticipate future needs and to achieve compatibility between land uses. This Specific Plan will conform to applicable Town of Sahuarita Regulations currently adopted that are not included or specifically addressed within this document. Primary development plan designations for the Specific Plan shall be as follows:

- Residential (MLDR, MDR, MHDR)
- Town Center (TC)
- Open Space, Parks, Natural Open Space (OS)

### B. Definitions:

The terms and definitions used in this Plan shall mean those defined in Chapter 18.03 of the Town of Sahuarita Zoning Code, with the following exceptions:

1. **Builder:** The builder is the purchaser of a development area, or portions of a development area, which will either develop or provide for buildings within their areas of leasehold interest or ownership.
2. **Building Coverage (Lot Coverage):** Building coverage includes all buildings, porches and balconies. It excludes driveways, service walks, and trellises.
3. **Building Story:** The portion of a building included between the upper surface of any floor and the upper surface of the floor next above, except that the topmost story, shall be that portion of a building included between the upper surface of the topmost floor and the ceiling or roof above.
4. **Commercial:** Any land designated for the establishment of structures in which to provide commerce or business modeled after the Town of Sahuarita CB-2 designation.
5. **Commercial Recreation:** Any land designated for the establishment of structures or areas in which to provide recreational activities such as health club/spa, country club, golf course, club house, pool(s), restaurant, lounge permitting liquor sales, kiosks, plazas and trails.
6. **Density:** The average number of units per gross acre.

7. Desert Trees: Mesquite, Palo Verde, Ironwood, and other trees listed in the Southern Arizona Water Resource Association and Town of Sahuarita Code 18.67.05 Section I.6 approved plant lists.
8. Design Review Committee (DRC): A committee consisting of 3 regular members to be formed by the Developer. The committee may consist of representatives from the landowners, homebuilders, homeowners association, and land planner/landscape architect consultants. Duties include the review of all proposals for construction, to ensure that they meet the intent and development philosophy of the community set forth by this plan.
9. Dwelling Unit Cap: The maximum number of dwelling units permitted within the Specific Plan.
10. Floor Area: Floor area includes the sum of the enclosed horizontal areas of each floor of a building measured from the exterior faces of the exterior walls, excluding areas used for elevator shafts, stairwells, floor space used for mechanical equipment room, attic space, off-street parking and loading, ways for ingress and egress from vehicular parking and loading areas.
11. Floor Area Ratio: The floor area ratio is the proportion of building square footage permitted for each square foot of land area of the development site or lot. It is computed by dividing the floor area by the lot area. For example, a 30,000 square foot building area on a ten thousand square foot lot has a floor area ratio of 3.0.
12. Gross Acres: The total number of acres within a planning area or subdivision, including roads.
13. Developer: The owner/primary developer who assigns responsible for overall community development, planning and construction of basic infrastructures such as roads, water, sanitary sewer, dry utilities and drainage facilities.
14. Multi-Family: A building or portion thereof containing two or more dwelling units.
15. Open Space: Any area, public or private, which is open (i.e. excludes structures) such as washes, buffers, retention/detention areas, setbacks, recreation areas, etc. Uses may include recreational activities that can be done in functional and/or natural open space areas, (i.e., hiking, walking, day picnicking, and golf).
16. Planning Area: A designated sub-area of the Specific Plan with specified permitted uses and regulations covering development; also referred to as "blocks" in the specific plan.

17. Public Facilities: Any non-commercial land use that is to be used and/or allocated for the general good of the public. These uses would include but are not limited to parks, utilities, treatment facilities, community activity centers and detention basins. Privately owned facilities will be subject to applicable land use regulations.
18. Recreation: Any private or public land use which relates to the pursuit of active or passive movement including but not limited to: tennis, golf, baseball, soccer, swimming, walking and jogging.
19. Residential: Any land designated for the establishment of structures in which to live.
20. Single Family: A site built building containing only one dwelling unit.
21. Sub Planning Area: Sometimes referred to in this area as "sub-block" or "sub-area." A further breakdown of a Planning Area or Block such as in the event caused by subdividing or platting the larger planning area.
22. Split Level: The portion of a structure where any habitable space may be vertically off-set more than 3 feet but less than 8 feet.

**C. General Provisions**

1. If an issue, condition or situation arises or occurs other than allowable density that is not addressed by this plan, regulations of the Town of Sahuarita that are applicable are as follows:

<b>Medium Low Density Residential (MLDR):</b>	Closest equivalent is CR-1 (18.21) and CR-2 (18.23) Single Residence Zone.
<b>Medium Density Residential (MDR):</b>	Equivalent is CR-3 (18.25) and CR-4 (18.27) Mixed Dwelling Type
<b>Medium High Density Residential (MHDR):</b>	Equivalent is CR-4 (18.27) Mixed Dwelling Type and CR-5 (18.29) Multiple Residence Zone.
<b>Town Center (TC):</b>	Equivalent is RVC (18.41) Village Center Zone.
<b>Public Facilities/ Open Space (PF/OS):</b>	No appropriate equivalent.

2. If an issue, condition, or situation arises that is not provided for in this Specific Plan, the Town of Sahuarita Zoning Code shall apply. This provision shall not be used to permit uses or procedures not specifically authorized by this Specific Plan or the Town of Sahuarita Zoning Code.
3. This Specific Plan may be amended by ordinance. Each request shall include all sections or portions of the Specific Plan that are affected by the change. All changes requested shall be submitted to the Planning and Zoning Director to determine if the amendment would result in a substantial change in plan intent and regulations. A substantial change is defined in Chapter 18.90.080 of the Town of Sahuarita Zoning Code.

Pursuant to Chapter 18.90.080 of the Town of Sahuarita Zoning Code, if the request is determined to be an insubstantial change subject to Planning and Zoning and final Town Council vote may approve the amendment. The following types of changes to explicit provisions of the Specific Plan may be made administratively by the Planning Director subject to appeal to the Planning and Zoning Commission and Town Council:

- a. The addition of new information to the Specific Plan maps or text that does not change the effect of any regulations or guidelines.

- b. Changes to the community infrastructure planning and alignment such as roads, drainage, and water and sewer systems that do not increase or decrease development capacity in the Specific Plan area.
  - c. The determination that a use may be allowed which is not specifically listed as permitted, but that are determined to be similar in nature to those uses explicitly listed as permitted. The Planning Director shall make this determination. The Planning Director shall inform the Planning and Zoning Commission and Town Council when an insubstantial change has been denied. The applicant may then appeal the Director's decision within 20 days of the Council's receipt of notification. If the request is determined to be a substantial change, the proposed amendment shall require a noticed public hearing and action by the Sahuarita Planning and Zoning Commission and Town Council.
4. Lot Size Flexibility Option: Minimum lot sizes within individual land use blocks may be reduced up to 20%, providing that an area of land equal to the net reduction be set aside as active open space within the same block.
5. Residential Density: Concentration of housing will be based on maximum number of residences per gross acreage.
- Medium Low Density Residential (MLDR) – up to 3 residences per acre.
  - Medium Density Residential (MDR) – up to 6 residences per acre.
  - Medium High Density Residential (MHDR) – up to 10 residences per acre.
  - Town Center (TC) – up to 22 residences per acre limited to no more than 55 acres of residential development. At a minimum, 15 acres will be required for commercial use.

#### **D. Land Use Plan Designations**

Land use designations have been assigned to each planning area identified in the Madera Highlands Specific Plan. Their permitted uses and development standards are described in the following sections.

**E. Development Area Categories**

**1. MLDR - (Medium Low Density Residential):**

a. Permitted Uses:

- 1) Single Family Residential;
- 2) Accessory Structures;
- 3) Parks, Playgrounds, and Community/Public Owned Buildings other than Hospitals;
- 4) Recreation/Open Space, Retention, Detention;
- 5) Public Facilities.

b. General Development Standards

- 1) Minimum Lot Area: Eight thousand (8,000) square feet.
- 2) Maximum Building Height: Twenty-four (24) feet.
- 3) Maximum Building Coverage: Sixty (60) percent
- 4) Building Setbacks:
  - Front: Dwelling unit: Twenty (20) feet  
Garage (side entry): Eight (8) feet  
Garage (front entry): Twenty (20) feet
  - Side: Six (6) feet
  - Rear: Twenty (20) feet

**2. MDR - (Medium Density Residential):**

a. Permitted Uses:

- 1) Single Family Residential attached units, including zero lot line products.
- 2) Educational Facilities;
- 3) Recreational Facilities;
- 4) Accessory Structures;
- 5) Parks, Playgrounds, and Community/Public Owned Buildings other than Hospitals;
- 6) Public Facilities.

b. General Development Standards - Residential

- 1) Minimum Lot Area: Four thousand five hundred (4,500) square feet.
- 2) Maximum Building Height: Twenty-four (24) feet.
- 3) Maximum Building Coverage: Sixty (60) percent
- 4) Building Setbacks:
  - Front: Dwelling unit: Fifteen (15) feet  
Garage (side entry): Eight (8) feet  
Garage (front entry): Twenty (20) feet
  - Side: None required from the side property line if attached; required minimum of six feet between residential structures if detached.
  - Rear: Twenty (20) feet (Z-lots, if used, may be reduced to a ten (10) foot setback).

**3. MHDR - (Medium High Density Residential):**

a. Permitted Uses:

- 1) Single Family Residential;
- 2) Educational Facilities;
- 3) Recreational Facility;
- 4) Accessory Structures;
- 5) Parks, Playgrounds, and Community/Public Owned Buildings other than Hospitals;
- 7) Public Facilities.

b. General Development Standards

- 1) Minimum Lot Area: Three thousand five hundred (3,500) square feet.
- 2) Maximum Building Height: Twenty-four (24) feet.
- 3) Maximum Building Coverage: Sixty (60) percent.
- 4) Building Setbacks:
  - Front: Dwelling unit: Fifteen feet (15)  
Garage (side entry): Eight feet (8)  
Garage (front entry): Twenty feet (20)
  - Side: None required if attached, required minimum of six (6) feet between residential structures if detached.
  - Rear: Fifteen (15) feet

**4. TC - (Town Center):**

a. Permitted Uses:

- 1) Municipal Facilities;
- 2) Commercial;
- 3) Financial Institutions;
- 4) Office;
- 5) Residential Dwelling Units;
- 6) Commercial Recreation;
- 7) Accessory Structures;
- 8) Parks, Playgrounds, and Recreation/Open Space;
- 9) Golf Course and Maintenance Facilities;
- 10) Public Facilities;
- 11) Child Care;
- 12) Churches.

b. General Development Standards - Non-Residential

- 1) Minimum Lot Area: None
- 2) Maximum Building Coverage: Sixty (60) percent
- 3) Maximum Building Height: Thirty-four (34) feet
- 4) Maximum Floor Area Ratio: Two (2)
- 5) Building Setbacks:
  - Front: Fifteen (15) feet

- Side: None
- Rear: Ten (10) feet

- 6) Parking: Shall be in accordance with Chapter 18.75 of the Town of Sahuarita Zoning Code.
- 7) Minimum Landscape Coverage: Eight (8) percent of gross site area.
- 8) Minimum acreage for commercial use: 15 acres.

c. General Development Standards - Residential

- 1) Average area per dwelling unit: 2,000 square feet.
- 2) Minimum Lot Area: None for attached; for detached, consistent with comparable residential development areas.
- 3) Maximum Building Height: Twenty-nine (29) feet.
- 4) Maximum Building Coverage: Sixty (60) percent
- 5) Building Setbacks:
  - Front: Twenty (20) feet
  - Side: None required from the side property line, required minimum of seven (7) feet between residential structures.
  - Rear: Twenty (20) feet

5. Parks:

a. Permitted Uses:

- 1) Parks, Playgrounds, and Community/Public Owned Buildings other than Hospitals;
- 2) Commercial Recreation;
- 3) Public Facilities;
- 4) District Owned Facilities;
- 5) Private Water Company;
- 6) Golf Course and related facilities;
- 7) Maintenance Facility;
- 8) Active or Passive Recreation.

b. General Development Standards - Non-residential

- 1) Minimum Lot Area: None
- 2) Maximum Building Coverage: Forty (40) percent
- 3) Maximum Floor Area Ratio: Fifty (50) percent
- 4) Maximum Lot Area: None
- 5) Maximum Building Height: Not to exceed twenty-four (24) feet unless approved for public facilities.
- 6) Minimum Building Setbacks:
  - Front: Thirty (30) feet
  - Side: Ten (10) feet
  - Rear: Twenty (20) feet
- 7) Parking: Shall be in accordance with Chapter 18.75 of the Town of Sahuarita Zoning Code.

- 8) Minimum Landscape Coverage: Eight (8) percent of gross site developed areas of active uses listed in 5a.

c. General Development Standards:

- 1) Utility and road crossings per Design Review Committee and Town Engineer approval.
- 2) Road maintenance per Design Review Committee approval.
- 3) Trail development per Design Review Committee Approval.

**6. Vegetation Preservation/Salvage Standards:**

Landscape design and site planning will aim to preserve habitat elements compatible with native desert wildlife. Wherever possible, native plant species will be used for vegetation and revegetation on site pursuant to Arizona Game and Fish comments (See Appendix C). Vegetation schemes will aim to re-establish and maintain vertical diversity with native plant species.

Disturbance will be mitigated through the following measures: *Carnegiea gigantea* (Saguaro), *Coryphantha scheeri robustispina* (Pima pineapple cactus), *Cercidium microphyllum* (Foothill Palo Verde), *Cercidium floridum* (Blue Palo Verde), *Ferocactus species* (Barrel Cactus), and *Prosopis species* (Velvet Mesquite).

- 1) Saguaros shall be preserved in place where practical as a first option. As a second option, all healthy, moveable specimens (as determined by the Town's approved environmental consultant) shall be relocated to other approved locations within the development block they originally occupied. Every effort shall be made to preserve existing saguaros. Unhealthy or non-salvageable specimens that are destroyed as a result of development of the property shall be replaced on a one to one basis within the development block where the original specimen was located. Saguaro survival shall be monitored. Any saguaros that die within five years from the date of transplantation or placement, shall be replaced by a minimum five nursery grown saguaro specimen. For each relocated saguaro, an additional two nursery grown saguaros shall be planted within the site area. Mesquites and paloverde trees of 4 inch caliper or greater shall be transplanted at a 3 to 1 ratio. Mesquites and paloverde trees of 4 inch caliper or greater destroyed by development shall be replaced at a 3 to 1 ratio.
- 2) A landscape plan will be provided at the time of tentative plat or development plan submittal, which contains an inventory of all native trees on the site of four-inch caliper

size or greater. The inventory shall include documentation of the existence or absence of endangered or threatened plant species on the site. The landscaping plan will provide for either the transplanting, preserving or planting of at least as many trees as were originally inventoried on the site. Newly planted nursery trees will be fifteen gallon size or larger. This provision will pertain to all construction activity within the plan area.

- 3) Construction Process/Mitigation Plan: A plant preservation/mitigation plan shall be submitted to the Town in accordance with Pima County standards prior to any site development to clarify mitigation measures that will be used for any disturbed riparian areas and/or Class I Desert Upland Vegetation. The Biological Assessment prepared by Darling Environmental and submitted to the Town under separate cover addresses the proposed action, affected environment, effects of the proposed action, and mitigation measures including avoidance, transplanted, and monitoring of Pima pineapple cacti during and after project construction. The document provides information that assures construction of the proposed project will be performed in a way that results in conservation of Pima pineapple cactus and their habitat, as well as other Arizona native wildlife and plant species.
- 4) Construction Process Protection: Conservation measures in the land plan include permanently setting aside approximately 2.4 acres as a Pima pineapple cactus preserve. Cacti at risk of damage during construction will be transplanted to the preserve, which will be owned and maintained by the Madera Highlands Homeowners Association. This association will also be responsible for maintaining the preserve of cactus.

## **F. Public Facilities Regulation**

1. **Utility Lines**: New utility lines within the project will be placed underground to provide an attractive and marketable development. Exceptions to this general rule may occur as a result of specific utility company rules and regulations or where the costs of under grounding, due to the size and nature of a specific installation, are prohibitive. Additionally, temporary overhead lines may be used on an interim basis. A condition of rezoning shall be the augmentation of the 21-inch diameter sewer line prior to development to the satisfaction of Pima County Wastewater.

## G. Hydrology/Drainage Regulations

1. **Encroachment into Regulatory Floodplains:** Encroachment into the newly created regulatory floodplains (i.e. those with a 100-year flow of more than 100 cfs) will be consistent with the Town of Sahuarita regulations and will be allowed for the following:
  - Building sites (on a limited basis);
  - Roadway dip crossings;
  - All-weather street crossings;
  - Channelization/bank protection as subject to the review and approval of the Town of Sahuarita or District;
  - Retention basins and their associated outlets;
  - Utility crossings in accordance with the previously-stated Public Facilities policies;
2. **Maintenance:** All retention basins, channeled drainageways, and naturally-preserved washes shall be privately maintained to preserve their hydrologic integrity, function and efficiency, and to represent suitably aesthetic features.

