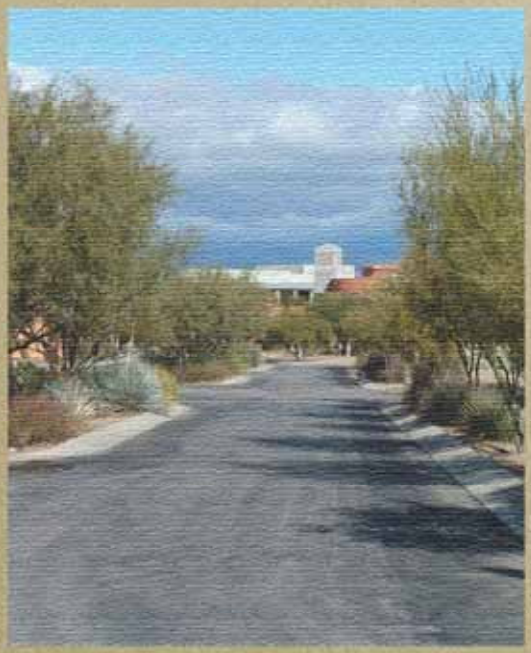
Civano
Master PAD

Formal Submittal
Revised: April 7, 2005

* Sierra Morado PAD
* Pavilions PAD
* Neighborhood 1 PAD



Pulte Homes

Architects and Planners, Inc.
Bloodgood Sharp Buster

LVA
Urban Design Studio L.L.C.

Novak Environmental, Inc.

MMLA
McGovern MacVittie Lodge & Associates, Inc.

CIVANO

MASTER PLANNED AREA DEVELOPMENT

District PAD's Include:
SIERRA MORADO PAD
PAVILIONS PAD
NEIGHBORHOOD 1 PAD

Revised Submittal
City of Tucson
Revised April 7, 2005

CIVANO

MASTER PAD/DISTRICT PAD'S

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A. INTRODUCTION AND POLICY

A-1 INTRODUCTION

For many years, leaders in Tucson and throughout the State of Arizona have acknowledged that the way we design and build our communities must focus on principles of sustainability: the use of the sun as our primary source of energy; the conservation and multiple use of water; the configuration of uses on the land which minimizes the use of fossil fuel and time-consuming automobile travel; the reduction of waste in both product and time; and the development of a sense of community, social interaction, and place. The development of this Civano Master Planned Area Development ("PAD") is an attempt to demonstrate our ability to accomplish these broad goals. Specific performance targets relating to these goals have been developed and are enumerated in this document.

The original Civano – Tucson Solar Village Development Plan (the 1991 Civano Master Plan") and subsequent Civano Master PAD has been planned within a highly cooperative framework of public, private and community interests at the local, state and national level, with leadership by Pulte Homes (as the current "Master Developer"), the Tucson-Pima County Metropolitan Energy Commission, the City of Tucson, Arizona ("City") and the State of Arizona. It is the goal of all participants that the development of Civano will light the way for future generations to plan and build more harmony with natural forces.

A-2 PROJECT OVERVIEW AND LOCATION

Civano is an approximate 818-acre master planned community nestled south of the Catalina Mountains and west of the Rincon Mountains in the regulatory jurisdiction of the City. Civano is bordered to the north by Irvington Road and the Pantano Wash, to the west by Houghton Road, to the south by Bilby Road, and to the east generally by Melpomone Way and the Pantano Wash as shown on **Figure 1**, *Location and Regional Context*. The property lies within Sections 1 and 12 of Township 15 South, Range 15 East.

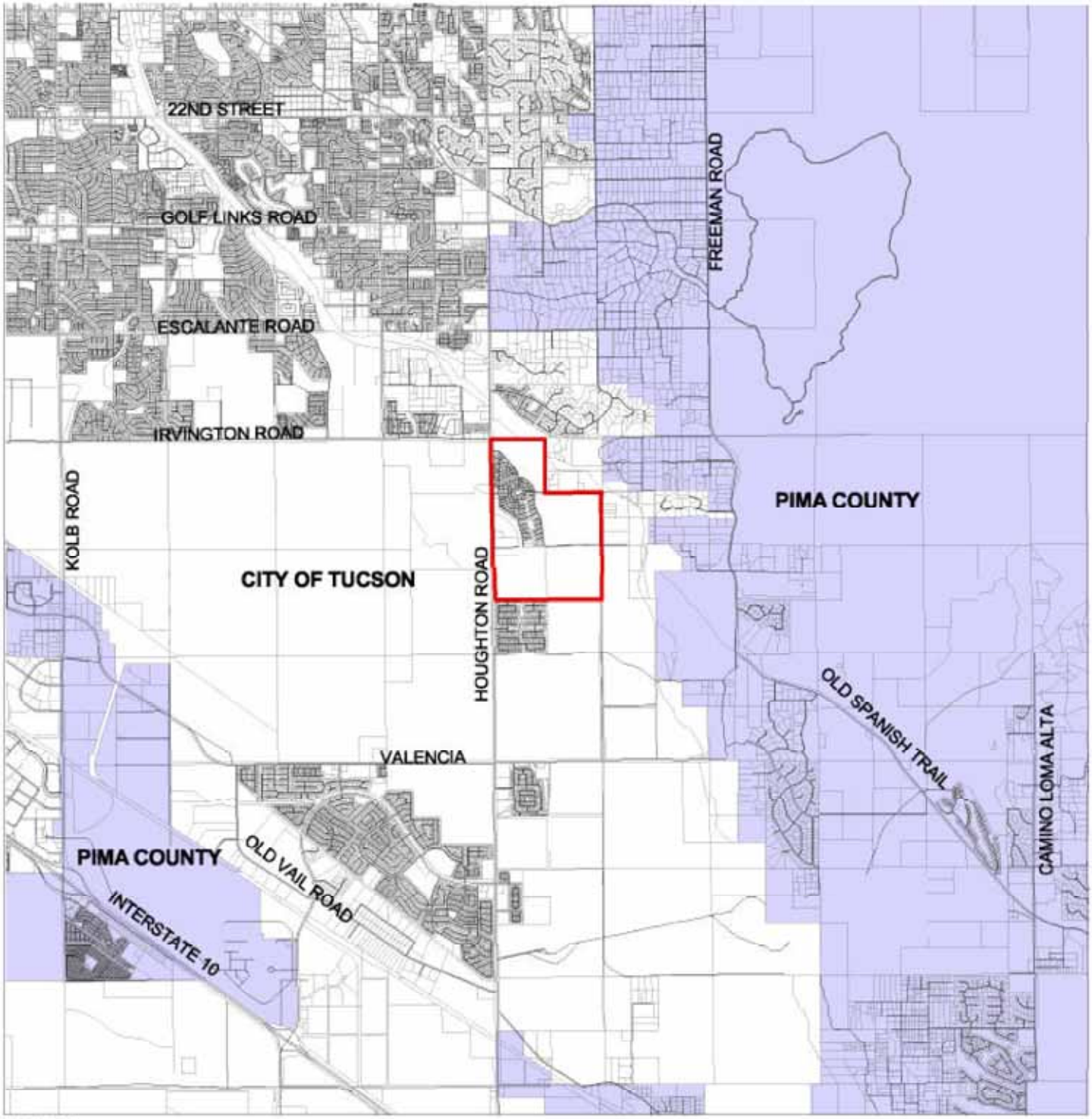
This document establishes the overall Civano Master PAD, encompassing approximately 818 acres, as well as individual district Planned Area Developments (PAD's) for the Sierra Morado Planned Area Development District (Sierra Morado PAD) encompassing approximately 456 acres, the Commercial Pavilions Planned Area Development District (Pavilions PAD), encompassing approximately 58 acres, and the Civano Neighborhood 1 Planned Area Development District (Neighborhood 1 PAD), encompassing approximately 304 acres. Additionally, the Master PAD portion of this document fully supersedes prior City and State-adopted master development plans and provides master development guidelines for all 818-acres of the three PAD Districts described above, collectively referred to as "Civano PAD Districts".

Civano is designed to offer a unique sustainable and livable community based on principles of long-term sustainability and "new urbanism" concepts. These concepts include a respect for, and integration with, the natural environment and the creation of a pedestrian-friendly community. Civano will provide for a broad range of housing types, including single family and mixed dwelling type residential development, non-residential uses, community center and recreation facilities, as well as an open space network meandering throughout the community.

Primary ingress and egress to the Civano Master PAD will be from Houghton Road, Bilby Road and Seven Generations Way along the western and southern perimeters of the property. Secondary access will be from Drexel Road, providing access to various residential neighborhoods as well as the primary commercial development along Houghton Road and Drexel Road.

This document is organized into seven major sections with supporting appendices. These sections include an introduction and policy analysis; a site analysis and inventory summary of existing conditions; the Civano Master PAD; the regulatory development standards for each of the three PAD Districts (Sierra Morado PAD, Pavilions PAD and Neighborhood 1 PAD); and the implementation and administration procedures of the PAD Districts. This document has been prepared to satisfy the requirements of Article II, Division 6, Section 2.6.3 of the City's Land Use Code (LUC).

FIGURE 1: LOCATION & REGIONAL CONTEXT



Legend

- Master PAD Boundary
- City of Tucson
- Pima County

THE PLANNING CENTER

0 7000 Feet

Source: Pima County Land Information Systems (PCLIS) January, 2004.

CIVANO MASTER PAD

0' 3500' 7000'

NORTH

PRELIMINARY-NOT FOR CONSTRUCTION

MMLA

Bloodgood Sharp Buster

LVA

A-3 PROJECT HISTORY

The concepts guiding the development of Civano evolved from the collaboration of public and private interests beginning in the late 1980s to provide a model for sustainable development. Under the early leadership of the Tucson-Pima County Metropolitan Energy Commission and with assistance and funding from the State Department of Commerce and the City, a proposal for a "Model Solar Village" was prepared for development on State Land on Tucson's east side. The 1991 Civano Master Plan was initially implemented as a condition of rezoning of the property by the City and was subsequently approved by the Arizona State Land Department in 1992.

The City then sought a developer for the property who would implement the 1991 Civano Master Plan and offered substantial financial support for the initial development. In 1995, the City adopted the "Civano IMPACT System Standards" to clarify the resource conservation goals, objectives and requirements of the project. The Civano IMPACT System Standards provided for implementation through a "Memorandum of Understanding" to be reached between the City and the future developer.

In 1996, the Trust for Sustainable Development and Case Enterprises became the developers for Civano and entered into a development agreement with the City that provided for the City financial investment and the implementation of the 1991 Civano Master Plan and IMPACT System Standards (the "Civano Development Agreement"). Following City approval of the Civano Development Agreement on July 1, 1996, The Community of Civano, LLC purchased the interests of the Trust for Sustainable Development. The developers then purchased the Civano property in a public auction conducted by the Arizona State Land Department.

The original developers prepared and obtained approval of the Neighborhood 1 Specific Plan (now a PAD) in October 1997, and subsequently commenced construction. The interests of the developers was subsequently purchased by the Fannie Mae corporation.

In December 2003, the Mayor and Council approved revisions to the Civano Development Agreement, the Civano IMPACT System Standards and the Memorandum of Understanding. The City further provided for the residential development at the northeast corner of Bilby and Houghton Roads in Civano and the revision and conversion of the 1991 Civano Master Plan into a Master PAD. The Pulte Home Corporation acquired the interests of the Master Developer and has prepared this Civano Master PAD to guide the future development of Civano.

The principal documents applying to the development at Civano include:

A-3.a. 1991 Civano-Tucson Solar Village Development Plan

On October 14, 1991, the 1991 Civano Master Plan was approved as an Exhibit to Ordinance No. 7697 establishing the original Civano rezoning conditions in rezoning case C9-91-14. This 1991 Civano Master Plan

was prepared to guide the development of the Civano community with a focus on principles of sustainability; the use of the sun as the primary source of energy; the conservation and multiple uses of water; the configuration of uses on the land which minimizes the use of fossil fuel and time-consuming automobile travel; and the development of a sense of community, social interaction, and place. The City required, as a condition of the rezoning that future development conform to the 1991 Civano Master Plan.

A-3.b. Rezoning Conditions

The Rezoning Conditions were originally established by Ordinance No. 7697 adopted by Mayor and Council on October 14, 1991, in Case C9-91-14. The Rezoning Conditions were amended by Ordinance No. 8971, adopted by Mayor and Council on October 20, 1997. Most recently, on December 8, 2003, the Mayor and Council adopted Ordinance No. 9919, amending certain of the Rezoning Conditions limited to the northeast corner of Bilby Road and Houghton Road.

A-3.c. 1992 Civano Master Development Plan

The 1991 Civano Master Plan was approved by the City as part of the rezoning conditions for Case C9-91-14 on October 14, 1991. The plan was subsequently modified and submitted for approval to the Arizona State Land Department. The Arizona State Land Department approved the modified Civano Master Plan on March 5, 1992, however, the modified "1992 Civano Master Plan" was never adopted by the City.

A.3.d. Civano IMPACT Standards

The Civano IMPACT System Standards were approved by the Mayor and Council on October 2, 1995, to implement the rezoning conditions that required conformance with resource conservation performance targets. The Civano IMPACT System Standards describe the principal areas for resource conservation, the required and suggested performance targets for each and the party responsible for implementing each.

A.3.e. Civano Development Agreement

The Civano Development Agreement was originally entered into between the City, the Trust for Sustainable Development, Investors for Sustainable Development and Case Enterprises, approved on July 1, 1996 by Resolution No. 17345, and recorded at Docket 10333, Page 1109, Official Records of Pima County. Subsequent amendments, an addendum and a clarification modified the parties and terms of the Civano Development Agreement between 1997 and 2003. On December 8, 2003, the Mayor and Council approved a Revised Civano Development Agreement that fully amended, restated and superceded the Civano Development Agreement and all prior amendments, and the addendum and clarification.

A-3.f. Arizona State Land Department Patent Conditions

In July 1996, the Arizona State Land Department held a public auction of the approximate 818 acres of the original Civano property. At the time of auction of the original Civano Property, the State of Arizona issued

State Land Patent No. 5352533-01 to transfer title to private parties. The State Land Patent includes certain "State Land Patent Conditions" that the developer of the property must satisfy. The State of Arizona retains a reversionary interest in the Civano property, except for Neighborhood 1, until these conditions are satisfied. The conditions include certain requirements for the 1991 and 1992 Civano Master Plan compliance, adoption of private covenants, access, archeological review, public roadway and utility dedication and construction of sewer lines through and to the edge of the eastern boundary of the property and through and to the edge of the southern boundary of the Civano property.

A.3.g. Memorandum of Understanding

On June 26, 1998, the City and the Master Developer approved the initial Memorandum of Understanding which provides for the implementation of the Civano IMPACT System Standards.