## H. Archaeological Regulations

The Madera Highlands property has been subject to a full pedestrian cultural resource inventory by a qualified archaeological consultant. In consultation with the Town of Sahuarita, appropriate measures will be taken to either avoid or mitigate impacts to sites that are determined to be significant. Archaeological sites have been recorded and will be mitigated by the developer to Arizona State Museum guidelines prior to any disturbance in accordance with approved archaeological studies. Site locations have been registered with the Arizona State Museum.

## I. Lighting Regulations

All outdoor electrically powered illuminating devices shall be installed in conformance with the Town of Sahuarita Outdoor Lighting Code as augmented by this section.

All development within Madera Highlands, whether public or private, shall be subject to these standards.

All applications for subdivision or development plan review will include a description of the types of illumination devices proposed for the development and a map showing the location of those devices. These plans will be submitted to the Whipple Observatory for review and comment.

All lighting sources shall be fully shielded to reduce dispersal of ambient light. External lighting shall be limited to that which is necessary to provide the functional requirements of safety, security, and identification. Mercury vapor

lighting shall not be used. Lighting of residential entryway signs shall be permitted in all areas.

In and adjacent to residential areas, and except for light standards for roads, parking lots, driveways and other common areas, light fixtures shall not exceed forty-two inches in height and shall consist of ballard or other low-intensity, low profile type of lighting. Standards shall be spaced sufficiently to create isolated pools of light rather than a contiguous, saturated condition.

Parking lot lights shall be shielded and located in a manner to direct light away from adjoining properties and sky.

## V. DESIGN GUIDELINES

### A. Introduction

**Purpose:** These design guidelines provide guidance to the Design Review Committee (DRC) for future development, without the regulatory force of development standards and regulations. These design guidelines will provide for creative flexibility while meeting basic objectives of the Town's policies and regulations.

These guidelines are designed as an information source for site development, landscape architectural, architectural and signage features that create the community image of Madera Highlands. Adherence to these design guidelines will result in high quality appearance and development plan compatibility. The guidelines provide criteria for builders, planners, architects, landscape architects, and civil engineers under the direction of the developer. They also provide a foundation for development of more formalized Covenants, Conditions, and Restrictions (CC&R's). The integration of these guidelines into CC&R's will guarantee quality design consistency throughout all development phases of this project.

A design review committee will be formed by the developer to review development proposals in Madera Highlands. This review procedure will ensure that the high standards defined in this document are maintained in each phase of development. These design guidelines are conceptual in nature allowing flexibility for change. The Design Review Committee will have the power to determine changes are in the best overall interest of the Madera Highlands community. They will also have the power and authority to revise these guidelines. These guidelines will at a minimum meet the Town of Sahuarita Chapter 18.82 design standard for commercial uses. Copies of any guideline changes shall be copied to the Town records for permitting reference.

**Design Concept:** The theme of Madera Highlands is a recreation-oriented Southwest Desert Community in the high southern Arizona desert. The images of such a community include strong unifying elements. Typical elements are as follows: building materials; simple muted colors for walls; simple and uncluttered detailing; angled and varied building perspectives; and streets that are equally shared between pedestrian and vehicle. The design elements for Madera Highlands that form this distinctive character are:

- Adobe/Native Stone
- Off-white, Muted Desert Tones or Soft Pastel Building Wall Colors
- Smooth or Sand Finish Stucco
- Appearance of "Thick" Walls
- Courtyards, Intimate Spaces
- Small Details
- Offset Wall Planes
- Fountains and other Unique Details

- Building Masses with One and Two-Story Architecture

The elements to avoid or minimize are:

- Simple, Box-like Architecture without Articulation
- "Woodsy" or Rustic Architecture
- Wood Siding
- Gambrel or High Pitched Roofs

## **B. Design Review**

**Design Review Committee:** The Developer will establish and appoint the Design Review Committee (DRC) before any building development begins. The DRC functions will be to refine these guidelines, establish review procedures and administer the design review process for Madera Highlands. It shall consist of 3 regular members and one alternate member. The Committee may consist of representatives from landowners, homebuilders, homeowners association, architects, and land planner/landscape architect consultants. The DRC has the authority to interpret the Guidelines in the event the Guidelines may not be explicit in a particular situation. The Committee may also amend the Guidelines by a two-thirds majority vote. Guidelines will follow design ordinance standards and safety. Permits will have to be acquired from the town prior to construction.

**Design Review Procedures:** Establishment of review procedures will be based on the following guidelines:

- Pre-design meeting with the builder, owner and/or architect to offer direction in preparing preliminary plans.
- Review of preliminary plan submittal to determine general conformance with these guidelines.
- Review fees (if any) may be established by the DRC.
- Following preliminary approval, a review of the final submittal, containing information detailed enough to allow the DRC to determine compliance with these guidelines.
- The right to inspect all work in progress and give notice of non-compliance shall be reserved by the DRC.
- The right of final approval for all completed construction to assure consistency with these guidelines.

## C. Site Planning

### GENERAL CRITERIA

The following guidelines supplement Design Standards applicable under Chapter 18.82 of the Town of Sahuarita Zoning Code.

**Purpose and Concept:** Madera Highlands will be developed as a multi-theme community reflecting desert environment or agricultural heritage as appropriate. The placement of buildings, roads, and utilities will have a major influence over the character of Madera Highlands. This requires an understanding of existing site opportunities and constraints, including building form, orientation, coverage, setbacks, parking, utilities, loading docks, storage areas and access.

Density flexibility for residential land use blocks shall be encouraged as an incentive to promote quality design that fosters a sense of community by integrating recreational features and open space. The density flexibility option shall be exercised on a block-by-block basis to assure the best use of terrain, views, and other site elements (See Section IV.C.4: Lot Size Flexibility Option, and Section VI.G: Transfer of Density).

Open space features such as the pecan trees will provide an improved sense of neighborhood identity and cohesiveness. Additionally, this will provide a natural visual interruption of the built environment, enhancing its aesthetic quality from both on and off site.

### TOWN CENTER AND COMMERCIAL DESIGN CRITERIA

**Product Image:** The Town Center will be placed in a highly visible location and reflect the image of the entire Madera Highlands development. The southwestern desert planting design should be strongly expressed in concert with this feature. Elements such as pecan trees that are reminiscent of the agricultural past of the area are encouraged in site design.

Retail and office structures are intended to be complementary to the Town Center development. A sense of excitement should be reflected and created by the use of high quality materials reflecting the southwestern desert theme, complimenting Town of Sahuarita Chapter 18.82 Design Standards. Commercial structures should be a mix of one, two and other multi-story construction. Commercial development will be pedestrian oriented.



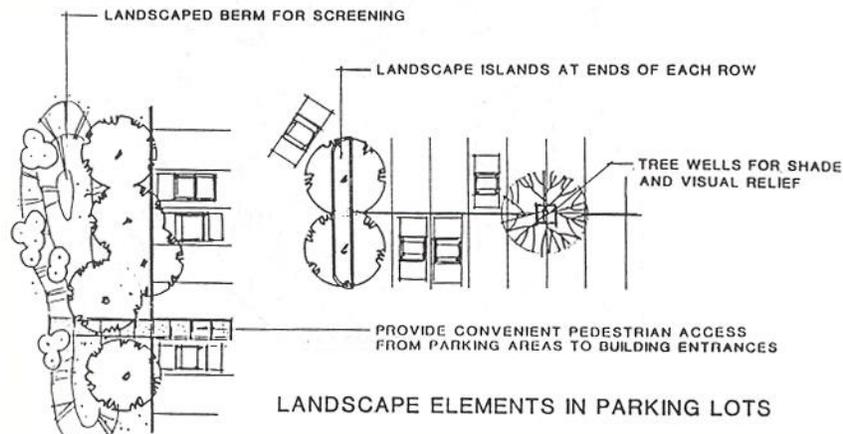
**Priority Elevations:** The Town Center and related commercial buildings will be seen from most angles and will require a continuity of colors, materials, and details on all elevations. The incorporation of similar character stucco walls, roof styles and other components is encouraged. Pursuant to Town regulations, side and rear facades will have attention to detail and character of the front façade.

**Parking Areas:** Parking areas are recommended to be located along internal street frontages for ease of access and to create a sense of expanded streetscape by combining street and perimeter parking landscaping. No parking shall occur within 15 feet of any travel lane. Views of the parking areas should be filtered from traffic by landscaping within the required setback. Screening should be achieved by massing of trees and shrubs or by using berms of sufficient height.

Parking access from major streets should be minimized. Entries should be located as far as possible from street intersections. Retail complex entries can be clearly delineated through the use of plant massing, repetition of elements of a theme, and patterned concrete or pavers to differentiate them from sidewalks. Pedestrian linkages will be incorporated into parking lot design, pursuant to Town regulations.

**Service Areas:** To the extent practical, service areas should be concealed from view behind buildings or through the use of landscaping or screening walls in keeping with the Desert Community theme of Madera Highlands.

**Utilities:** To the extent practical, all new utility lines shall be underground pursuant to Town regulations. If existing utility lines need to be upgraded or moved, they shall be re-installed underground if economically feasible.



### OPEN SPACE/DRAINAGEWAYS CRITERIA

**Product Image:** Open space and drainageways will include a plant material buffer.

**Parking Areas:** Parking areas are recommended to be located along internal street frontages for ease of access and to create a sense of expanded streetscape by combining street and perimeter parking landscaping. No parking shall occur within 15 feet of any travel lane. Views of the parking areas should be filtered from traffic by landscaping within the required setback. Screening should be achieved by massing of trees and shrubs or by using berms of sufficient height.

Parking access from major streets should be minimized. Entries should be located as far as possible from street intersections. Retail complex entries can be clearly delineated through the use of plant massing, repetition of elements of a theme, and patterned concrete or pavers to differentiate them from sidewalks. Pedestrian linkages will be incorporated into parking lot design, pursuant to Town regulations.

**Service Areas:** To the extent practical, service areas should be concealed from view behind buildings or through the use of landscaping or screening walls in keeping with the Desert Community theme of Madera Highlands.

## RESIDENTIAL DESIGN CRITERIA

**Product Image:** Homes will promote the southwestern architectural image of the Madera Highlands Specific Plan. Careful attention shall be given to the building massing, scale, and form and their relation to public areas.

**Priority Elevations:** Homes will present a continuity of colors, materials and details on elevations. Priority in articulation should be given to those sides visible from streets and open spaces. The builder will submit street-scene elevations of the differences and variety of building types and elevations to the DRC.

**Building Setbacks and Orientation:** The design of residential developments can be unique and provide varied streetscape appearances. Providing plans with differing setbacks fosters a variety of elevations.

Projects should be planned carefully to maximize the feeling of open space within the development. Design approaches include curving streets, road orientation towards open areas and the creation of views.

**Garages:** Front entry garages are allowed if the garage is set back a minimum of 20 feet from the front property line. Side entry garages should be set back a minimum of 8 feet in all land-use categories. Deeper setbacks are encouraged. The primary garage facade facing the street on side entry garages must be articulated with window openings and shadow relief. Garages should have a single story mass at the front of the building to provide an architectural transition to two story massings. Side-entry garages are encouraged to break up the monotony of all garage doors being parallel to the street.

**Front Privacy Walls:** Front privacy walls finished to match the buildings are encouraged in all residential development. Tiles, ceramic tile details, repetition of the cornice band detail and use of accent trim color bands are also encouraged.

**Rear Elevations:** Rear facades which can be seen from open community areas will have "front elevation" quality. Houses on corner lots should be joined by a side yard wall of uniform design and color as the main residence. The wall should have a coordinated architectural connection with the house when visible from streets or open spaces.

## STREET DESIGN CRITERIA

**Street Standards:** A comprehensive circulation system provides the framework for the Madera Highlands community structure (See Exhibit III-D.1: Circulation Plan). Major goals include:

- Provide linkages and ease of movement between neighborhoods, varying land uses, and surrounding areas.
- Maintenance of a circulation according to traffic needs.
- Coordination access drives for public use areas to promote the efficient flow of traffic. Opposing intersections should be spaced a minimum of one hundred and fifty feet apart to minimize left turn conflicts.
- Enhance transportation routes through a comprehensive landscape treatment.
- Plan neighborhood street systems to serve local traffic demands, discouraging non-neighborhood traffic.
- Provide pedestrian and bike paths throughout development to encourage increased mobility for non-vehicular traffic.

### D. Architectural Guidelines

**Character/Design Details:** The architectural character of Madera Highlands is reminiscent of the styles and feeling of the Sonoran Desert. It is the intent of the Developer to encourage variety and individuality within a framework of Desert Community styles.

Southwestern architectural styles that are reflective of historic settlements in the area approved by the Developer or the Design Review Committee are strongly recommended for all site-built structures within Madera Highlands.

The following suggested style for site-built structures within Madera Highlands, are derived from the design heritage of Tucson, Southern Arizona, and the Sonoran Desert:



**Mission**



**Spanish Colonial**



**Territorial**



**Pueblo**



**Contemporary Southwest**

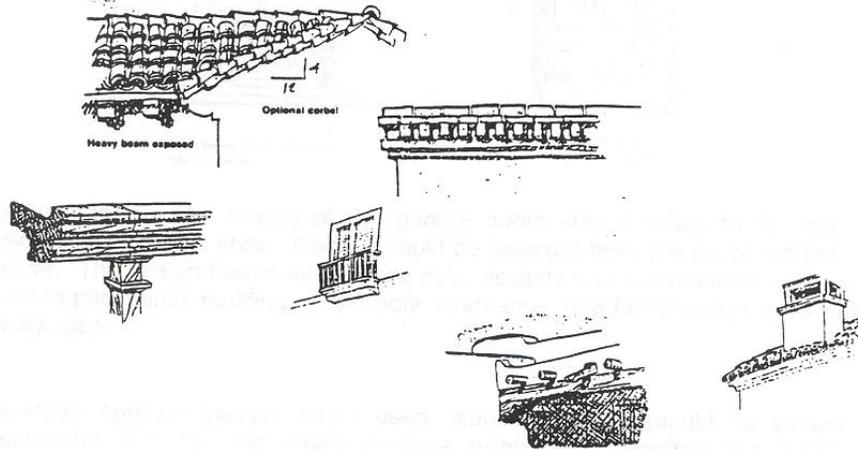
The recommended styles have many similarities of scale, proportion, massing and color that are uniquely appropriate to the southwest. Each of the styles has a common bond of detailing and plan form that is related to the environmental design requirements of the region.

Each of the styles is rarely found in its pure form. Cultural blending, environmental responses, and the availability of building materials have produced a unique regional character.

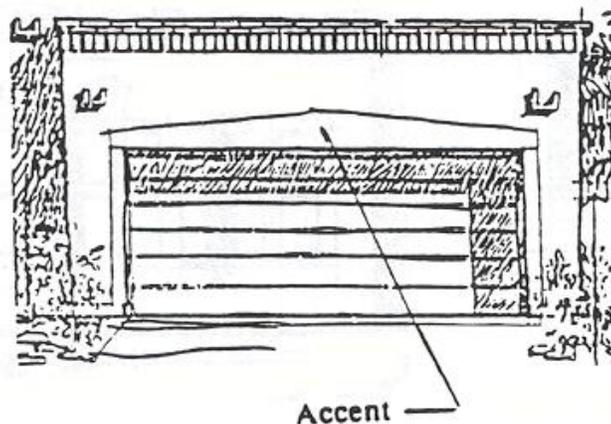
**Materials:** A smooth, sand or lace stucco look is typical. Accent materials and colors used to complement the stucco are encouraged in moderation. The uses of tile, wood, stone or brick are permitted as design accents only.

- Recommended primary building materials include:  
Concrete or Adobe Block;  
Cement Stucco over Concrete Block or Wood Frame;  
Slump Block (mortar wash only);  
Natural Stone.
- Recommended accent building materials include:  
Adobe & Fired Adobe Brick;  
Mud Stucco over Stabilized Adobe Block;  
Split Face Concrete Block;  
Brick and Mortar Washed Brick.
- All exposed building materials must be finished.
- All exposed wood shall be treated with a preservative, stained or painted.
- The use of wood by-products or simulated wood siding materials is prohibited.
- No reflective building materials shall be used.