A-3.h. 1997 Civano Neighborhood 1 Planned Area Development

On October 20, 1997, the Civano Neighborhood 1 PAD was approved by the City as City Planned Area Development 6A, Ordinance No. 8970 (the "Neighborhood 1 PAD"). The Neighborhood 1 PAD (originally called a Specific Plan) was revised on October 12, 1998. The Neighborhood 1 PAD directs the development of Civano's Neighborhood One and portions of the Town Center and to assure consistency with the adopted 1991 Civano Master Plan and other related City plans and policies. The Neighborhood 1 PAD covers approximately 170 acres of land within the 818-acre Civano property and includes mixed-use neighborhoods, a variety of residential living environments, recreation and cultural facilities, and substantial open space preservation. The new Civano Master PAD District proposed herein will propose minor changes and/or clarification to the existing Civano Neighborhood 1 PAD.

A-3.i. Revised Civano Development Agreement (Res. 19741)

On December 8, 2003, the Revised Civano Development Agreement was entered into by the City, The Community of Civano, LLC, Case Enterprises Development Corporation, and Pulte Home Corporation as approved by Mayor and Council Resolution No. 19741 and recorded at Docket 12203, Page 2463 in the Official Records of Pima County, Arizona. The purpose of the Revised Development Agreement is to clarify and facilitate development of the Civano property by providing for, among other things: the establishment and modification of the Revised IMPACT System; the developer's master planning obligations; grading restrictions and development standards; the use of private controls to manage development; the potential development of City recreational facilities; development phasing obligations and bench marks; the City's cooperation in planning and development; infrastructure improvement and financing; project management; and protected development rights. Most important for this Civano Master PAD, the Revised Development Agreement obligates the Master Developer to amend the 1991 Civano Master Plan (and the 1992 Civano Master Plan).

A-3.j. Revised Civano IMPACT System and Memorandum of Understanding

On December 8, 2003, the Revised Civano IMPACT System and Revised Memorandum of Understanding were signed between the City, the Community of Civano, LLC, Case Enterprises Development Corporation, and Pulte Home Corporation (collectively the "Developers"), authorized by City Resolution No. 19741.

The goal of the Revised Civano IMPACT System and Revised Memorandum of Understanding is to provide for the definition and administration of the resource conservation goals of the Civano community in order to maintain Civano's position on the leading edge of sustainable development. It confirms the strategies for sustainable development, energy conservation, and economic feasibility of the design and technologies used to implement and monitor the resource conservation and other project goals set forth in the Original Civano IMPACT System adopted October 2, 1995, and the original Memorandum of Understanding entered into on June 26, 1998. The Revised IMPACT System establishes baseline standards, "Performance Targets" and "Specific Requirements" to achieve the resource conservation and other project goals. The Revised Memorandum of Understanding establishes the regulatory mechanism to implement the Revised Impact System, including standards for building plan review and yearly monitoring reports.

A summary of the Revised IMPACT System Standards (as may be amended from time to time) is attached as **Appendix 2**. The Revised MOU, implementing the Revised IMPACT System, is attached as **Appendix 1**. All development within Civano must be consistent with the Revised Impact Standards and Revised MOU.

A-4 PURPOSE AND INTENT OF THE CIVANO PAD DISTRICTS

A-4.a. Civano Master PAD

The Master PAD section of this document responds to the unique site conditions described in *Section B: Site Analysis*. The Master PAD emphasize product diversity, unique design standards, trails, connectivity, open space, landscape theming, multi-modal circulation, and preservation of natural wash and riparian corridors.

The Site Analysis provided in Section B conforms to requirements provided in LUC Section 2.6.3.6.B. Information for the Site Analysis was compiled from site visits, correspondence with City, County, and State agencies and officials, as well as topographic and hydrological analyses. The Civano Master PAD provides for the overall regulation of the Civano Project, together with the Revised Civano IMPACT System Standards, the Revised Memorandum of Understanding and other policy guidelines for Civano. Each individual PAD District within Civano must conform to the Civano Master PAD.

A-4.b. Civano PAD District Overview

The Civano PAD Districts establish comprehensive guidance and regulations for three distinct PAD districts; the approximate 456-acre Sierra Morado PAD District; the approximate 58-acre Pavilions PAD District, and the approximate 304-acre Neighborhood 1 PAD District. The Civano PAD Districts will serve as a regulatory tool governing planning and zoning. The Civano PAD Districts are adopted by ordinance and conform to the Tucson General Plan, subsidiary area plans and this Civano Master PAD. The Civano PAD Districts supersede the LUC as specifically provided herein.

The Civano PAD Districts establish the location, density, and community character for the individual PAD Districts (as defined in **Figure 14**, *Land Use Plan*). The Civano PAD Districts will be developed in phases according to market demands and will include a variety of residential, commercial and community recreational facilities and amenities. The Civano PAD Districts provide for a sustainable, balanced community of interconnected residential neighborhoods with support services and employment opportunities.

A-5 LEGISLATIVE AUTHORITY

The authority for the PAD Districts is found in the LUC Article II, Division 6, Section 2.6.3. The LUC authorizes PAD Districts to enable and encourage comprehensively planned development in accordance with adopted plans and policies. Once adopted, the Civano PAD Districts are regulatory plans, which serve as the zoning and development codes for the project. Final plats and any other development approvals must be in compliance with the adopted PAD Districts.

A-6 CONFORMANCE WITH GENERAL PLAN AND CITY LAND USE PLANS

The primary objective of the Civano Master PAD and individual PAD Districts is to implement the City's General Plan through the translation of the City's broader development policies into design concepts and development control tailored to the plan area. All City policies, standards, criteria and procedures will apply within the Civano PAD Districts, except where specific modifications are warranted to improve design quality, flexibility and/or creativity as provided herein.

A-6.a. City General Plan

The Civano Master PAD and individual PAD Districts further the vision for regional land use guiding the growth of the Tucson metropolitan area in an efficient and coordinated manner and provides for high quality development in the unique Sonoran Desert setting. The Civano PAD Districts advance the City's livable goals by:

- Providing better alternatives to automobile transportation through the provision of alternative forms of transportation, such as bicycle and pedestrian-friendly streets, improved roadways (landscape, lighting, sidewalks and future bus stops) and through the

incorporation of live work units and non-residential land use within walking distance from residential areas.

- Including abundant open space and recreation areas.

- Protecting the natural desert environment, Sonoran Desert ecosystems, washes, hillsides, open space and wildlife.

- Designing people-oriented neighborhoods to promote a mix of residential densities and housing types with pedestrian focus, lush landscaping and connectivity that furthers interaction among residents.

The Civano Master PAD and individual PAD Districts support the City's General Plan vision for land use by preparing a Master PAD and PAD Districts that include diverse residential neighborhoods, non-residential and open space land uses. The Civano PAD Districts provide the flexibility required to effectively manage the development of land, while ensuring that supporting infrastructure, open space and services are properly linked and integrated.

A-6.b. Other Area Master Plans

The Civano Master PAD also recognizes and will be in compliance with the South Pantano Area Plan, and Regional Open Space, Trails and Circulation Plans in the area.

A-7 RATIONALE FOR USE OF PLANNED AREA DEVELOPMENT

There are several reasons for using PAD Districts for this project, rather than other existing zoning districts. One of the primary reasons is to implement the vision that is unique to Civano. This requires flexibility in land uses not available in traditional zoning, such as mixed-use and live/work units, as well as the ability to customize development standards that provide more specificity and control over the general design of the built environment.

A-8 SUITABILITY OF PAD DISTRICT TO SIGNIFICANT ENVIRONMENTAL FACTORS

The proposed PAD Districts are generally consistent with the existing zoning of the property. The development is designed to allow and encourage an appropriate mix of uses. These include a variety of residential densities, a diversity of housing and product types and environments, support commercial services, offices, recreation facilities and community amenities including an integrated open space system offering opportunities for trails, bicycle paths and future transit connectivity.

A-9 COMPATIBILITY OF THE PAD WITH ADJOINING LAND USES

Immediately adjoining land uses are primarily single-family residential, although most of the land is vacant. There is an abandoned sand and gravel

pit north of the property and some remaining sand and gravel extraction operations along the Pantano Wash directly east of the property. These are slowly being phased out in preparation for construction of a regional park and trails system along the major washes. There are two operating horse stables immediately to the north of the property, on both sides of Houghton Road at the Pantano Wash. There should be no interference to these uses as a result of community development on the Civano property, although added residents may wish to use the stabling and riding services available.

A-10 PHYSICAL/ECONOMIC SUITABILITY AND FEASIBILITY WITH EXISTING INFRASTRUCTURE

When the Civano site was originally selected through a community-oriented State Land selection process, it was determined that one of the primary advantages of this site was that infrastructure already existed and could be extended with relatively little added expense and with minimal impact upon the existing infrastructure system.

All significant infrastructure necessary to support this development is in very close proximity and can be effectively extended into the property for the proposed development. In concert with community understanding and Mayor and Council decisions in supporting this project, impacts to infrastructure and public services will be as minimal as feasible, using best-known and available technologies.

B. SITE ANALYSIS

B-1 SITE LOCATION AND REGIONAL CONTEXT

The property is located in the southeastern portion of the City in the Middle Santa Cruz Subregion. The site is bounded by Bilby Road to the south, Houghton Road to the west, the Melpomone Way alignment to the east and Civano Boulevard to the north. (See **Figure 1**: *Location and Regional Context*).

The property lies within Township 15 South, Range 15 East, Section 1 and 12. It is approximately 5 miles north of Interstate 10/Houghton interchange, less than a mile west of the Pima County/City of Tucson border and slightly over a mile west of Saguaro National Park East. The Pima County/Cochise County border is approximately 20 miles east along interstate 10. The site is within the vicinity of the University of Arizona Science and Technology Park.

B-2 EXISTING ZONING AND LAND USE

B-2.a Existing Zoning and Land Use On-Site

Existing zoning on the site includes a combination of various zoning districts, including the Neighborhood 1 PAD, SR (Low Density Residential), R-1 (Residential Single Family), R-2 (Medium Density Residential), OCR-2 (Office/Commercial/Residential), C-2 (Commercial) and I-1 (Light and Heavy Industrial). The existing zoning requires conformance with the 1991 Civano Master Plan. See **Figure 2**: *Existing Zoning* for location of the various zoning districts on site.

The property has various existing land uses on site, including large areas of vacant land (primarily within the Sierra Morado and Pavilions PAD areas), existing development as part of the Neighborhood 1 PAD (including residential, open space, school, community facilities, and a neighborhood center. There is also a commercial development (Global Solar) along Houghton Road. The site also contains two major Overhead Electric Easements (OHE) that traverse the property, including a 100-foot OHE easement running east/west immediately south of the Drexel Road alignment and a 175-foot OHE easement running north/south along the Melpomone alignment and turning northwest through the northern quadrant of the site (See **Figure 3**: *Existing Land Use* for location of OHE easements and other existing land uses on and adjacent to the site).

B-2.b Existing Zoning and Land Use within 150 Feet of the Site

Existing zoning surrounding the property within 150 feet include SR (Low Density Residential) to the east; SR (low Density Residential) and R-1 (Residential Single Family) to the south; a mix of SR (Low Density Residential), R-1 (Residential Single Family), R-2 (Medium Density Residential), C-2 (General and Intensive Commercial), I-1 (Light and

Heavy Industrial) and R-1 (Residential Single Family) and SR (Low Density Residential) to the west and north.

Existing land uses surrounding the property include low density residential use, vacant land and natural open space to the east; vacant land and a residential subdivision to the south; vacant land to the west; and vacant land, abandoned sand and gravel operations pit with construction debris, and open space to the north.

There are no water wells located on the site, nor within 150 feet of the site.

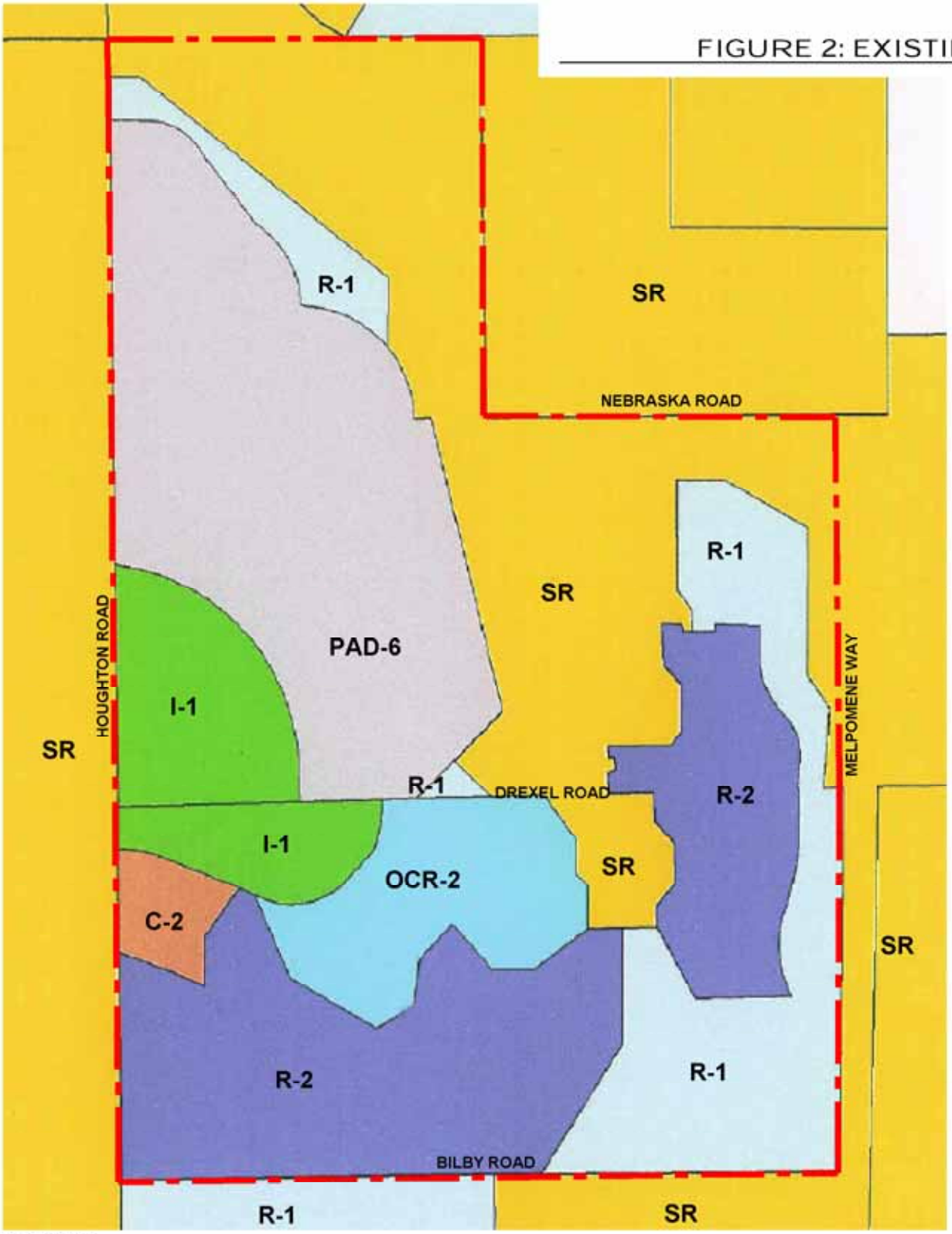
B-2.c Special Studies, Overlay Zones and Major Streets & Routes

Houghton Area Master Plan
The project site is located within the boundaries of the proposed Houghton Area Master Plan. Although the Houghton Area Master Plan has not been adopted by Mayor and Council, the Civano Master Plan recognizes the draft plan and is consistent with the draft plan's overall intent.