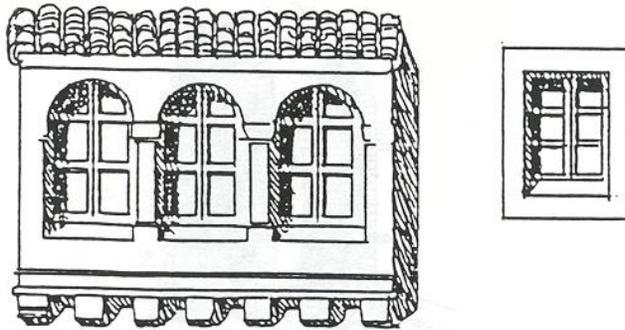
**Color Palette:** Color is intended to act as a primary theme-conveying element. In general, wall colors should be predominantly off white, muted earth tones or light pastels with contrasting accents. The Developer will provide a list of recommended colors. Buildings are encouraged to have several colors including; one base color with accent colors. The accent colors would typically be used on the cornice bands and window articulation.



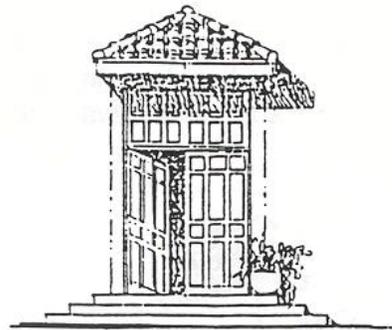
**Roofs and Pitches:** Roof styles will be indigenous to the selected architectural style. Actual colors will be subject to the Developer review. Roof slopes should compliment the building mass. The slope of all pitched roofs shall be no flatter than 3:12 ratio. Simple short roof overhangs are appropriate for Spanish Colonial, Southwest Traditional, and Mediterranean styles. Flat roofs with parapets are suitable for Territorial and Pueblo styles.



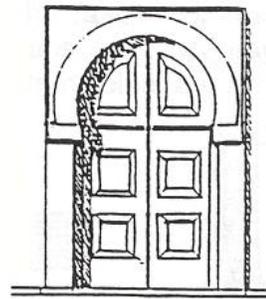
**Windows:** The proportion of windows to exterior surface will be carefully considered by the Design Review Committee for each elevation. Window design should be appropriate for the chosen architectural style. Windows typically have rectangular, round or arched headed openings. Recessed windows are an important characteristic of Spanish Colonial, Mediterranean and Pueblo styles. Projecting windows may be used to add articulation to wall surfaces. Territorial and Southwest Traditional style windows are set flush with the wall surface. Silver, gold, or mill finish window frames are prohibited.



**Doors:** Doors, like windows in southwestern architecture, are typically rectangular or round headed. Doors should relate to the selected architectural style. The doorway should be fully recessed in order to convey the appearance of thick, protective exterior walls in Spanish Colonial, Mediterranean and Pueblo styles. In Territorial and Southwest Traditional architectural styles, doors are set flush with the wall surface. Southwestern doors are traditionally wood with a "heavy" look as well as being detailed.



Tile hood over double wood doors



Horseshoe arch and double door

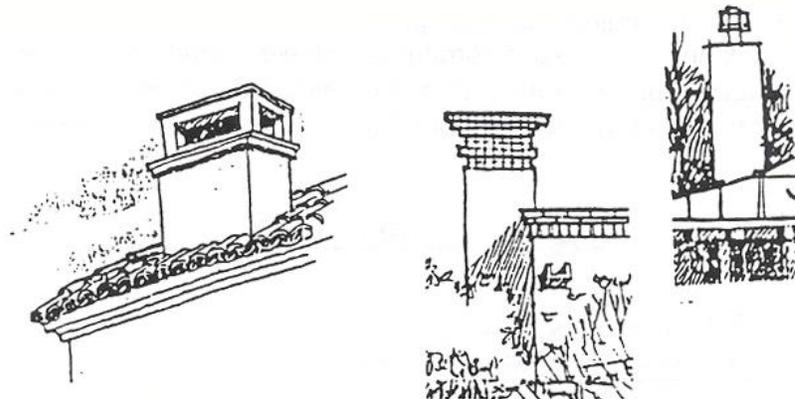
**Garage Doors:** The design of the garage doors should relate to the main building architectural style. Colors should be selected from the approved color palette. The design treatments include color accents and architectural features such as pediments, molding, small roofs, overhangs, and furr-outs to recess the garage door.

**Columns and Archways:** When used, stucco columns should be square, rectangular or round, and appear massive in thickness. Capitals and column bands are encouraged. At the bottom of the column a base should be incorporated into all columns. The column height should be 4 to 5 times the width of the column.

The use of arches is appropriate for select southwestern architectural styles. Arches may have variations such as semi-circular, parabolic, or flat, and shall be in regular series with columns as supports or walls. Covered walks, patios and colonnades should be enriched by having textured paving.



**Chimneys:** Chimneys should continue the same texture and materials of the building. The chimney caps should repeat the fascia cornice band or other treatment that integrates the trim colors. Caps are encouraged along with accents. Decorative metal caps that match the trim colors are permitted.



Madera Highlands Open Space Plan  
January 2018

**Gutter and Downspouts:** Exposed gutters will be colored to match the roof or wall material. Exposed downspouts will be colored to match the surfaces to which they are attached.

**Skylights:** Skylights are to be designed as an integral part of the roof. Skylight glazing shall be clear or solar bronze. White glazing is prohibited. Skylight framing materials must be colored to match or blend with the roof.

**Mailboxes:** Mailboxes should be coordinated within each individual development area. Their color and materials should be coordinated with the structure(s) it serves. The developer will review other standards for mailboxes. Links to neighborhood center and recreation node themes will be encouraged.



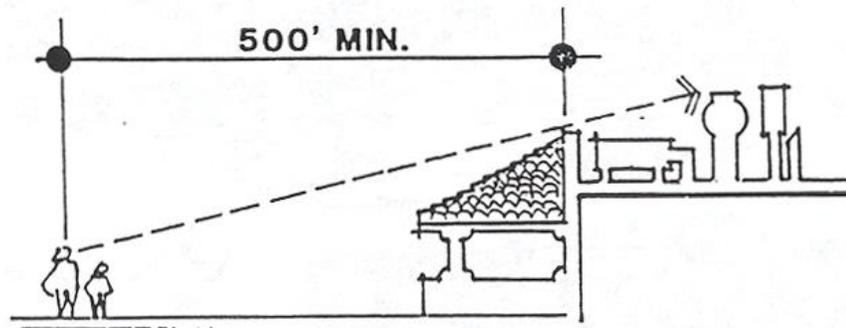
GROUP MAILBOXES

**Exterior Lighting:** All exterior building lighting will be a consistent southwestern desert theme and meet or exceed the *Pima County Outdoor Lighting Code Requirements*. Energy conserving lamps are encouraged.

**Solar Panels:** Solar panels may be used subject to Design Committee Review, but must be screened from view.

**Awnings:** Fabric awnings are permitted in moderation. Metal awnings will be reviewed by the Developer.

**Mechanical Equipment:** Air conditioning/heating equipment may not be roof mounted. Soft water tanks, electric self-timer boxes for sprinklers or exterior lighting must be screened. Satellite dishes may be permitted, subject to Design Committee Review and the cable must be in a conduit matching the color of the building.



**Security Gates and Gate Arms:** Security gates and gate arms will be subject to review by the Developer. Approval by the appropriate jurisdictional fire department will also be required.

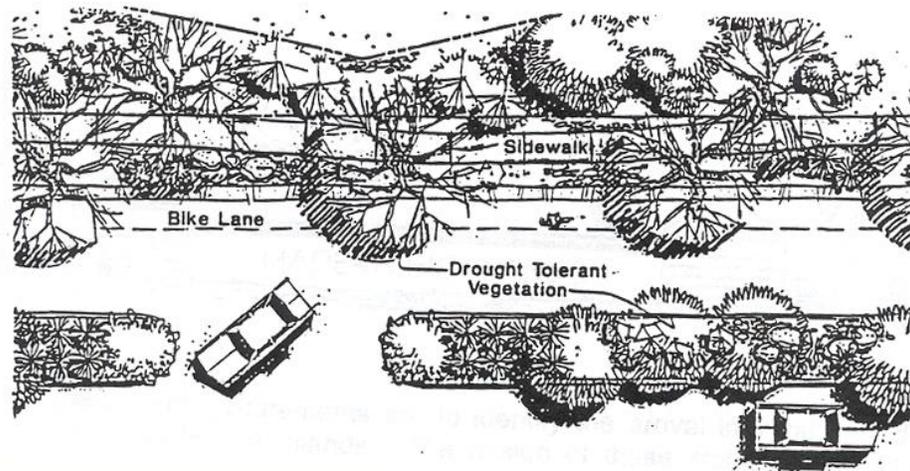
## E. Landscape

**Purpose and Concept:** The purpose of establishing Landscape Architectural Design Guidelines is to provide a reference for planning and designing of development. The intent of these guidelines is not to require rigid adherence to a particular landscape style or to limit the range of materials or colors. More correctly, the guidelines should be used to achieve continuity and a standard of quality throughout the larger visual context.

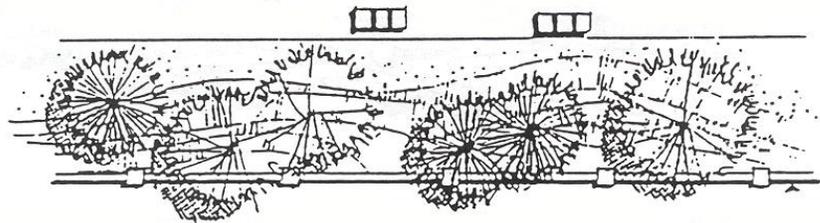
A landscape-planting theme will be established creating a community framework for all common and public areas. Consistent landscape planting will be encouraged to use native southwestern plants and other drought tolerant species (See Appendix E - Recommended Plant Palette). This landscape structure will provide each development area with a separate identity, as well as act to link the various areas together in a cohesive community. Landscaping should be in compliance with the Town of Sahuarita's landscape ordinance.

**Streetscape Concept:** The streetscape is among the most prominent landscape elements within the project. The intent is to provide unity and variety while drawing upon the natural desert and riparian heritage of the property or the agricultural (pecan orchards) and ranching heritage. There are two levels of streetscape treatment in Madera Highlands.

**Primary Corridors:** The primary corridors through the project set the overall community theme. Thematic plantings and treatments will be consistent along these corridors and will be drought tolerant. The use of pecan trees native to this site will also be encouraged. Recommended plant materials are listed in Appendix E.



**Interior Project Streets:** Individual neighborhoods may feature landscaping or street tree themes to create neighborhood identity (See Exhibit III-D.2: Street Cross Section A-A). Plants are to be selected from the Appendix E Plant Palette.



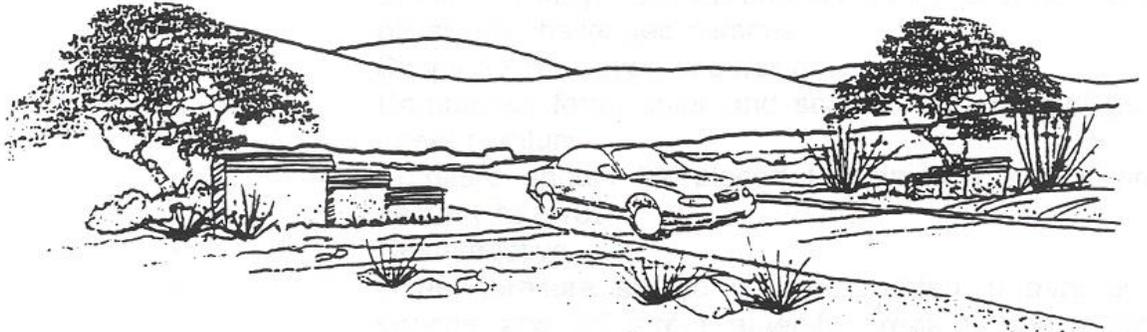
**Entries:** Madera Highlands contains a series of entry features with an integrated design of landscape, hardscape, monumentation and signage. Entry features aid in defining the community's character and presents an introduction to the development.

Each parcel may have a unique entry feature to provide individual identity to the development. Entry features may include a combination of some of the following elements: entrance paving (such as bomanite), fountains, distinctive landscape treatment, planters, special wall treatment, etc. Landscape plant palette applies to all entries.

The Primary Project Entry Statements serve as a gateway to the project. The statement, seen from a distance, provides the backdrop for the project name and logo. It signifies arrival and establishes the theme of the development. Primary entry statements occur at the primary entrances on the Old Tucson/Nogales Highway and the main north, south collector through the Specific Plan.



The Secondary Entry Statements are to identify the arrival into the individual villages within Madera Highlands. The design of these statements shall be similar to the Primary Statements but smaller in scale. The Secondary Statements will be along the main collector roads.



**Project Edges.** The project edges are an important landscape element within the project. The boundary of the project should not be an abrupt edge but should be a gradual transition to the adjoining landscape. The intent is to provide unity and variety while drawing upon the natural desert and riparian heritage of the property. Vegetation will also serve to buffer the property from any surrounding uses that may have a negative impact on the development.

Where Madera Highlands adjoins an off-site roadway, treatment may be required to screen residents from traffic. The use of dense plantings of native evergreens and shrubs will be used for sound attenuation and visual screening. A fence or wall screened on both sides by native plant material may be used in combination as well. Plants for project edges should be selected from the plant palette found in Appendix E. Walls over 75 feet long and 3 feet high that are visible from the street shall have varied alignment and articulation, including but not limited to jogs, notches and curves.

The edge of the property adjoining undeveloped desert should have a treatment area to create a transition to a more natural state. Informal plant groupings are encouraged. Walls to a maximum of 6 feet height are allowed along the desert edge.

Madera Highlands property adjoining residential or school areas will require a landscape treatment to preserve the privacy of Madera Highland residents. In these areas visual screening and noise buffering are suggested. Dense hedges or walls are permitted.

**Hardscape Design Elements:** Hardscape design elements serve aesthetic and functional uses. Elements such as paving, mailboxes, benches, bus shelters, and trash receptacles create opportunities to reinforce the design theme of Madera Highlands.

The following are criteria to be used in evaluating all hardscape items:

- Security, safety, comfort, and convenience of the user (including physically challenged persons).
- Simplicity in function and design.
- Compatible form, color and scale with surroundings and other street furniture.
- Furniture should be placed to minimize safety, policing and security hazards.
- Cost effective.
- Street furniture should be incorporated in park or landscape spaces and off-street amenity areas to the greatest extent possible.

**Drainageways & Retention/Detention Basins:** It is important for drainageways to remain as contiguous as possible so that they can function effectively as drainageways and wildlife corridors. In addition, the open space provides visual relief along vehicular routes and enhances the value of adjacent residential property.

Hydrological site elements can have multi-purpose uses, such as areas for open space, recreational trails, and buffers between different land uses. Contiguous wash systems can provide linkages between larger open space areas and housing uses. The hydrologic and vegetative integrity of Class I washes will be maintained where possible on site.

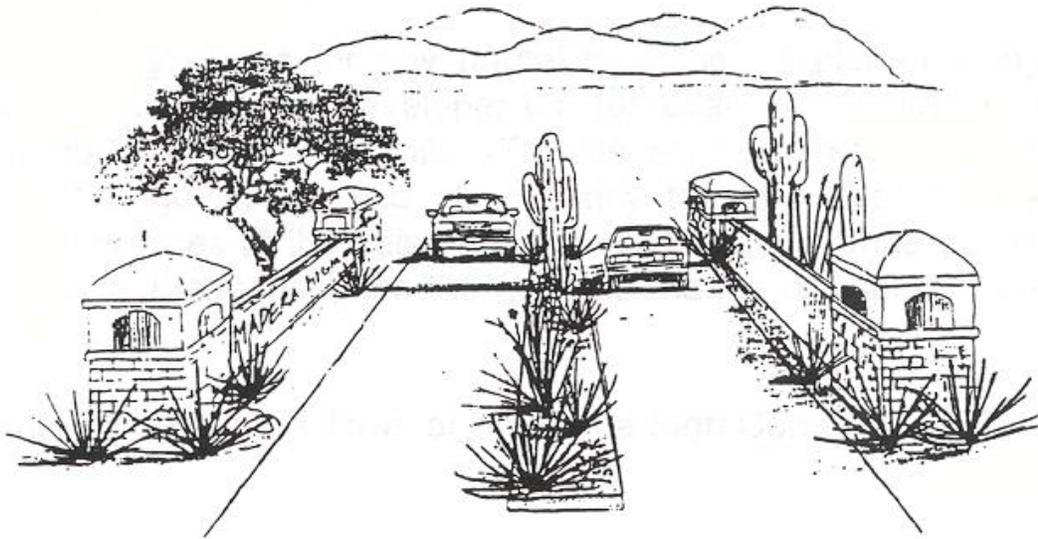
Drainageway revegetation treatments shall be used wherever possible. Stabilization of washes shall be used when the hydrology of the situation demands it. Native river rock should be used along the wash slopes to further stabilize slopes when required. Altered wash slopes and retention/detention basins shall be planted with hydroseed or bankcovers and shrubs to prevent excessive erosion and create a more natural appearance.