South Pantano Area Plan
The project is located within the boundaries of the South Pantano Area Plan. The Civano Master Plan is consistent with the goals and policies of this plan.

Scenic Route
Houghton Road is a designed Scenic Route as adopted in the City's Major Streets and Routes Plan ("MS&R Plan"). Specific Scenic Route regulations govern development along Houghton Road.

FIGURE 2: EXISTING ZONING



LEGEND

- C-2 (General & Intensive Commercial)
- I-1 (Light & Heavy Industrial)
- OCR-2 (Office/Commercial/Residential)
- PAD-6 (Planned Area Development)
- R-1 (Residential-Single Family)
- R-2 (Medium Density Residential)
- SR (Low Density Residential)
- Specific Plan Boundary

SOURCE: Pima County Land Information Systems (PCLIS); December, 2004.

CIVANO MASTER PAD

NOT TO SCALE

NORTH

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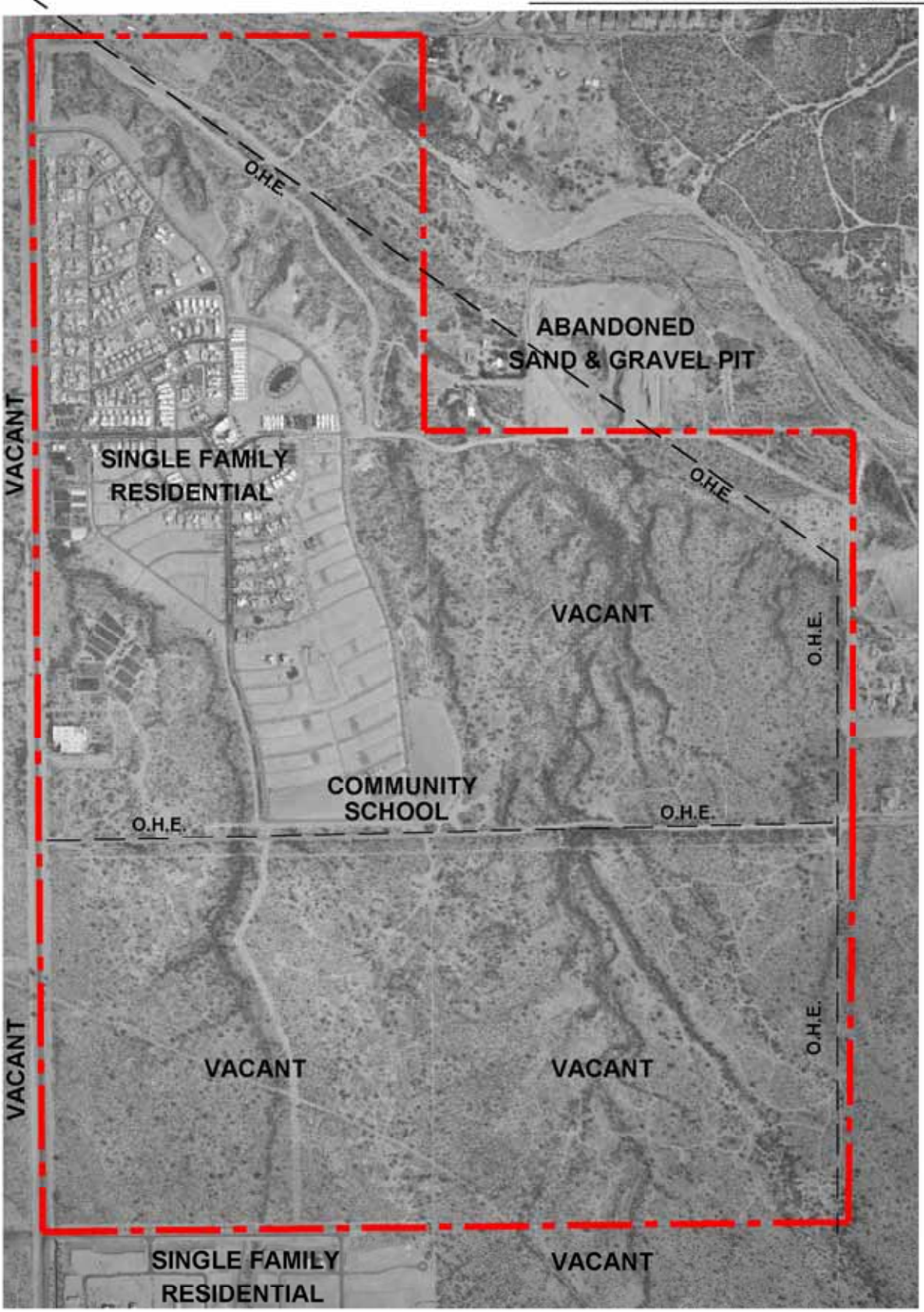
FIGURE 3: EXISTING LAND USES



SOURCE: Pima County Land Information Systems (PCLIS); December, 2004.

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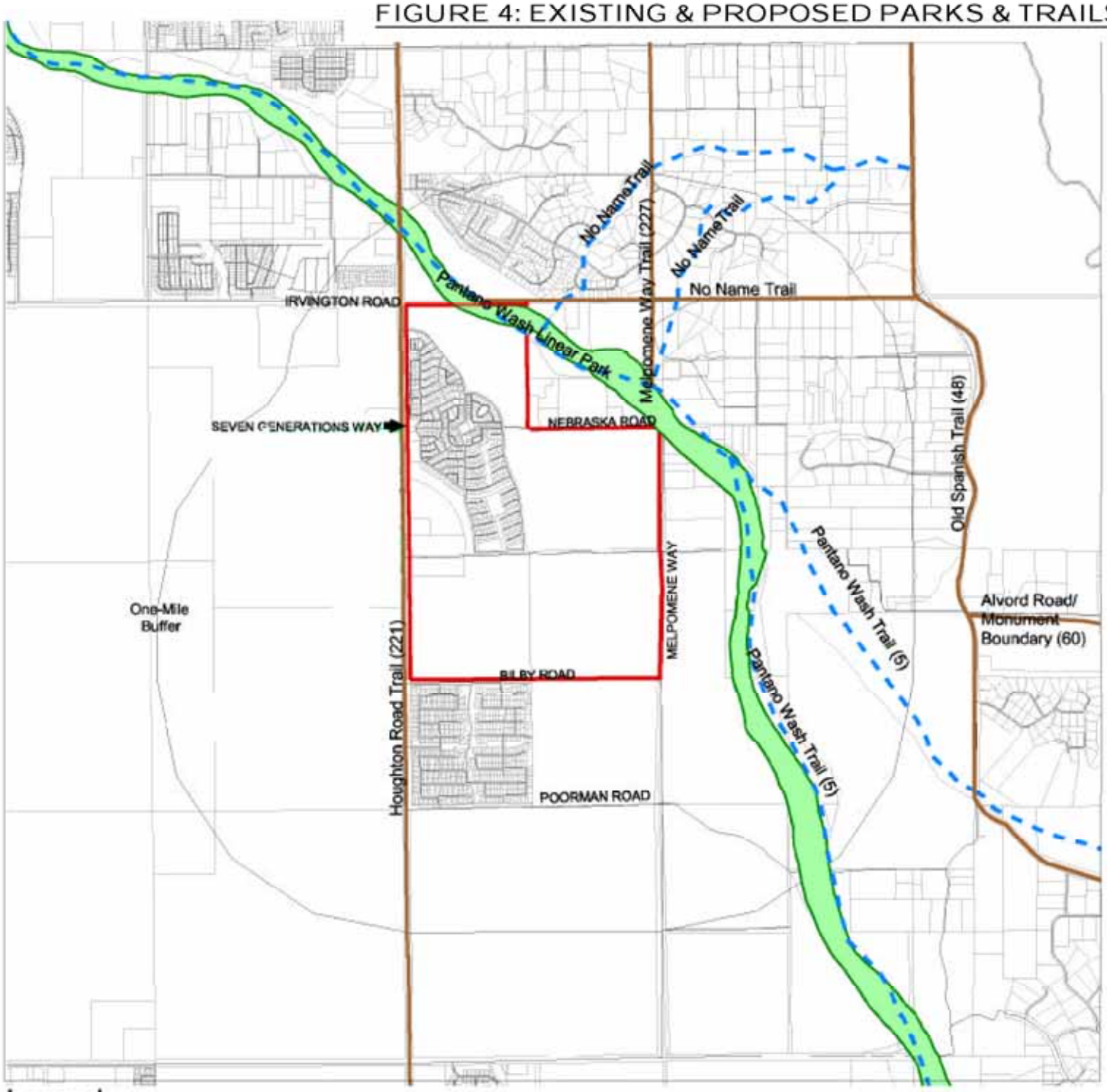
LVA