**Revegetation and Erosion:** Graded areas subject to substantial erosion shall be revegetated, prior to seasonal rains, for erosion control. Revegetation shall be with native plant materials and/or a native seed mix (See Appendix E: Recommended Plant Palette List).

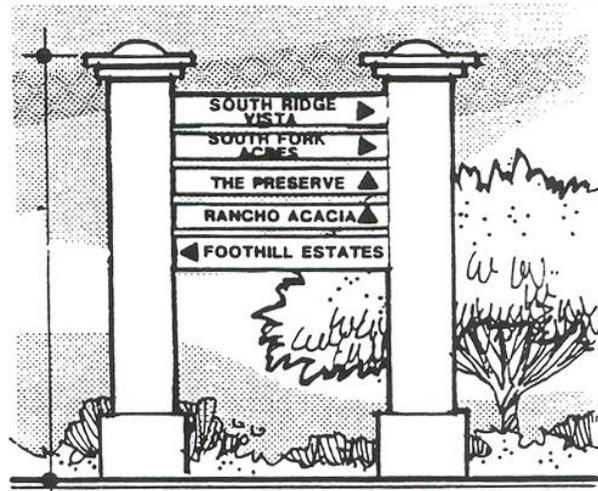
## F. Signage

**Purpose and Concept:** A quality signage program will be developed and administered by the developer to inform and direct the prospective buyer. Both monuments and signs will reflect a desert theme. In addition to the Madera Highlands Specific Plan, or the Town of Sahuarita requirements that apply to signage, the Developer will review and apply further conditions as outlined below.

**Major Monumentation:** There will be two primary entrances and identification points into Madera Highlands. One entrance will be at the Old Tucson-Nogales Highway and the second will be located at the southern property line along the main road. These entry intersections will depict the style of Madera Highlands. Towers, theme walls, the use of theme landscaping and flowering plant material with splashes of color will portray the desert flavor of Madera Highlands. Elements that relate to historic and cultural characteristics of the site may be used in entranceway design.



**Minor Monumentation:** Smaller scale entry monuments will identify secondary entries within the residential communities. The secondary entry monuments will incorporate elements of plant massing chosen from the southwestern desert theme planting list and provide direction to the major project entries.



**Neighborhood Monumentation:** Smaller scale entry monuments may be incorporated into each neighborhood by the project builder. Design of this level of entry should be consistent with the materials of Madera Highlands. Entry designs may be reviewed by the developer. Signage will reflect the character of each neighborhood while conforming to the overall Madera Highlands southwestern desert theme.

**Street Signs:** Street signs installed by the Developer will be custom-designed to coordinate with other project identity signage and monumentation.

**Commercial Signage:** Signs for any parcel must be developed along these guidelines and submitted to the developer for approval prior to submittal to the Town of Sahuarita for any sign permits. The Developer is responsible for final interpretation of the guidelines and may modify them to accommodate any unforeseen circumstances at their discretion. The Town of Sahuarita sign code will regulate signs in instances when the Specific Plan is not specific on a sign issue.

Sign dimensions will be per the Town of Sahuarita Sign Code.

## **VI. SPECIFIC PLAN IMPLEMENTATION**

### **A. Purpose**

The regulations and guidance contained within the Specific Plan guide implementation of development. Procedures for the administration of the Specific Plan are contained in this section, including the Phasing Plan for the development of the planning areas. These planning areas are defined by the type, location, intensity, and timing of development. In order to track the progress of the Specific Plan development and associated improvements and budgetary needs, a fully developed monitoring program is provided. This section also provides information regarding general administration, subdivision and amendment procedures.

The Madera Highlands Specific Plan will be implemented through the subdivision review process. This process will allow for the creation of lots as tentative plat maps which will allow for implementation of the project phasing. The Madera Highlands Specific Plan will guide the platting process with other official Town of Sahuarita ordinances, policies, maps and regulations.

### **B. Definitions**

The developer and the builder will assign responsibility for implementation of improvements for Madera Highlands. The developer is the entity responsible for ensuring that the basic infrastructure facilities are planned and constructed to serve the development areas within the Madera Highlands Specific Plan. The builder is the purchaser of a development area, block(s) or portions block(s), who will either build or provide for buildings within their areas of leasehold interest or ownership.

### **C. Phasing Plan**

In order to allow an adequate level of infrastructure to be built to accommodate new development it is recommended Madera Highlands Specific Plan be developed in several phases (See Exhibit VI-D.1: Phasing Plan). Market considerations have been considered to stagger the introduction of commercial development and a variety of residential units into the housing market. The recommended phasing may change in the future depending on the marketability of the land and the ability of the Developer to sell the property.

The primary intention of the phasing plan is to relate land uses to infrastructure requirements of the proposed development. While the phasing plan implies a building sequence there is nothing in this plan to preclude a different order of development, or a different combination of sub-phases, as long as the related infrastructure is adequately in place. This ensures that the Specific Plan is flexible to respond to external factors that may arise that are not controlled by the Developer or builder.

Four assumptions have guided the preparation of the phasing plan for this development. These assumptions are:

1. The rate of growth for the Madera Highlands project will remain consistent and as calculated;
2. The rate of growth of other regional projects, which were used in assessing cumulative impacts and phased infrastructure and services, will remain consistent and as calculated;
3. The market need for the proposed residential product type and mix will remain the same throughout the phasing period;
4. The property may be sold to additional builders to implement the phased development.

These assumptions are necessary to establish a phasing plan for the land use set forth in this document. However, if any of these assumptions change during the project build-out time, the Phasing Plan and monitoring program must be flexible enough to make adjustments in corresponding infrastructure and service requirements. Adjustments to the phasing plan and monitoring program will be made at the staff level. If the build-out rate accelerates, for example, key infrastructure improvements may have to occur earlier than shown on the Phasing Plan. Likewise, if projected build-out occurs at a slower rate, certain improvements to infrastructure may not be required until a later phase than what is shown on the Phasing Plan (See Exhibit VI-D.1: Preliminary Phasing Plan).

The first phase provides a portion of the initial infrastructure and recreational base of the project. It is during this phase that a significant level of infrastructure for the project will be completed. The first phase will be developed in sub phases as market conditions dictate. Any changes to the Phasing Plan will need to be coordinated with the Town Planning and Zoning Director and Town Engineer.

It is anticipated that the first phase will take place during the first year of the project, the second phase will be completed within the second year, the third phase in the third year, the fourth phase during the fourth year and the fifth phase within the fifth year. Dedications and easements will be granted at the time individual subdivision plats are approved.

#### **D. General Implementation Responsibilities**

Implementation of the Madera Highlands Specific Plan shall be the responsibility of the developer and builders unless noted otherwise. These entities shall be responsible for the engineering and implementation of the spine infrastructure systems at the time of development. The spine infrastructure systems are defined as those systems, which are necessary to provide development opportunities to individual planning areas. These systems include access roads, residential collectors and associated streetscapes, trunk sewers, irrigation, land-use, water mains, electric lines, gas and phone lines and cable television facilities in the major streets. Once these spine infrastructure systems are put

into place the builder may be responsible for implementation of facilities within each of the planning areas, as well as ancillary facilities within the spine infrastructure system that would be damaged or destroyed by secondary development if installed by the developer.

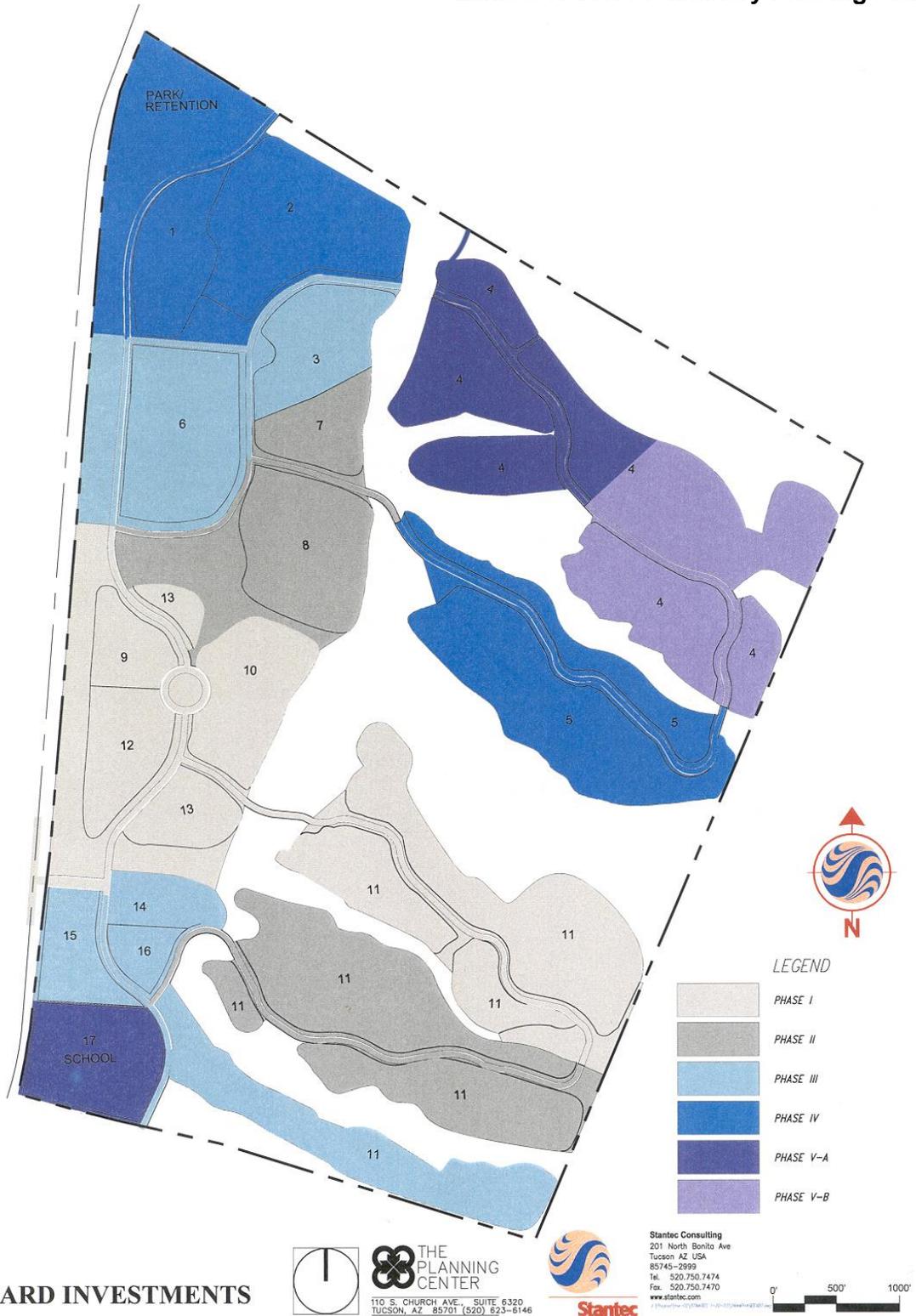
Individual subdivision plats and development plans will be filed for area within the project. Master assurances shall be prepared prior to construction permits through third party trust agreements. Master Project CC&R's will be finalized and recorded at that time.

A plant mitigation plan, consistent with what is required in Pima County ordinance, will be submitted to the Town prior to any site development to clarify mitigation measures that will be used (See Section IV E.6.1: Construction Process/Mitigation Plan).

Approval of a subdivision plat, development plan or building permit is subject to the following requirements:

1. Conformance with the Madera Highlands Specific Plan as adopted;
2. Provision of development-related assurances as required by applicable agencies;
3. Dedication of appropriate rights-of-way for roads, utilities and drainage by plat, or by separate instrument if the property is not to be subdivided;
4. Individual CC&R's for each single family detached residential subdivision shall be recorded.

Exhibit VI-D.1: Preliminary Phasing Plan



HARVARD INVESTMENTS



THE PLANNING CENTER  
110 S. CHURCH AVE., SUITE 6320  
TUCSON, AZ 85701 (520) 523-6146



Stantec Consulting  
201 North Bondo Ave  
Tucson AZ USA  
85745-2999  
Tel. 520.750.7474  
Fax. 520.750.7470  
www.stantec.com

LEGEND  
PHASE I  
PHASE II  
PHASE III  
PHASE IV  
PHASE V-A  
PHASE V-B



**E. Roadway (Arterial Streets) Phasing Plan**

The circulation plan will be implemented in phases in accordance with the phasing plan. The required major street improvements as shown on the Specific Plan Circulation Map (See Exhibit III-D.1). will be provided by the Developer in phases and built to Town of Sahuarita standards.

**F. Public Facilities Phasing**

Sanitary Sewers will be constructed in general relationship to land development phasing. Phase I sewer construction will include off-site construction of an outfall sewer for the development (PCWWM approved plan G-99-007), which will extend westerly from the northwest corner of the development a distance of approximately 1,600 feet to an existing 30-inch trunk sewer. Within the development two collector sewers will extend from the outfall and branch off in smaller diameter to serve the various development areas throughout the project. Sewer lines, as they are required, will be constructed based upon ultimate build-out capability. All residential lots will be connected to the sanitary sewer system unless they are a minimum of 2 acres in size.

Water distribution mains will be constructed in general relationship to land development phasing to serve residents of those particular areas. Development of the water supply system for Phase I involve interconnection with an existing FICO distribution system located approximately 4,000-feet south. Well number E-13 currently serves as domestic supply for the Walden Residence. Initial water supply plans for phase I involve construction/extension of a transmission main (off-site) to interconnect with the existing FICO system (5-A). The distribution system will include construction of 16 and 12-inch transmission mains and 8-inch supply mains to serve the proposed Phase I development areas. Remaining water supply improvements to serve full development build-out will occur in Phase II and include up upgrading well number E-13 with construction of a supplemental 1,000,000-gallon storage tank, and supplemental booster pump/hydropneumatic tank improvements. At this point the onsite supply will become the primary water source and the southern FICO interconnection will serve as a back-up supply.

Storm drainage will generally be constructed as roadways are constructed to service planned land development phases. Culvert crossings will be installed for full development conditions regardless of the tentative and possible lesser-developed conditions upstream. Channel construction will proceed in segments relative to land development phasing and roadway construction. Generally, channel improvements east of the main north, south road will be fully constructed to accommodate improvements in phases I and II. Channel construction west of the main road will be limited and temporary in nature, and of length sufficient only to achieve existing grade, or convey flow past an occurring phased development area. Retention basin development is planned to occur in Phase III.

Electric, Gas, Telephone, and Cable utilities will generally be developed coincidental with roadways and development phasing. Some offsite

improvements will be required in Phase I in order to provide the primary feed from each of the utilities into the development.

**G. Transfer of Density**

To ensure the orderly growth of a well-balanced community, the designated planning areas within the Madera Highlands Specific Plan shall be developed at densities consistent with or less than the designated density ranges except as provided for in a density transfer (See Section IV.C.4: Lot Size Flexibility Option, and Section V.C: Site Planning/General Criteria). Modifications in the boundaries and acreage of planning areas or adjustment because of final road alignments, drainage (including retention/detention) will occur during technical refinements in the tentative plat map process and shall not require an amendment to the Specific Plan. Maximum dwellings units per cumulative planning area will thereby be adjusted. The Madera Highlands Specific Plan residential dwelling unit cap shall be 1,800 dwelling units.

A transfer of residential density from one residential planning area or sub-area to another residential area or sub-area is permitted within the Specific Plan in accordance with the following provisions.

In no case shall transfer of dwelling units result in:

1. Excess of the overall Plan cap of 1,800 dwelling units.
2. Written agreement from all property owners will be obtained prior to transfer.
3. Changing the existing density classification any higher than the next highest classification.
4. Exceeding the capacity of the circulation system or other public facilities as established for the Specific Plan area without a subsequent change in the infrastructure system to accommodate the increase in dwelling units.
5. In no case will transfers be permitted from or to the Town Center.
6. Decreasing the minimum lot size below the minimum required for that district.

At time of approval of respective tentative plats a revised Specific Plan map and planning area summary shall be submitted for all transfers of density. Said map and table shall also indicate the remaining number of units, if any, which may be accommodated without exceeding the maximum density cap. Transferring density that results in a change to the density of a higher or lower category will require the application of development regulations for that new category. This will apply only to the portion of a planning area or sub-area ("sub-block") that is adjusted by the density transfer. This transfer will be determined at the time of final plat or development plan approval by staff. Respective development plans and tentative plats shall be reviewed for approval.