B-3 OPEN SPACE, RECREATION, PARKS, AND TRAILS

According to the Pima County Land Information System, there are four trails located within one mile of the property. Two of the trails are within the Pantano Wash major tributaries east of the property, and two additional trails are proposed to the north and east of the property within two unnamed wash corridors that connect to the primary channel of the Pantano Wash. In addition, a paved shoulder bike route extends along portions of South Houghton Road both north and south of the site.

As depicted on the Pima County MapGuide Map, Abraham Lincoln Regional Park is located approximately 4 miles northeast of the site.

FIGURE 4: EXISTING & PROPOSED PARKS & TRAILS



Legend

- Road Trail
- Wash Trail
- Linear Park
- One-Mile Buffer
- Master PAD Boundary

Source: Pima County Land Information Systems (PCLIS) January, 2004 & Eastern Pima County Trail System Master Plan July, 1989.

THE PLANNING CENTER

0 3000 Feet

CIVANO MASTER PAD

0' 1500' 3000'

NORTH

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B-4 PUBLIC, EDUCATIONAL, COMMUNITY AND CULTURAL FACILITIES

B-4.a Schools

The property is located within the Vail School District. The closest elementary school to the site is the Civano Community School, located within the site. The Civano Community School is a charter school, and is a part of the Vail School District. An additional elementary school within the Vail School District is Mesquite Elementary School located at 9455 S. Rita Road approximately three miles southwest of the site.

There are no middle schools within one mile of the property. The closest middle school is the Desert Sky Middle School located within the Rita Ranch development approximately four miles southwest of the property.

There are no high schools within one mile of the property. The closest high school is the Vail Charter High School, located at 9040 S. Rita Road, approximately six miles southwest of the property. The closest public high school is the Cienega High School located at 12901 East Colossal Cave Road, approximately 7 miles to the south.

B-4.b Libraries

There are no libraries within one mile of the subject property. The closest library is the Golf Links Library located at 9640 E. Golf Links Road approximately 4 miles from the property.

B-4.c Health Care Facilities

There are no health care facilities within one mile of the property. The closest health care facility is St. Joseph's Hospital located at 350 N. Wilmot Road, approximately 10 miles to the northwest.

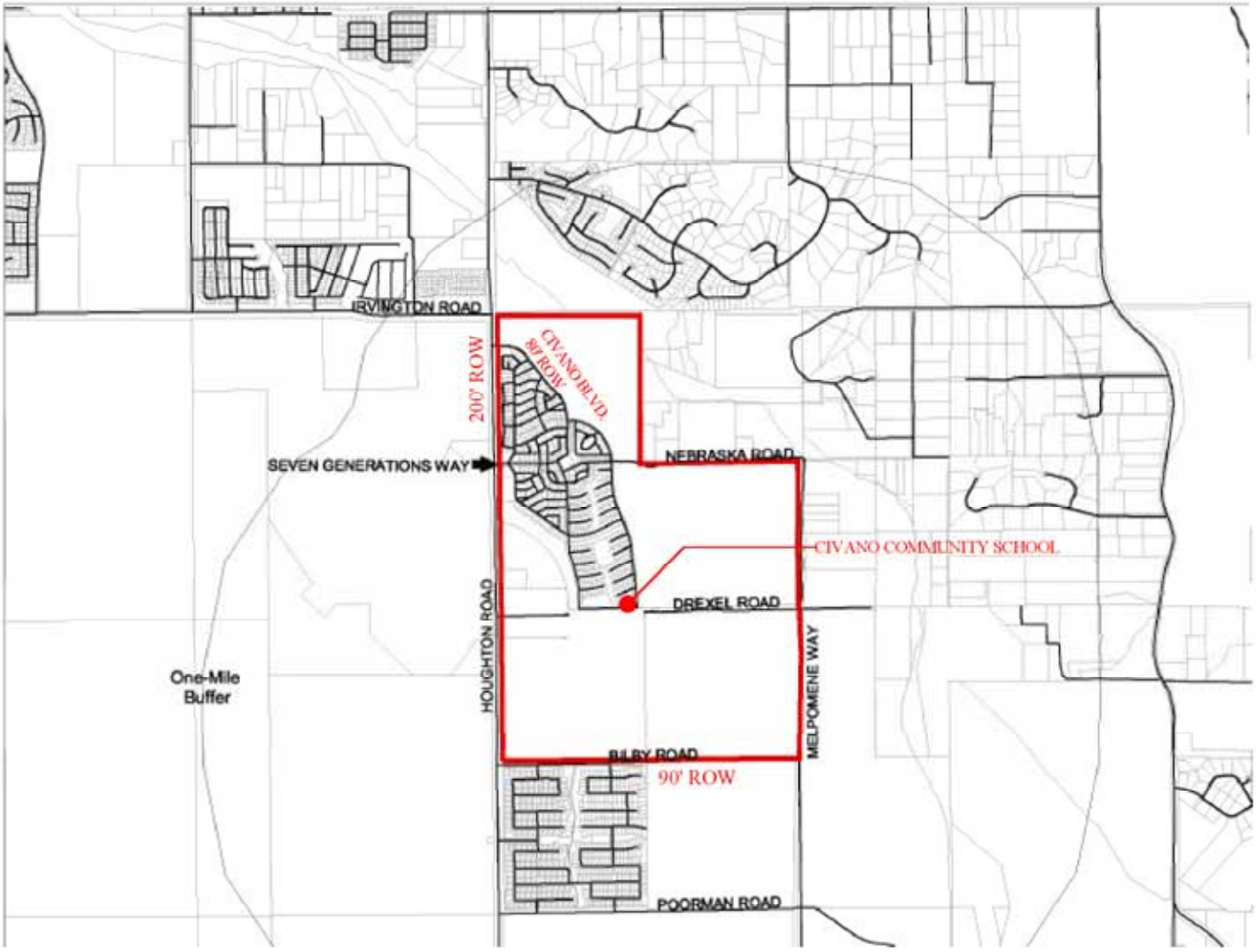
B-4.d Fire / Emergency Vehicle Service

Fire/emergency response services will be provided by the City. City Fire Station #17 is located approximately ½ mile north of the property at 5270 S. Houghton Road.

B-4.e Law Enforcement Services

The City will provide law enforcement services to the property. The closest police station is the Tucson Rincon Substation located at 9670 E. Golf Links Road, approximately four miles northwest of the property.

FIGURE 5: OFF-SITE STREETS, SCOOLS & PUBLIC FACILITIES



Legend

Master PAD Boundary

CIVANO MASTER PAD

0' 1500' 3000'

NORTH

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CVA

B-5 MAJOR TRANSPORTATION, ROADS AND CIRCULATION

B-5.a Existing Roadways

The primary north-south roadway access to the Civano Master PAD is Houghton Road immediately west of the property. Houghton Road is currently a two-lane road that is owned and maintained by the City. Melpomene Way is an existing one-lane dirt road running north-south along the eastern boundary of the Civano Master PAD and currently serves residents of some single family lots north and east of the project site.

Primary east-west roadways in the vicinity of the Civano Master PAD include Valencia Road approximately 1.5 miles to the south of the property and Irvington Road approximately 1 mile north of the property. Valencia provides contiguous east-west access from Houghton Road clear across town to the west while Irvington provides east-west access from Houghton Road to Kolb Road to the west.

Additional east-west roadways include Bilby Road which is located immediately south of the property and will provide direct access from Houghton Road to the east. Bilby Road has recently been improved to approximately ½ mile east of Houghton Road to accommodate the Mesquite Ranch subdivision to the south and includes paving, curb, sidewalks and bicycle lane on the south side of the right-of-way. Drexel Road is an existing at grade, 2 lane paved road which extends from Houghton Road to the east through the property and currently ends at the Pantano Wash. Seven Generations Way, a two lane roadway with curb, gutter and sidewalks, provides primary access to Civano Neighborhood One, and ends at the eastern boundary of Civano Neighborhood One. Nebraska Road is a two lane roadway that begins where Seven Generations Way ends and extends east to Melpomene Way.

Table 1: *Existing Roadways Surrounding the Site* shows all existing roadways within one-mile of the property.

Table 1
Existing Roadways Surrounding the Site

STREET NAME	HOUGHTON ROAD	BILBY ROAD	SEVEN GENER-ATIONS WAY	CIVANO BLVD.	DREXEL ROAD	
Functional Classification	Principal Arterial	Minor Arterial	Minor collector	Arterial	Easement	
Existing R.O.W.	200'	90'	50'-80'	80'	45'	
Future R.O.W.	200'	90'	NONE	80'	NONE	
Travel Lanes	2	2	2	2	2	
Speed Limit	55 MPH	25MPH	25 MPH	25 MPH	25 MPH	
ADT	14,300	N/A	N/A	N/A	N/A	
Bicycle lanes	SOMETIMES*	YES	YES	NO	NO	
Pedestrian Ways	SOMETIMES*	YES	YES	YES	NO	
Ownership	City	City	City	City	City	
Surface Condition	Paved	Paved	Paved	Paved	Paved	
Program for improvement	YES (Capital Improvement Program)	NO	NO	NO	NO	

Source: City of Tucson and Pima County Transportation departments, ADOT Functional Classification and ADTs, and PAG Traffic Counts.
** Sometimes means that portions of the roadway include the amenity described, and portions do not.*

B-5.b Future/Planned Roadways

Pantano Parkway:
This is planned as a four lane divided roadway which will include a linear park. The alignment generally follows the southwestern bank of the Pantano Wash and cuts across the northeastern most corner of the site. Plans for this roadway are still in the development stage.

Houghton Road:
The City and A.D.O.T. are currently conducting separate studies of the Houghton Road Corridor. These studies indicate the need for widening of the existing two-lane roadway to a four-lane divided section.

B-5.c Public Transportation

The area immediately surrounding the property is not currently served by public transportation. The nearest Sun Tran bus route to the area is the Pima Community College East Campus, along Irvington Road. Routes 3 and 37 serve the Pima Community College with 30-minute frequencies throughout a normal weekday. There are no current plans to extend public transit service into this area in the near future.

B-6 EXISTING INFRASTRUCTURE AND PUBLIC SERVICES

B-6.a Water

Tucson Water Department currently provides water service to the existing Neighborhood 1 PAD and to Mesquite Ranch to the south. Tucson Water has been designated by the State of Arizona, Department of Water Resources, as having an assured water supply.

A 24" water line and a 12" water line are located along the Houghton Road right-of-way adjacent to the property. Additionally, a 12" reclaimed water line is located along the Houghton Road right-of-way adjacent to the property.

B-6.b Sewer

The Pima County Wastewater Management Department has been consulted with the following results.

Existing wastewater records indicate this development is tributary to the Pantano Interceptor, the South Rillito Interceptor, and the Tucson Boulevard Flow Control Facility.

The Tucson Boulevard Flow Control Facility allows flow to be directed either to the Roger Road Wastewater Treatment Plant or the Ina Road Water Pollution Control Facility.

The interior sewers within the development must be designed to provide flow-through for any adjacent parcels south of the proposed development from parcel 140-01-1130.

The existing 15 inch diameter collector (G-2000-070) flows from Mesquite Ranch located to the south of Civano along an alignment which generally follows the eastern bank of the Mesquite Wash within a 30 foot sewer easement. At the Drexel Road alignment crossing, the collector increases in size to an 18 inch diameter sewer line (G-99-119 an G-97-039) which crosses Neighborhood 1 to the north and connects into the existing 21-inch diameter public sewer (G-95-033).

B-6.c Reclaimed Water

The City presently has a 12" reclaimed water line located along the Houghton Road right-of-way adjacent to the property. The purpose of the reclaimed water source is to provide an alternative to using potable water for irrigation uses. The reclaimed water is presently connected to the first phase of Civano and will be available for use in the future common areas.