## H. Monitoring Program

Development Plans: The Specific Plan Monitoring Program is designed to provide assurances to the Town of Sahuarita and the Developer that the Specific Plan is operating properly as the development is built out. The function of the program is to establish a system that allows periodic adjustments within the project planning area. This system provides mechanisms for accomplishing and documenting these adjustments. The monitoring program effectively establishes an accounting system to insure that all changes, upon approval, are properly recorded at the scale of the total project and each planning area reflected in this Specific Plan. (See Exhibit VI-H.1: Madera Highlands Specific Plan Monitoring Report).

In order to accommodate possible changes, and to ensure conformance with the adopted Town of Sahuarita Development Code, the following provisions shall guide and govern incremental allocation and provision of residential dwelling units within the project area.

1. The overall assigned dwelling unit yield of 1,800 residential dwelling units shall not be exceeded in any land-use category;
2. Development Plans or plats shall be submitted to the Town of Sahuarita for review and approval prior to development. Such plans shall be consistent with this Specific Plan;
3. All drafts of such monitoring tables and the final approved version shall be identified by a revision date located in the title block. This table shall be a part of the adopting ordinance; and,
4. The Town Planning Director shall cause to be established and maintained an official project file for the Madera Highlands Specific Plan, which contains an original and certified copy of every revision to the Specific Plan, including a record of dwelling unit potential remaining in each development area.

The monitoring program will include a tracking system for the number of dwelling units being developed and that number shall comply with established densities. This table will be provided on disk or electronic to the Town Planning Department by the Developer prior to development.

## I. Site Plan Review Procedures

The Specific Plan shall be implemented through the review process of development plans and/or plats (Town of Sahuarita Subdivision Ordinance). The review process shall include the Developer and the Town of Sahuarita.

Development will not be subject to the Town's design review committee procedures.

Drainage reports, soil reports and traffic studies for the specific plan area must be approved by the Town Engineer prior to the issuance of grading permits or any other permits for development activity within the Specific Plan area.

All proposed projects within the Specific Plan area shall be required to have an approved plat prior to the issuance of building permits, conditional use permits, or any other Town of Sahuarita permit for the property. Plant salvage, clearing and grading can occur after tentative plat or development plan is approved if assurances in a form acceptable to the Town are posted prior to the issuance of permits. The plan review procedure is necessary for the following reasons:

1. To ensure consistency with the Specific Plan, Town of Sahuarita development plan policies and all implementing ordinances and development policies;
2. To promote the highest contemporary standards of site design;
3. To adapt to specific or special development conditions that occur from time to time while continuing to implement the Specific Plan and conform development to the Town of Sahuarita land use policies and implementing ordinances;
4. To facilitate complete documentation of authorized land use entitlement and pertinent conditions;
5. To adapt to substantial changes that may occur with respect to the circumstances under which the project is undertaken.

**J. Specific Plan Administration**

**1. Enforcement:**

The Madera Highlands Specific Plan shall be administered and enforced by the Town of Sahuarita Planning and Development Services Department in accordance with the provisions of the Town of Sahuarita Zoning Code.

**2. Administrative Change:**

Certain changes to the explicit provisions in the Specific Plan may be made administratively by the Planning and Zoning Director. The Planning Director's decision regarding administrative changes and determination of substantial change as outlined below shall be subject to appeal to the Town Council. Categories of administrative change include, but are not limited to:

- a. The addition of new information to the Specific Plan maps or text that does not change the effect of any regulations or guidelines, as interpreted by the Planning Director.
- b. Changes to the community infrastructure planning and alignment such as roads, drainage, and water and sewer systems that do not increase development capacity in the Specific Plan area.
- c. The Planning and Zoning Director shall make the determination that a use may be allowed which is not specifically listed as permitted, but which may be determined as an analogous and/or accessory use explicitly listed as permitted.
- d. Changes to Phasing Plan.
- e. Changes to development plan boundaries due to platting.

**3. Substantial Change**

- a. This Specific Plan may be substantially amended by the same procedure as it was adopted. Each request shall include all sections or portions of the Specific Plan that are affected by the change. The Planning Director shall determine if the amendment would result in a substantial change in plan regulations, as defined in Section 18.90.080.C.3.c. of the Town of Sahuarita Zoning Code.
- b. A General Plan amendment may be required with insubstantial changes.

**4. Interpretation:**

The Planning and Zoning Director shall be responsible for interpreting the provisions of this Specific Plan. Appeals to the Planning and Zoning Director's interpretation may be made within 30 days from the date of the interpretation to the Town Council.

**5. Fees:**

Fees will be assessed as indicated by the Town's fee that is in place at the time of development.

**Exhibit VI-H.1: Madera Highlands Specific Plan Monitoring Report**

**TABLE**

**DATE  
ACTION**

**MADERA HIGHLANDS SPECIFIC PLAN MONITORING TABLE**

1	2	3	4	5	6	7
<b>PLANNING AREA (or sub-area)</b>	<b>ACRES</b>	<b>DEVELOP. CATEGORY</b>	<b>D/U UTILIZED</b>	<b>D/U REMAINING</b>	<b>D/U CAP</b>	<b>AVG. LOT SIZE</b>

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TOTAL

\*\*\*\*

# **APPENDICES**

## Appendix A: Ownership and Tax Code

### Ownership:

### Pima County Tax Parcel Numbers:

Madera Highlands, I LLC & II LLC  
7600 E. Doubletree Ranch Rd., Suite 220  
Scottsdale, Arizona 85258

304-18-092K  
304-18-092M  
304-18-092L

Farmers Investment Company  
P.O. Box 7  
Sahuarita, Arizona 85629

304-18-092D

Farmers Water Company  
P.O. Box 7  
Sahuarita, Arizona 85629

304-18-092F  
304-18-092G

## Appendix B: Legal Description

EXHIBIT "A"

LEGAL DESCRIPTION

ORDER NO. 97903125

PARCEL X

NORTH 1/2 OF PARCEL A AND B - CONTINENTAL

ALL THAT CERTAIN PARCEL OF LAND SITUATED IN THE NORTH ONE HALF OF THE SAN IGNACIO DE LA CANOA PRIVATE LAND GRANT, PIMA COUNTY, ARIZONA, ACCORDING TO THE SURVEY OF SAID LAND GRANT MADE BY THE UNITED STATES SURVEYOR GENERAL ON MARCH 10, 1901, WHICH SAID SURVEY IS NOW ON FILE IN THE UNITED STATES SURVEYOR GENERAL'S OFFICE AT PHOENIX IN THE STATE OF ARIZONA, AND TO WHICH REFERENCE IS HEREBY MADE, WHICH SAID PARCEL IS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE G.L.O. MONUMENT STAMPED NE CORNER, AT THE NORTHEAST CORNER OF THE SAID LAND GRANT, THENCE SOUTH 23 DEGREES 01 MINUTES 05 SECONDS WEST ALONG THE EASTERLY BOUNDARY LINE OF SAID LAND GRANT, A DISTANCE OF 1272.00 FEET TO THE G.L.O. "24 1/2 MILE MONUMENT";

THENCE SOUTH 22 DEGREES 58 MINUTES 45 SECONDS WEST ALONG SAID BOUNDARY LINE, A DISTANCE OF 960.42 FEET TO A POINT OF INTERSECTION OF SAID BOUNDARY WITH THE CLOSING CORNER OF SECTIONS 7 AND 18, TOWNSHIP 18 SOUTH, RANGE 14 EAST;

THENCE SOUTH 23 DEGREES 02 MINUTES 31 SECONDS WEST ALONG SAID BOUNDARY LINE, A DISTANCE OF 145.67 FEET;

THENCE DEPARTING SAID BOUNDARY LINE NORTH 49 DEGREES 37 MINUTES 22 SECONDS WEST, A DISTANCE OF 2775.09 FEET;

THENCE NORTH 74 DEGREES 07 MINUTES 23 SECONDS WEST, A DISTANCE OF 1798.92 FEET TO A POINT OF INTERSECTION WITH A NON TANGENT CURVE FROM WHICH A RADIAL LINE BEARS NORTH 69 DEGREES 52 MINUTES 04 SECONDS WEST, A DISTANCE OF 1500.00 FEET TO THE CENTER;

THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 14 DEGREES 15 MINUTES 40 SECONDS, A DISTANCE OF 373.35 FEET TO A POINT OF TANGENCY;

THENCE SOUTH 34 DEGREES 23 MINUTES 35 SECONDS WEST, A DISTANCE OF 345.44 FEET TO A POINT OF TANGENT CURVE TO THE LEFT, A RADIUS OF 1000.00 FEET;

THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 32 DEGREES 26 MINUTES 12 SECONDS, A

Continued on next page

99-1

STEWART TITLE  
GUARANTY COMPANY

**Legal Description (cont.)**

LEGAL DESCRIPTION CONTINUED  
ORDER NO. 97903125

DISTANCE OF 566.12 FEET TO A POINT OF TANGENCY;

THENCE SOUTH 01 DEGREES 57 MINUTES 24 SECONDS WEST, A DISTANCE OF 871.52 FEET TO A POINT OF TANGENT CURVE TO THE RIGHT WITH A RADIUS OF 3000.00 FEET;

THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 26 DEGREES 10 MINUTES 39 SECONDS, A DISTANCE OF 1370.65 FEET TO A POINT OF REVERSE CURVE TO THE LEFT WITH A RADIUS OF 1351.75 FEET;

THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 03 DEGREES 53 MINUTES 38 SECONDS TO A POINT ON THE NORTH LINE OF 20.00 FOOT ACCESS EASEMENT AS RECORDED IN DOCKET 7928 AT PAGE 2521;

THENCE NORTH 85 DEGREES 02 MINUTES 04 SECONDS WEST ALONG SAID LINE, A DISTANCE OF 745.54 FEET TO A POINT OF INTERSECTION WITH THE EASTERLY RIGHT OF WAY LINE OF THE SOUTHERN PACIFIC RAILROAD AS NOW ESTABLISHED;

THENCE NORTH 04 DEGREES 28 MINUTES 42 SECONDS EAST ALONG SAID RIGHT OF WAY LINE, A DISTANCE OF 5452.56 FEET TO A POINT OF TANGENT CURVE TO THE RIGHT WITH A RADIUS OF 2764.82 FEET;

THENCE NORTHERLY ALONG THE ARC OF SAID CURVED RIGHT OF WAY LINE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 16 DEGREES 22 MINUTES 48 SECONDS, A DISTANCE OF 790.42 FEET TO A POINT OF TANGENCY;

THENCE NORTH 20 DEGREES 51 MINUTES 30 SECONDS EAST ALONG SAID RIGHT OF WAY LINE, A DISTANCE OF 459.89 FEET TO A POINT ON THE NORTH BOUNDARY OF SAID SAN IGNACIO DE LA CANOA LAND GRANT;

THENCE SOUTH 59 DEGREES 19 MINUTES 09 SECONDS EAST ALONG SAID NORTH BOUNDARY LINE, A DISTANCE OF 2577.40 FEET TO THE G.L.O. CLOSING CORNER OF SECTION 12, TOWNSHIP 18 SOUTH, RANGE 13 EAST, AND SECTION 7, TOWNSHIP 18 SOUTH, RANGE 14 EAST;

THENCE SOUTH 59 DEGREES 25 MINUTES 09 SECONDS EAST ALONG SAID BOUNDARY LINE, A DISTANCE OF 19.98 FEET TO THE G.L.O. "25-1/2 MILE MONUMENT";

THENCE SOUTH 59 DEGREES 23 MINUTES 59 SECONDS EAST ALONG SAID BOUNDARY LINE, A DISTANCE OF 2662.57 FEET TO THE G.L.O. "25 MILE MONUMENT";

THENCE SOUTH 59 DEGREES 19 MINUTES 57 SECONDS EAST ALONG SAID BOUNDARY LINE, A DISTANCE OF 1385.27 FEET TO THE POINT OF

Continued on next page

**STEWART TITLE**  
INSURANCE COMPANY

## Legal Description (cont.)

### Legal Description (cont.)

LEGAL DESCRIPTION CONTINUED  
ORDER NO. 97903125

BEGINNING.

99-C-1

**STEWART TITLE**  
GUARANTY COMPANY

## Legal Description (cont.)

### Legal Description (cont.)

EXHIBIT "A"

#### LEGAL DESCRIPTION

ORDER NO. 97902958

PARCEL Y

PARCEL 1 OF THE SOUTH 1/2 OF PARCEL A & B OF CONTINENTAL  
(EXCLUDED WALDEN'S RESIDENCE AND WELL SITES)

ALL THAT CERTAIN PARCEL OF LAND SITUATED IN THE NORTH ONE-HALF OF THE SAN IGNACIO DE LA CANOA PRIVATE LAND GRANT, PIMA COUNTY, ARIZONA, ACCORDING TO THE SURVEY OF SAID LAND GRANT MADE BY THE UNITED STATES SURVEYOR GENERAL ON MARCH 10, 1901, WHICH SAID SURVEY IS NOW ON FILE IN THE UNITED STATES SURVEYOR GENERAL'S OFFICE AT PHOENIX IN THE STATE OF ARIZONA, AND TO WHICH REFERENCE IS HEREBY MADE, WHICH SAID PARCEL IS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE G.L.O. MONUMENT STAMPED NE CORNER, AT THE NORTHEAST CORNER OF THE SAID LAND GRANT, THENCE SOUTH 23 DEGREES 01 MINUTES 05 SECONDS WEST, ALONG THE EASTERLY BOUNDARY LINE OF SAID LAND GRANT A DISTANCE OF 1272.00 FEET TO THE G.L.O. "24 1/2 MILE MONUMENT";

THENCE SOUTH 22 DEGREES 58 MINUTES 45 SECONDS WEST ALONG SAID BOUNDARY LINE A DISTANCE OF 960.42 FEET TO A POINT OF INTERSECTION OF SAID BOUNDARY WITH THE CLOSING CORNER OF SECTIONS 7 AND 18, TOWNSHIP 18 SOUTH, RANGE 14 EAST;

THENCE SOUTH 23 DEGREES 02 MINUTES 31 SECONDS WEST ALONG SAID BOUNDARY LINE A DISTANCE OF 145.67 FEET TO THE TRUE POINT OF BEGINNING;

THENCE SOUTH 23 DEGREES 02 MINUTES 31 SECONDS WEST ALONG SAID BOUNDARY LINE A DISTANCE OF 1595.06 FEET TO THE G.L.O. "24 MILE MONUMENT";

THENCE SOUTH 23 DEGREES 06 MINUTES 08 SECONDS WEST ALONG BOUNDARY LINE A DISTANCE OF 2701.95 TO THE G.L.O. "23 1/2 MILE MONUMENT";

THENCE DEPARTING SAID BOUNDARY LINE NORTH 69 DEGREES 22 MINUTES 23 SECONDS WEST A DISTANCE OF 2208.22 FEET;

THENCE NORTH 67 DEGREES 08 MINUTES 59 SECONDS WEST A DISTANCE OF 1001.91 FEET;

THENCE SOUTH 76 DEGREES 00 MINUTES 00 SECONDS WEST A DISTANCE OF 646.88 FEET;

Continued on next page

## Legal Description (cont.)

### Legal Description (cont.)

LEGAL DESCRIPTION CONTINUED  
ORDER NO. 97902958

THENCE NORTH 72 DEGREES 11 MINUTES 29 SECONDS WEST A DISTANCE OF 470.95 FEET TO A POINT OF INTERSECTION WITH THE EASTERLY RIGHT-OF-WAY LINE OF THE SOUTHERN PACIFIC RAILROAD AS NOW ESTABLISHED, SAID POINT BEING ON A CURVE, FROM WHICH A RADIAL LINE BEARS NORTH 73 DEGREES 36 MINUTES 07 SECONDS WEST A DISTANCE OF 2964.82 FEET TO THE CENTER;

THENCE NORTHERLY ALONG THE ARC OF SAID CURVED RIGHT-OF-WAY LINE TO THE LEFT THROUGH A CENTRAL ANGLE OF 11 DEGREES 55 MINUTES 11 SECONDS A DISTANCE OF 616.80 FEET TO A POINT OF TANGENCY;

THENCE NORTH 04 DEGREES 28 MINUTES 42 SECONDS EAST ALONG SAID RIGHT-OF-WAY LINE A DISTANCE OF 1138.53 FEET TO A POINT ON THE NORTH LINE OF A 20.00 FOOT ACCESS EASEMENT IN DOCKET 7928 AT PAGE 2521;

THENCE SOUTH 85 DEGREES 02 MINUTES 04 SECONDS EAST ALONG SAID NORTH LINE A DISTANCE OF 745.54 FEET TO A POINT OF INTERSECTION WITH A NON-TANGENT CURVE FROM WHICH A RADIAL LINE BEARS SOUTH 65 DEGREES 45 MINUTES 36 SECONDS EAST A DISTANCE OF 1351.75 FEET TO THE CENTER;

THENCE NORTHEASTERLY ALONG THE ARC OF SAID CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 03 DEGREES 53 MINUTES 38 SECONDS A DISTANCE OF 91.87 FEET TO A POINT OF TANGENT REVERSE CURVE WITH A RADIUS OF 3000.00 FEET;

THENCE NORTHEASTERLY ALONG THE ARC OF SAID CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 26 DEGREES 10 MINUTES 39 SECONDS A DISTANCE OF 1370.65 FEET TO A POINT OF TANGENCY;

THENCE NORTH 01 DEGREES 57 MINUTES 24 SECONDS EAST A DISTANCE OF 871.52 FEET TO A POINT OF TANGENT CURVE TO THE RIGHT WITH A RADIUS OF 1000.00 FEET;

THENCE NORTHEASTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 32 DEGREES 26 MINUTES 12 SECONDS A DISTANCE OF 566.12 FEET TO A POINT OF TANGENCY;

THENCE NORTH 34 DEGREES 23 MINUTES 35 SECONDS EAST, A DISTANCE OF 345.44 FEET TO A POINT OF TANGENT CURVE TO THE LEFT WITH A RADIUS OF 1500.00 FEET;

THENCE NORTHEASTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 14 DEGREES 15 MINUTES 40 A DISTANCE OF 373.35 FEET TO A POINT;

THENCE SOUTH 74 DEGREES 07 MINUTES 23 SECONDS EAST A DISTANCE OF  
Continued on next page

## Legal Description (cont.)

LEGAL DESCRIPTION CONTINUED  
ORDER NO. 97902958

RAILROAD CENTERLINE A DISTANCE OF 2954.64 FEET TO A POINT  
HEREINAFTER REFERRED TO AS POINT "A";

THENCE CONTINUE SOUTH 04 DEGREES 28 MINUTES 42 SECONDS WEST A  
DISTANCE OF 2497.92 FEET TO A POINT HEREINAFTER REFERRED TO AS  
POINT "B";

THENCE SOUTH 85 DEGREES 31 MINUTES 18 SECONDS EAST A DISTANCE OF  
100.00 FEET TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF SAID  
RAILROAD;

THENCE SOUTH 85 DEGREES 02 MINUTES 04 SECONDS EAST A DISTANCE OF  
1142.97 FEET TO A POINT HEREINAFTER REFERRED TO AS POINT "C";

EXCLUDED (WELL SITE E-7)

BEGINNING AT THE AFOREMENTIONED POINT "C";

THENCE NORTH 04 DEGREES 57 MINUTES 56 SECONDS EAST A DISTANCE OF  
100.00 FEET;

THENCE SOUTH 85 DEGREES 02 MINUTES 04 SECONDS EAST A DISTANCE OF  
100.00 FEET;

THENCE SOUTH 04 DEGREES 57 MINUTES 56 SECONDS WEST A DISTANCE OF  
100.00 FEET;

THENCE NORTH 85 DEGREES 02 MINUTES 04 SECONDS WEST A DISTANCE OF  
100.00 FEET;

EXCLUDED (WELL SITE E-13)

BEGINNING AT THE AFOREMENTIONED POINT "C";

THENCE SOUTH 85 DEGREES 02 MINUTES 04 SECONDS EAST A DISTANCE OF  
566.10 FEET TO THE TRUE POINT OF BEGINNING OF SAID WELL SITE;

THENCE NORTH 04 DEGREES 57 MINUTES 56 SECONDS EAST A DISTANCE OF  
100.00 FEET;

THENCE SOUTH 85 DEGREES 02 MINUTES 04 SECONDS EAST A DISTANCE OF  
100.00 FEET;

THENCE SOUTH 04 DEGREES 57 MINUTES 56 SECONDS WEST A DISTANCE OF  
100.00 FEET;

THENCE NORTH 85 DEGREES 02 MINUTES 04 SECONDS WEST A DISTANCE OF  
100.00 FEET TO THE TRUE POINT OF BEGINNING.

Continued on next page

STEWART TITLE  
GUARANTEE COMPANY

99.2.1

## Legal Description (cont.)

LEGAL DESCRIPTION CONTINUED  
ORDER NO. 97902958

EXCLUDED (WELL SITE E-14)

BEGINNING AT THE AFOREMENTIONED POINT "B";

THENCE SOUTH 04 DEGREES 28 MINUTES 42 SECONDS WEST ALONG THE CENTERLINE OF SAID RAILROAD A DISTANCE OF 1138.53 FEET TO A POINT OF TANGENT CURVE TO THE RIGHT WITH A RADIUS OF 2864.82 FEET;

THENCE SOUTHERLY ALONG THE ARC OF SAID CURVE A DISTANCE OF 449.11 FEET THROUGH A CENTRAL ANGLE OF 08 DEGREES 58 MINUTES 56 SECONDS TO A POINT HEREINAFTER REFERRED TO AS POINT "D";

THENCE DEPARTING SAID CENTERLINE SOUTH 76 DEGREES 32 MINUTES 22 SECONDS EAST A DISTANCE OF 818.34 FEET TO THE TRUE POINT OF BEGINNING;

THENCE NORTH 76 DEGREES 00 MINUTES 00 SECONDS EAST A DISTANCE OF 100.00 FEET;

THENCE SOUTH 14 DEGREES 00 MINUTES 00 SECONDS EAST A DISTANCE OF 50.00 FEET;

THENCE SOUTH 76 DEGREES 00 MINUTES 00 SECONDS WEST A DISTANCE OF 100.00 FEET;

THENCE NORTH 14 DEGREES 00 MINUTES 00 SECONDS WEST A DISTANCE OF 50.00 FEET TO THE TRUE POINT OF BEGINNING.

EXCLUDED (WELL SITE E-12)

BEGINNING AT THE AFOREMENTIONED POINT "A";

THENCE SOUTH 85 DEGREES 31 MINUTES 18 SECONDS EAST A DISTANCE OF 1147.64 FEET TO THE TRUE POINT OF BEGINNING;

THENCE CONTINUE SOUTH 85 DEGREES 31 MINUTES 18 SECONDS EAST, A DISTANCE OF 100.00 FEET;

THENCE SOUTH 04 DEGREES 28 MINUTES 42 SECONDS WEST A DISTANCE OF 100.00 FEET;

THENCE NORTH 85 DEGREES 31 MINUTES 18 SECONDS WEST A DISTANCE OF 100.00 FEET;

THENCE NORTH 04 DEGREES 28 MINUTES 42 SECONDS EAST A DISTANCE OF 100.00 FEET TO THE TRUE POINT OF BEGINNING.

PARCEL 2:

PARCEL 2 - EAST HALF CONTINENTAL

ALL THAT CERTAIN PARCEL OF LAND SITUATED IN THE NORTH ONE-HALF OF THE SAN IGNACIO DE LA CANOA PRIVATE LAND GRANT, PIMA COUNTY, ARIZONA ACCORDING TO THE  
Continued on next page

STEWART TITLE  
INSURANCE COMPANY

## Legal Description (cont.)

LEGAL DESCRIPTION CONTINUED  
ORDER NO. 97902958

SURVEY OF SAID LAND GRANT MADE BY THE UNITED STATES SURVEYOR GENERAL ON MARCH 10, 1901, WHICH SAID SURVEY IS NOW ON FILE IN THE UNITED STATES SURVEYOR GENERAL'S OFFICE AT PHOENIX IN THE STATE OF ARIZONA, AND TO WHICH REFERENCE IS HEREBY MADE, WHICH SAID PARCEL IS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE GLO BRASS CAPPED MARKED "23-1/2 MILE" ON THE EAST BOUNDARY LINE OF SAID LAND GRANT;

THENCE DEPARTING SAID EAST LINE NORTH 73 DEGREES 01 MINUTES 28 SECONDS WEST A DISTANCE OF 2578.51 FEET;

THENCE NORTH 78 DEGREES 14 MINUTES 45 SECONDS WEST ALONG SAID SOUTHERLY BOUNDARY LINE A DISTANCE OF 870.29 FEET TO A POINT OF TANGENT CURVE TO THE RIGHT WITH A RADIUS OF 2700.00 FEET;

THENCE WESTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 06 DEGREES 03 MINUTES 16 SECONDS A DISTANCE OF 285.30 FEET TO A POINT OF TANGENCY;

THENCE NORTH 72 DEGREES 11 MINUTES 29 SECONDS WEST ALONG SAID SOUTHERLY BOUNDARY LINE A DISTANCE OF 24.88 FEET TO A POINT ON THE NORTH BOUNDARY LINE OF A PARCEL AS RECORDED IN DOCKET 7145 AT PAGE 855, RECORDS OF PIMA COUNTY;

THENCE NORTH 76 DEGREES 00 MINUTES 00 SECONDS EAST ALONG SAID BOUNDARY LINE A DISTANCE OF 310.71 FEET TO A POINT ON THE WEST LINE OF WELL SITE E-14;

THENCE SOUTH 14 DEGREES 00 MINUTES 00 SECONDS EAST ALONG THE BOUNDARY LINE OF SAID WELL SITE A DISTANCE OF 50.00 FEET;

THENCE NORTH 76 DEGREES 00 MINUTES 00 SECONDS EAST ALONG THE BOUNDARY LINE OF SAID WELL SITE A DISTANCE OF 100.00 FEET;

THENCE NORTH 14 DEGREES 00 MINUTES 00 SECONDS WEST ALONG BOUNDARY LINE OF SAID WELL SITE A DISTANCE OF 50.00 FEET, TO A POINT ON THE NORTH BOUNDARY LINE OF SAID PARCEL RECORDED IN DOCKET 7145 AT PAGE 855;

THENCE NORTH 76 DEGREES 00 MINUTES 00 SECONDS EAST ALONG SAID NORTH BOUNDARY LINE A DISTANCE OF 236.17 FEET;

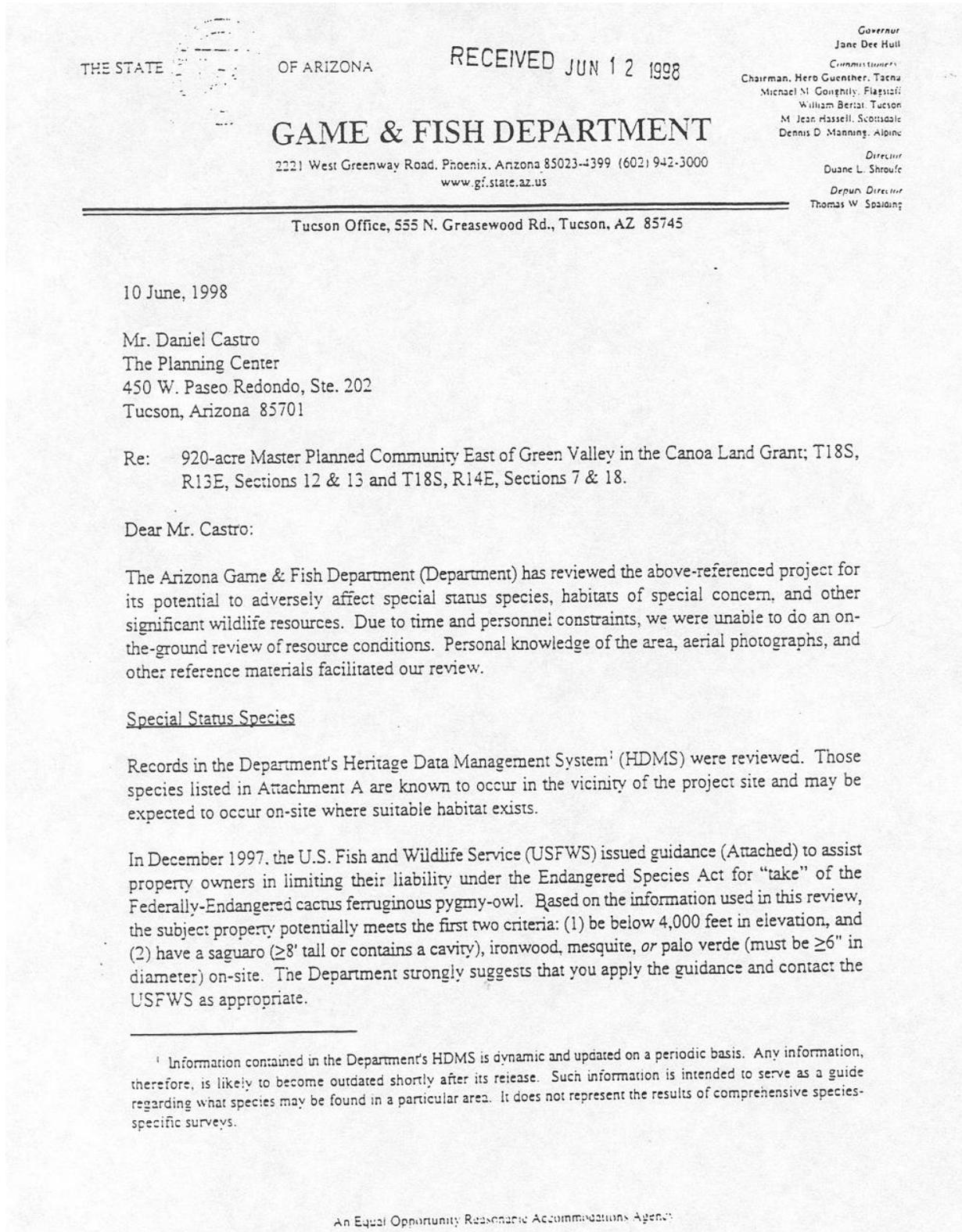
THENCE SOUTH 67 DEGREES 08 MINUTES 59 SECONDS EAST ALONG SAID NORTH BOUNDARY LINE A DISTANCE OF 1001.91 FEET;

THENCE SOUTH 69 DEGREES 22 MINUTES 23 SECONDS EAST ALONG SAID NORTH BOUNDARY LINE A DISTANCE OF 2208.22 FEET TO THE POINT OF BEGINNING.

STEWART TITLE  
GUARANTEE COMPANY

cc.c.

## Appendix C: Arizona Game & Fish Letter



## Arizona Game & Fish Letter (cont.)

Mr. Castro  
June 10, 1998  
2

### Vegetation Communities/Wildlife Habitats

The following analysis is based on the review of aerial photographs, Pima County's 1986 Map of Critical and Sensitive Wildlife Habitats, and Pima County Habitat Inventory (Shaw et al., 1996)<sup>2</sup>.

Major portions of the proposed project site have been previously altered by cultivation for pecan groves and other land clearing activities. These areas are primarily located in section 12 and the W/2 of section 13. Sections 7 & 18, as well as the E/2 of section 13, do not show signs of previous land clearing activities. These areas support a native vegetation type consistent with the *Ambrosia deltoidea* - *Cercidium microphyllum*- mixed scrub association of the Sonoran Desertscrub, Palo Verde - Mixed Cacti Community. The project parcel also contains three major wash features, the southern-most of which is Sawmill Wash. The vegetation community of all three washes is characterized as a *Prosopis velutina* - mixed scrub Association and are recognized as Class I Riparian Areas.

### Recommendations

Aside from the recommendations listed below that relate to Federal/State regulatory compliance, those practices that pertain to landscape design and site planning are practices beneficial in maintaining habitat elements compatible with native desert wildlife. Implementation of these landscape design/site planning practices will not totally mitigate for the loss of native desert habitats, however, evidence shows that incorporation of these practices will foster the retention of those native wildlife species which can exist in urban/suburban environments. The Department, therefore, urges that the following recommendations be adopted as conditions to the proposed rezoning.

- Apply the attached guidance from the USFWS and contact them as appropriate.
- Contact the Arizona Department of Agriculture for additional information regarding Arizona Native Plant Law and potential restrictions which may apply to the salvage or removal of plant species. A suggested contact is:

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<sup>2</sup> Shaw W.W., L.K. Harris, M. Livingston, J.P. Charpentier, and C. Wissler. 1996. Pima County Habitat Inventory - Phase II. Arizona Game & Fish Dept. Contract No. G50028-001, Phoenix, AZ. 94pp.

## Arizona Game & Fish Letter (cont.)

Mr. Castro  
June 10, 1998  
3

Mr. James McGinnis  
Manager, Native Plant Law  
Plant Services Division  
Arizona Dept. of Agriculture  
1688 W. Adams  
Phoenix, Arizona 85007  
602/542-3292

- Contact the Department's Tucson Regional Office immediately for direction regarding the disposition of an active bat roost site(s) if one is found on the property.
- During pre-construction and construction activities, contact the Department's Tucson Regional Office immediately for direction regarding the disposition of an active raptor nest(s) if one is found on the property.
- Maximize the amount of interconnected open space within the development.
- Utilize native plant species for all on-site vegetation and revegetation.
- Employ revegetation schemes that re-establish and maintain vertical diversity (ground cover, shrub layer, and canopy cover) with native plant species.
- Retain in place or salvage mature woody vegetation including saguaros and ironwoods (mature adults as well as immatures).
- Maintain the hydrologic and vegetative integrity of the three Class I washes on-site.

Please give me a call at 520/628-5982 Ext. 137 if you have questions or if the Department can provide you with additional information.

Sincerely,



Sherry A. Ruther  
Habitat Specialist

S.A.R.:sr

## Arizona Game & Fish Letter (cont.)

Mr. Castro  
June 10, 1998  
4

cc: John Kennedy, Project Evaluation Program Supervisor, Habitat Branch, PHX  
Joe Sacco, District Wildlife Manager, Region V  
Supervisor, USFWS, Az Ecological Services State Ofc, PHX  
James McGinnis, AZ Dept. of Ag, Plant Services Div., PHX

### Attachments

C:\PROJECTS\COUNTIES\PIMA\SA\CLG-NE.TFC

**Arizona Game & Fish Letter (cont.)**

Mr. Castro  
 June 10, 1998  
 5

ATTACHMENT A  
 SPECIAL STATUS SPECIES  
 920-ACRE PARCEL IN THE CANOA LAND GRANT

<u>COMMON NAME</u>	<u>SCIENTIFIC NAME</u>	<u>STATUS</u>
Pima pineapple cactus	<i>Coryphantha scheeri robustispina</i>	LE,S,HS
Tumamoc globeberry	<i>Tumamoca macdougalii</i>	S,SR
Western red bat	<i>Lasiurus blossevillii</i>	WC,S

STATUS DEFINITIONS

- LE - **Listed Endangered.** Species identified by the U.S. Fish and Wildlife Service (USFWS) under the Endangered Species Act (ESA) as being in imminent jeopardy of extinction.
- WC - **Wildlife of Special Concern in Arizona.** Species whose occurrence in Arizona is or may be in jeopardy, or with known or perceived threats or population declines, as described by the Department's listing of Wildlife of Special Concern in Arizona (WSCA, in prep.). Species included in WSCA are currently the same as those in **Threatened Native Wildlife in Arizona (1988)**.
- S - **Sensitive.** Species classified as "sensitive" by the Regional Forester when occurring on lands managed by the U.S.D.A. Forest Service.
- HS - **Highly Safeguarded.** Those Arizona native plants whose prospects for survival in this state are in jeopardy or are in danger of extinction, or are likely to become so in the foreseeable future, as described by the Arizona Native Plant Law (1993).
- SR - **Salvage Restricted.** Those Arizona native plants not included in the Highly Safeguarded Category, but that have a high potential for theft or vandalism, as described by the Arizona Native Plant Law (1993).

## Appendix D: Pima County Dept. of Wastewater Management Letter



PIMA COUNTY  
WASTEWATER MANAGEMENT DEPARTMENT  
201 NORTH STONE AVENUE  
TUCSON, ARIZONA 85701-1207

June 19, 1998

GEORGE A. BRINSKO  
Director:

PH: (520) 740-6500  
FAX: (520) 620-0135

Daniel Castro  
The Planning Center  
450 W. Paseo Redondo, Suite 202  
Tucson, Arizona 85701

Re: CAPACITY RESPONSE NO. 96-44

Dear Mr. Castro:

We have reviewed your request of May 19, 1998 regarding the availability of sewer service for the following proposed use and property:

Single family and multi-family residential units, commercial facilities and a golf course on 920 acres at the northeast corner of the Canoa Land Grant.

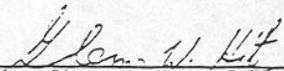
Under existing conditions (actual developments and commitments for service through approved Sewer Service Agreements), there is capacity for this proposed development in the existing 30-inch diameter sewer located west of Old Tucson - Nogales Highway near the northerly boundary of the Canoa Land Grant, but there may be capacity problems in the downstream sewerage system from where this 30-inch diameter sewer and another 30-inch diameter sewer connects into a 21-inch diameter sewer approximately 3/4 of a mile from the Wastewater Treatment Facility. There could be a rezoning condition that augmentation of the 21-inch diameter sewer occur prior to development.

This response is not to be construed as a commitment for conveyance capacity allocation, but rather an analysis of the existing sewerage system as of this date.

Should you desire to enter into a Sewer Service Agreement, a Development Plan or Tentative Plat, showing the preliminary sewer layout for the proposed project, must be submitted and approved. To qualify as a public conveyance system, flow must be by gravity to an existing public sewer system. Public sewers may also be required if Wastewater Management determines that there is a flow-through requirement in order to serve upstream parcels.

Should you desire additional information regarding this subject, please contact this office (520) 740-6547 or by FAX at (520) 620-0135.

Very truly yours,

  
Glenn W. Hitt, P.E.  
Civil Engineer

Copy: Jerry Stratton  
Steve Magalli  
Capacity Response File/181312

## Appendix E: Recommended Plant Palette List

		BOTANICAL NAME	COMMON NAME
Gc. an	SD	<i>Abronia villosa</i> 1	Sand veronica
T		<i>Acacia abyssinica</i> 2 (sh)	Abyssinian Acacia
T		<i>Acacia aneura</i> 2 (sh)	Muiga
S	SD	<i>Acacia angustissima</i> 2 (sh)	White Ball Acacia
T, S*	SD, CD	<i>Acacia constricta</i> 1	Whitethorn Acacia, Mescat
T, S		<i>Acacia crasspedocarpa</i> 1	Waxleaf Acacia
T, S		<i>Acacia cultriformis</i> 2 (t)	Knife-Leaf Acacia
T, S	SD, CD	<i>Acacia greggii</i> 1	Cat's Claw Acacia
T, S, cl	SD, CD	<i>Acacia minuta</i> (smallii) 2	Southwestern Sweet Acacia
A S		<i>Acacia notabilis</i> 2	Acacia
S, Gc		<i>Acacia redolens</i> 2	Prostrate Acacia
S, T	CD	<i>Acacia rigidula</i> 3	Black Brush Acacia
T, cl		<i>Acacia salicina</i> 2 (sh)	Weeping Wattle
T		<i>Acacia saligna</i> 1-2 (sh)	Wattle Tree
T	CD	<i>Acacia schaffneri</i> 1-2	Twisted Acacia
T		<i>Acacia stenophylla</i> 1-2	Pencilleaf Acacia
T	SD	<i>Acacia willardiana</i> 1-2 (sh)	Palo Blanco
A Sc	CD	<i>Agave americana</i> 1-2	Century Plant
A Sc	SD	<i>Agave colorata</i> 1	Agave
A Sc	CD	<i>Agave filifera</i> 1-2	Agave
A Sc	SD	<i>Agave huachuensis</i> 1-2	Huachuca Agave
A Sc	CD	<i>Agave lophantha</i> = <i>A. univittata</i> 2	Agave
A Sc	SD	<i>Agave ocahui</i> 1-2	Ocahui Agave
A Sc	CD	<i>Agave victoriae-reginae</i> 1-2	Victoria Regina Agave
A Sc	SD	<i>Agave vilmoriniana</i> 1-2 (sh)	Octopus Agave
A Sc, cl		<i>Aloe barbadensis</i> 2-3 (sh)	Barbados Aloe
A Sc, cl		<i>Aloe ferox</i> 2-3 (sh)	Cape Aloe
A Sc, cl		<i>Aloe saponaria</i> 2-3 (sh)	Mediterranean Aloe
S	SD, CD	<i>Aloysia gratissima</i> 2	Fragrant Bush, Bee Brush
S	SD, CD	<i>Aloysia wrightii</i> 2	Wright's Oregano
S	SD	<i>Ambrosia (Franseria) deltoidea</i> 1	Triangle-leaf Bursage
S	SD	<i>Ambrosia (Franseria) dumosa</i> 1	White Bursage
S	SD	<i>Anisacanthus thurberi</i> 2	Desert Honeysuckle
V, cl	SD	<i>Anigonon leptopus</i> 2-3 (t)	Queen's Wreath
Gr	SD, CD	<i>Aristida purpurea</i> 1	Purple three-awn
S	SD, CD	<i>Asclepias linaria</i> 2	Pine-Leaf Milkweed
A	SD	<i>Asclepias subulata</i> 2 (sh)	Desert Milkweed
an	SD	<i>Aster bigelovii</i> 1 (t)	Aster
an	SD, CD	<i>Aster tanacetifolius</i> 1 (t)	Aster
S	SD, CD	<i>Atriplex canescens</i> 1	Four-Wing Saltbush
S	SD	<i>Atriplex lentiformis</i> 1 (t)	Quail Bush
S	SD	<i>Atriplex lentiformis breweri</i> 1-2	Brewer Saltbush
A, S		<i>Atriplex nummularia</i> 1	Old Man Salt-brush
S	SD	<i>Atriplex polycarpa</i> 1	Desert Salt-brush
S		<i>Atriplex semibaccata</i> 2	Australian Saltbush
S, I	SD	<i>Baccharis sarothroides</i> 1-2	Desert Broom
S, Gc	SD	<i>Baccharis sarothroides</i> 'Centennial' 1-2	Centennial
p, cl	SD	<i>Bahia absinthifolia</i> 2	Desert Daisy
Gc, p, cl*	SD, CD	<i>Baileya multiradiata</i> 1-2	Desert Marigold
S	SD	<i>Berberis hammoniana</i> 3	Barberry
Gr	SD, CD	<i>Bouteloua curupendula</i> 1	Sideoats Grama
T		<i>Brachychiton populneus</i> 2-3	Bottle Tree
A T	SD	<i>Brahea armata (Erythra armata)</i> 2-3	Mexican Blue Palm
Gr	CD	<i>Buchloe dactyloides</i> 2-3	Buffalo Grass
S, cl*		<i>Caesalpinia gilliesii (Poinciana)</i> 1-2	Yellow Bird of Paradise
S, cl*	CD	<i>Caesalpinia mexicana</i> 2	Mexican Bird of Paradise (yellow)
S, cl*		<i>Caesalpinia pulcherrima (Poinciana)</i> 3 (sh)	Red Bird of Paradise
S, cl	SD	<i>Ceanothus californicus</i> 2-3 (t)	Red Fairy Duster
S, cl	SD	<i>Ceanothus enophylla</i> 1	Fairy Duster, False Mesquite

Appendices

		BOTANICAL NAME	COMMON NAME
A, S, cl	SD	<i>Calliandra peninsularis</i> 2-3 (sh)	Red Calliandra
T, S, cl		<i>Callistemon citrinus</i> 3 (sh)	Lemon Bottlebrush
Gc	CD	<i>Calyiophus hartwegii</i> 3	Calyiophus
V, cl	SD, CD	<i>Campsis radicans</i> 2-3	Common Trumpet Creeper
A, C	SD	<i>Carnegiea gigantea</i> 1	Saguaro
Jc, Sc, cl		<i>Carpobrotus edulis</i> (Mesembryanthemum) 3 (t)	Ice Plant
p, cl	SD	<i>Cassia</i> (=Senna) <i>covesii</i> 1-2	Desert Senna
S, p, cl	SD, CD	<i>Cassia</i> (=Senna) <i>wislizenii</i> 2	Cassia, Shrubby Senna
S, cl		<i>Cassia artemisioides</i> 2-3 (sh)	Wormwood Senna, Feathery Cassia
S	CD	<i>Cassia lindheimeriana</i> 4 (sh)	Senna
S, cl		<i>Cassia nemophila</i> (C. <i>eremophila</i> ) 2	Green Cassia
S, cl		<i>Cassia phyllodinea</i> 2-3	Silvery Cassia
T		<i>Casuarina cunninghamiana</i> 3	Australian Pine
T		<i>Casuarina stricta</i> 3	Coast Beefwood
S	SD, CD	<i>Celtis pallida</i> 1-2	Spiny or Desert Hackberry
T	SD, CD	<i>Celtis reticulata</i> (C. <i>douglasii</i> , C. <i>tala</i> ) 2	Netleaf or Western Hackberry
p, cl		<i>Centaurea cineraria</i> 3	Dusty Miller
Gc, Sc, cl		<i>Cephalophyllum</i> 'Red Spike' 2	Red Spike Ice Plant
T		<i>Ceratonia siliqua</i> 3 (sh)	Carob, St. John's Bread Tree
T, cl	SD	<i>Cercidium floridum</i> 2-3	Blue Palo Verde
T, cl	SD	<i>Cercidium microphyllum</i> 1-2	Littleleaf or Foothill Palo Verde
T, cl	SD	<i>Cercidium praecox</i> 1-2 (sh)	Palo Brea
T, cl	SD	<i>Cercidium sonora</i> 1-2	Sonoran Palo Verde
A, C		<i>Cereus peruvianus</i> 'Monstrosus' 1-2 (sh)	Peruvian Cereus
A, T		<i>Chamaerops humilis</i> 2-3	Mediterranean Fan Palm
T, S, cl	SD, CD	<i>Chilopsis linearis</i> 2-3	Desert Willow
V, l	CD	<i>Cissus incisa</i> 1-2	Desert Grape Ivy
V	SD	<i>Cissus trifoliata</i> 1-2	Desert Grape Ivy
S	SD, CD	<i>Condalia warnockii</i> var. <i>keameyana</i> 1	Condalia
S, Gc, cl*		<i>Convolvulus cneorum</i> 1-2	Bush Morning Glory
Gc, cl		<i>Convolvulus mauritanicus</i> 3 (sh)	Ground Morning Glory
S, cl	CD	<i>Cordia boissieri</i> 2-3 (sh)	Anacahuita, Texas Olive
S, cl	SD, CD	<i>Cordia parvifolia</i> 1-2	Littleleaf Cordia
T	SD, CD	<i>Cupressus arizonica</i> 2	Arizona Cypress
T	SD	<i>Cupressus glabra</i> 2-3	Smooth Bark Cypress
T		<i>Dalbergia sissoo</i> 3 (sh)	Rosewood
S	SD	<i>Dalea bicolor</i> var. <i>argyrea</i> 2-3	Silver Dalea
S, cl	CD	<i>Dalea frutescens</i> 2-3	Black Dalea
Gc	CD	<i>Dalea greggii</i> 2-3	Trailing Indigo Bush
S, cl	SD	<i>Dalea pulchra</i> 2-3	Indigo Bush
S, cl	SD	<i>Dalea versicolor</i> var. <i>sessilis</i> 3	Indigo Bush, Dalea
A	CD	<i>Dasyliirion acrotiche</i> 1	Green Desert Spoon
A	SD, CD	<i>Dasyliirion wheeleri</i> 1	Sisal, Desert Spoon
Gc, an, cl		<i>Dimorphotheca sinuata</i> 4	African Daisy, Cape Marigold
S	SD, CD	<i>Dodonaea viscosa</i> 1-2 (sh)	Hopbush
Gc, an/p, cl	SD, CD	<i>Dyssodia pentachaeta</i> 2-3	Dyssodia
A, C, cl	CD	<i>Echinocereus pectinatus</i> 1	Hedgehog, Strawberry Cactus
A, C, cl		<i>Echinopsis</i> 1	Easter Lily, Sea Urchin Cactus
S, cl	SD	<i>Encelia californica</i> 1-2 (sh)	California Brittlebush
S, cl	SD	<i>Encelia farinosa</i> 1-2 (sh)	Brittlebush
Gr	SD, CD	<i>Eragrostis intermedia</i> 1	Plains Lovegrass
S, cl		<i>Eremophila decipiens</i> 1	NCN
an, cl	SD	<i>Eschscholtzia californica</i> 2-3	California Poppy
an, cl	SD	<i>Eschscholtzia mexicana</i> 3	Mexican Gold Poppy
T		<i>Eucalyptus camaldulensis</i> 2	Red River Gum
T		<i>Eucalyptus campaspe</i> 2-3 (sh)	Silver Gimit
T		<i>Eucalyptus formanii</i> 2	Eucalyptus
-, cl		<i>Eucalyptus leucoxylon</i> (E. <i>rosea</i> ) 2	White Iron Bark
T		<i>Eucalyptus microtheca</i> 1-2	Tiny Capsule Eucalyptus

Appendices

		BOTANICAL NAME	COMMON NAME
T		Eucalyptus polyanthemus 2	Silver Dollar Gum
T		Eucalyptus rudis 2	Desert Gum
T		Eucalyptus spathulata 3	Swamp Mallee
S	CD	Euphorbia antisyphilitica 1	Wax Plant, Candelillo
A Gc		Euphorbia myrsinites 2	Euphorbia
S, Sc, cl*		Euphorbia rigida (E. biglandulosa) 2	Euphorbia rigida
T, S, cl		Feijoa sellowiana 3	Pineapple Guava
A C	SD	Ferocactus acanthodes 1	Compass Barrel Cactus
A C	SD, CD	Ferocactus wislizeni 1	Fishhook Barrel Cactus
Gr	SD, CD	Festuca megalura 3	Zorro Fescue
A, cl	SD, CD	Fouquieria splendens 1	Ocotillo
an, cl	CD	Gaillardia pulchella 3	Fire Wheel, Blanket Flower
Gc, cl		Gazania rigens 3-4	Treasure Flower, Gazania
Gc, cl		Gazania rigens 'Copper King' 3-4	Copper King Gazania
Gc, cl		Gazania rigens leucolaena 3-4 (t)	Trailing Gazania
T, cl		Geoffreyia decoricans = Gourieia decoricans 1	Chilean Palo Verde
S, cl	SD	Gossypium harknessii 2 (t)	Gossypium
S, cl	SD, CD	Hapiopappus laricifolius = Ericameria 1	Turpentine Bush
A	CD	Hesperaloe funifera 1-2	Giant Hesperaloe
A, cl	CD	Hesperaloe parviflora 1-2	Red Yucca
S	SD, CD	Hibiscus coulteri 2	Desert Rose Mallow
Gr		Hilaria jamesii 3	Galleta Grass
A S	SD	Hyptis emoryi 3 (sh)	Desert Lavender
A S	SD	Jatropha cardiophylla 1	Limberbush
A S, cl	CD	Jatropha dioica 1 (t)	Jatropha
T, S		Juniperus chinensis 3	Juniper (many cultivars)
T	SD, CD	Juniperus deppeana 3	Alligator Bark Juniper
S		Juniperus sabina 'Arcadia' 3	'Arcadia' Juniper
A S, cl	SD	Jusúcia californica (Beloperone) 2-3 (t)	Chuparosa
S, cl	SD	Jusúcia candicans (J. ovata) 3 (sh)	Jacobinia
S, cl	SD	Jusúcia spicigera (Jacobinia g.) 3 (sh)	Mexican Honeysuckle
S, cl*		Lantana camara 3-4	Bush Lantana (many cultivars)
Gc, cl*		Lantana montevidensis 3-4	Trailing Lantana
S, cl	SD, CD	Larrea tridentata 1	Creosote Bush
A C	SD	Lemaireocereus thurberi 1 (t)	Organ Pipe Cactus
Gr	CD	Leptochloa dubia 3	Green Sprangle-Top
T, S, cl	CD	Leucaena retusa 1-2	Golden Leadball
S, cl	CD	Leucophyllum candidum 2	Silver Leaf Rain Sage
S, cl	CD	Leucophyllum frutescens 2	Texas Ranger, Texas Sage
S, cl	CD	Leucophyllum frutescens 'Compacta' 2	Compact Texas Ranger
S, cl	CD	Leucophyllum laevigatum 2	Chihuahuan Rain Sage
S, cl	CD	Leucophyllum zygophyllum 2	Blue Ranger
Gc, an, cl		Linum grandiflorum 'Rubrum' 3	Scarlet Flax
an, cl	SD, CD	Linum lewisii 3	Blue Flax
an	SD	Lupinus arizonicus 1 (t)	Lupine
an, cl	SD	Lupinus sparsiflorus 3	Desert Lupine
an	SD	Lupinus sparsiflorus 1 (t)	Lupine
an, cl	SD	Lupinus succulentus 3	Arroyo Lupine
an	SD	Lupinus succulentus 1 (t)	Lupine
S	SD	Lycium exsertum 1	Lycium
S	SD	Lycium fremontii 1	Wolfberry
T, S	SD	Lysiloma thornberi 2-3 (sh)	Feather Bush
V, cl		Macfadyena unguis-cati (Doxantha unguis-cati) 2-3	Cat's Claw Vine
Gc, Sc, cl		Maiephora crocea 2-3	Crocum, Ice Plant
V, cl	CD	Mascagnia lilacina 2-3	Lavender Orchid Vine
V, cl	SD, CD	Mascagnia macroptera 2-3 (sh)	Yellow Orchid Vine
S	SD, CD	Maytenus phyllanthoides 1-2	Mangle Dulce
Gc, p, cl	CD	Melampodium leucanthum 2	Blackfoot Daisy
V, cl	SD	Merremia aurea 2-3 (t)	Yellow Merremia

Appendices

		BOTANICAL NAME	COMMON NAME
S. cl	SD	Mimosa dysocarpa 2	Veivertpod
Gr	SD	Muhlenbergia dumosa 3-4	Bush Muhlenbergia
Gc		Myoporum parvifolium 3	Myoporum
S		Myrtus communis 2-3	True Myrtle, Roman Myrtle
S#		Myrtus communis 'Boeuca' 2-3	Twisted Myrtle
		Myrtus communis 'Compacta' 2-3	Dwarf Myrtle
S. cl		Nandina domestica 3	Heavenly Bamboo
S. cl*		Nerium oleander 2-3	Oleander (cultivars/dwarfs)
A Gr	SD	Nolina bigelovii 1-2	Beargrass
A Gr	SD	Nolina matapensis 1-2	Tree Beargrass
A Gr	SD	Nolina microcarpa 1-2	Beargrass
A Gr	SD	Nolina parryi 1-2	Parry's Beargrass
Gc. cl	CD	Oenothera berlandieri (O. speciosa childisii) 3	Mexican Evening Primrose
an. cl	SD	Oenothera caespitosa 2-3	Tufted Evening Primrose
Gc. cl	SD	Oenothera drummondii 2-3	Baja Primrose
Gc. cl	CD	Oenothera stubbii 2-3	Chihuahuan Primrose
T		Olea europa 'Swan Hill' 3	Swan Hill Olive
T	SD	Oleaya tesota 1	Ironwood, Tesota
A C	SD	Opuntia basilaris 1	Beavertail Cactus
A C	SD	Opuntia bigelovii 1	Teddy Bear Cholla
A C		Opuntia ficus-indica 1	Indian Fig
A C	CD	Opuntia microdasys 1	Rabbit Ears Prickly Pear
A C. cl	SD, CD	Opuntia phaeacantha discata (O. engelmannii) 1	Englemann Prickly Pear
A C	SD	Opuntia versicolor 1	Staghorn Cactus
A C. cl	SD	Opuntia violacea 'Santa Rita' 1	'Santa Rita' Prickly Pear
A C	CD	Opuntia violacea macrocentra 1	'Long-Spine' Prickly Pear
Gc. cl		Osteospermum fruticosum 3-4	Trailing African Daisy
Gr	CD	Panicum virgatum 3	Switch Grass
T. cl	SD, CD	Parkinsonia aculeata 1-2	Mexican Palo Verde
V	SD	Passiflora foetida 3	Passion Flower
A Gr		Pennisetum setaceum 'Cupreum' 1-2	Purple Fountain Grass
S. cl	CD	Penstemon baccharifolius 3	Cutleaf Penstemon
p. cl	SD, CD	Penstemon barbatus 3	Beardtongue Penstemon
p. cl	SD	Penstemon eatoni 3	Eaton's Penstemon
p. cl	SD	Penstemon parryi 3	Parry Penstemon
p. cl	SD	Penstemon pseudospectabilis 3	Canyon Penstemon, Mohave Beardtongue
p. cl	CD	Penstemon superbus 3	Superb Penstemon
Gc		Pentzia incana 1-2	Karoo Bush
an. cl	SD	Phacelia campanularia 2-3	Desert Canterbury Bells
an. cl	SD	Phacelia tanacetifolia 2-3	Tansy Phacelia
A T		Phoenix canariensis 2-3	Canary Island Date Palm
A T		Phoenix dactylifera 3-4	Date Palm
Gc. cl		Phyla nodiflora 3-4	Lippia
T		Pinus edulis 2-3	Pinon Nut Pine
T#		Pinus eldarica 2	Afghan Pine
T		Pinus halepensis 2	Aleppo Pine
T		Pinus monophylla 2	Singleleaf Pinon Pine
T		Pinus pinea 2-3	Italian Stone Pine
T		Pinus roxburghii 3	Chir Pine
T		Pistacia atlantica 2	Mt. Atlas Pistache
T. cl		Pistacia chinensis 3	Chinese Pistache
T		Pistacia vera 2-3	Pistachio
T	CD	Pithecellobium flexicaule 2 (sh)	Texas Ebony
T	SD	Pithecellobium mexicanum 3	Mexican Ebony
T	CD	Pithecellobium pallens 2	Teraza
T		Pittosporum phillyracoides 2	Willow Pittosporum
an	SD, CD	Plantago spp. 1-2	Indian Wheat
T#		Prosopis (So. Am. hybrid) 1-2	Thornless Mesquite (So. Am. hybrid)
T#		Prosopis alba 1-2	Argentine Mesquite

Appendices

		BOTANICAL NAME	COMMON NAME
T#		<i>Prosopis chilensis</i> 1-2	Chilean Mesquite
T#	CD	<i>Prosopis glandulosa glandulosa</i> 1-2	Honey or Texas Mesquite
T	SD, CD	<i>Prosopis pubescens</i> 1-2	Scrowbean Mesquite
T#	SD	<i>Prosopis velutina</i> 1-2	Velvet Mesquite
p. cl.	SD, CD	<i>Psilostrophe cooperi</i> 2	Paper Flower
T, S, cl.		<i>Punica granatum</i> 2-3	Pomegranate
S, cl.		<i>Pyracantha</i> (red bermed types) 2-3	<i>Pyracantha</i> (many cultivars)
T	SD, CD	<i>Quercus arizonica</i> 4	Arizona White Oak
T	SD, CD	<i>Quercus emoryi</i> 4	Emory Oak
T		<i>Quercus ilex</i> 4	Holly Oak
T*		<i>Quercus suber</i> 2	Cork Oak
T		<i>Quercus virginiana</i> 'Heritage' 2-3	Heritage Live Oak
T		<i>Rhus lancea</i> 2	African Sumac
S	SD	<i>Rhus ovata</i> 2	Sugar Bush, Sugar Sumac
S, cl.	CD	<i>Rhus virens</i> 2	Evergreen Sumac
A, S, Gc, V		<i>Rosa banksia</i> 1 (t)	Lady Banks Rose, Tombstone Rose
S, cl.		<i>Rosmarinus officinalis</i> 2-3	Bush Rosemary
Gc, cl.		<i>Rosmarinus officinalis</i> 'Prostratus' 2-3	Dwarf or Trailing Rosemary
S, cl.	SD	<i>Ruellia californica</i> 3 (t)	Ruellia
S, cl.	SD	<i>Ruellia peninsularis</i> 3 (t)	Ruellia
A, Sc, Gc		<i>Ruschia uncinatus</i> 2	Ruschia
S, p, cl.	CD	<i>Salvia chamaedryoides</i> 2-3	Blue Sage
an, cl.	SD	<i>Salvia columbariae</i> 3	Chia
S, cl.	CD	<i>Salvia farinacea</i> 4 (sh)	Mealy Blue Sage
S, cl.	CD	<i>Salvia greggii</i> 2-3	Texas Red Salvia, Autumn Sage
S, cl.	SD	<i>Salvia mohavensis</i> 2	Mojave Sage
T	SD, CD	<i>Sambucus mexicana</i> 1-2	Mexican Elderberry
S, Gc*		<i>Santolina chamaecyparissus</i> 2-3	Lavender Cotton
S, Gc, cl		<i>Santolina virens</i> 3-4	Green Santolina
T*	SD, CD	<i>Sapindus saponaria</i> 4	Soapberry
T		<i>Schinus molle</i> 2-3	California Pepper Tree
p, cl*		<i>Senecio cineraria</i> 3	Dusty Miller, Silver Plant
Gc		<i>Sesuvium verrucosum</i> 2 (t)	Sea Purslane, Ice Plant
Gr	SD, CD	<i>Setaria macrostachya</i> 3	Plains Bristle Grass
S	SD	<i>Simmondsia chinensis</i> 1-2	Jojoba, Goat Nut
T, S, cl*	CD	<i>Sophora secundiflora</i> 2-3	Mescal Bean, Texas Mountain Laurel
p, cl.	SD, CD	<i>Sphaeralcea</i> spp. 2	Globe-Mallow
Gr	SD, CD	<i>Sporobolus airoides</i> 3	Alkali Sacaton
Gr	SD, CD	<i>Sporobolus cryptandrus</i> 3	Sand Dropseed
S, p, cl.	SD	<i>Tagetes lemmoni</i> 3-4	Mountain Marigold
T		<i>Tamarix aphylla</i> 1	Athel Tree, Tamarisk
T, S, l		<i>Tamarix parviflora</i> or <i>chinensis</i> 2	Spring Flowering Salt Cedar
S, cl.	SD, CD	<i>Tecoma stans</i> var. <i>angustata</i> 2-3 (t)	Trumpet-Bush
S, cl.		<i>Tecomaria capensis</i> 4 (sh)	Cape Honeysuckle
S, Gc		<i>Teucrium chamaedrys</i> 2-3	Germander
S		<i>Teucrium fruticans</i> 3	Bush Germander
T, cl.	CD	<i>Ungnadia speciosa</i> 3	Mexican Buckeye
T, S#	SD	<i>Vauquelinia californica</i> 2	Arizona Rosewood
p, cl.	SD	<i>Verbena gooddingii</i> 4	Goodding Verbena
p, cl.		<i>Verbena peruviana</i> 4	Peruvian Verbena
p, cl.		<i>Verbena tenuisecca</i> 3	Verbena
an, cl.	SD, CD	<i>Verbesina encelioides</i> 2	Crown Beard
T, S, cl		<i>Vitex agnus-castus</i> 2	Chaste Tree, Monk's Pepper
A, T	SD	<i>Washingtonia filifera</i> 2	California Fan Palm
A, T	SD	<i>Washingtonia robusta</i> 2-3 (sh)	Mexican Fan Palm
T, S		<i>Xylosma congestum</i> 3	Xylosma
A	SD	<i>Yucca aloifolia</i> 1	Spanish Bayonet, Yucca
A	SD	<i>Yucca baccata</i> 1	Banana Yucca
A, T	CD	<i>Yucca brevifolia</i> 1	Joshua Tree

		BOTANICAL NAME	COMMON NAME
A	CD	<i>Yucca carnerosana</i> 1	Giant Dagger Yucca
A	SD, CD	<i>Yucca elata</i> 1	Soapweed Yucca
A, Sc		<i>Yucca glauca</i> 1	Small Soapweed Yucca
A		<i>Yucca recurvifolia</i> ( <i>Y. pendula</i> ) 2	Pendulous or Curvleaf Yucca
p, cl	CD	<i>Yucca rigida</i> 1	Blue Dagger Yucca
.	CD	<i>Yucca rostrata</i> 1	Beaked Yucca
A, Sc	SD	<i>Yucca schottii</i> ( <i>Y. macrocarpa</i> ) 1	Mountain Yucca
A	CD	<i>Yucca treculeana</i> 1	Tree Yucca
A	SD	<i>Yucca whipplei</i> 1	Our Lord's Candle
S, Gc, cl	SD	<i>Zauschneria californica</i> ( <i>Epilobium canum</i> ) 3	Hummingbird Trumpet
p, cl	SD, CD	<i>Zinnia acerosa</i> 1	Desert Zinnia
p, cl	CD	<i>Zinnia grandiflora</i> 2	Rocky Mountain Zinnia
T		<i>Zizyphus jujuba</i> 2	Chinese Jujube, Common Jujube

## Appendix F: Continental School District Letter

### Continental School District No. 39

*Governing Board*  
Cheryl A. Magnuson, *President*  
Deora E. Schall, *Clerk*  
Dr. Randy Aronson, *Member*  
Chet Davis, *Member*  
Sheiley Wooley, *Member*  
*Administration*  
Jane S. Pryne, *Superintendent*

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May 13, 1999

Mr. Danny Castro  
The Planning Center  
110 S. Church Ave. Suite 1260  
Tucson, AZ 85701

Dear Mr. Castro:

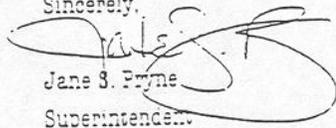
This letter is concerning our conversation of May 12, 1999, about the Madera Highlands Development. The proposal of 1800 units would have a significant impact on our school district of 275 students. We have the capacity for 550 students currently, and the formula we use to calculate the number of children a development would generate is .8 children per home. This development could conceivably generate 1440 children. That would mean a new school and site would have to be planned with all stake holders involved.

There are new funding laws for building schools, and this is a real concern for us. In order for districts to apply for new schools and additions to current buildings we need a 3-5 year lead time. There is a 10 member School Facilities Board for the state of Arizona that decides who will receive funding for buildings and additions to existing structures. If the student population grows faster than we have buildings to house them it creates real problems for these families.

We would like to work with you and the developers to come up with a viable solution to this dilemma before it becomes a dilemma.

Thank you for your help with involving us.

Sincerely,



Jane S. Pryne  
Superintendent

Building for the Future - Learning, Cooperating, and Caring

## Appendix G: Bibliography

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Zoning Code Town of Sahuarita, Arizona. Sahuarita, Arizona.

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