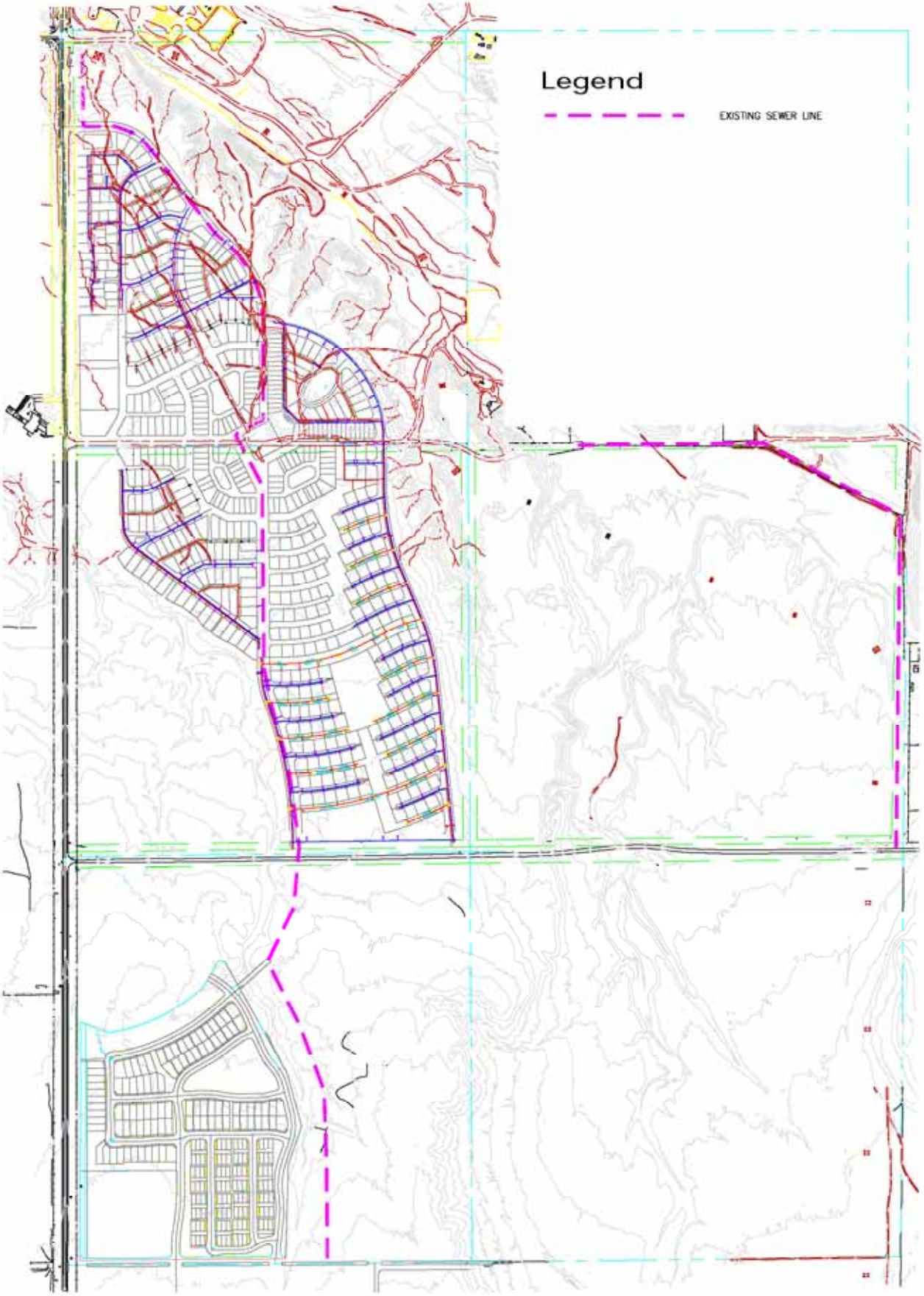
B-6.d Waste Disposal

The City currently provides solid waste disposal and recycled waste disposal in the area, and will provide solid waste disposal for the project.

B-6.e Private Utilities

Electricity, telecommunications and cable television services are currently provided within the Civano Neighborhood 1 area. These services will be extended into the remainder of the Civano Master PAD area at the time service is necessary through agreements with the specific private utility companies. It is currently anticipated that electric services will be provided by Tucson Electric Power Company. Telephone service may be provided by Qwest and Cox Communications. Existing telephone lines are currently provided within the Houghton Road right-of-way. Cable television and internet services are currently available within surrounding developed areas and will be available for the subject property. Natural gas lines are provided along Houghton Road and will be provided by Southwest Gas.

FIGURE 6: EXISTING SEWER



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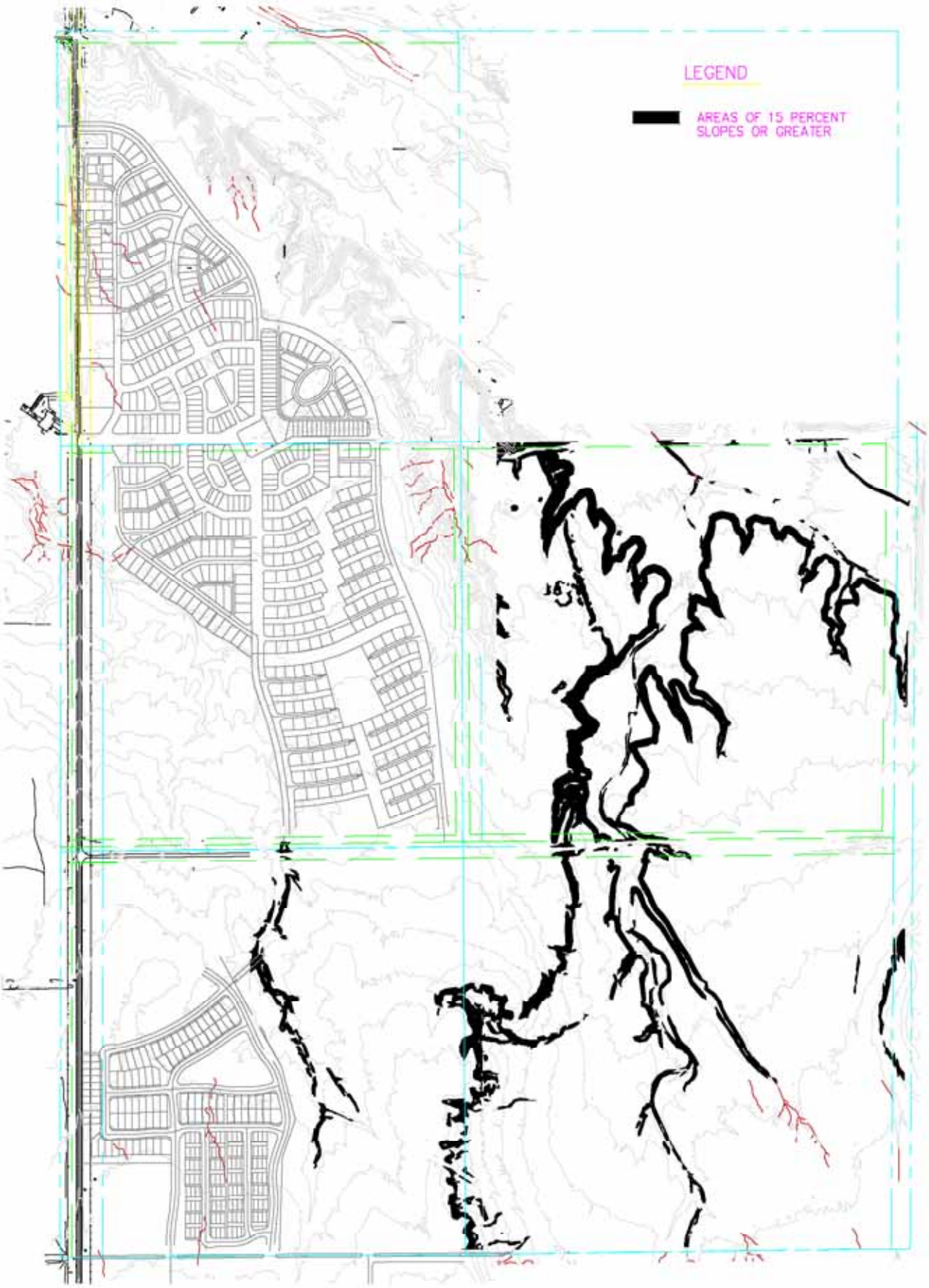
B-7 TOPOGRAPHY

B-7.a Topographic Characteristics

The topography of the area within the site is characteristic of the Rincon foothills and contains a variety of landforms. Generally, the elevations range from 2,903 along the southern boundary of the site to 2,800 at the Civano Wash outlet of the site. **Figure 7**, *Topography*, shows the existing topography of the property.

Portions of the property consist of slopes in excess of 15%. These areas are depicted on **Figure 7**, *Topography*. Consistent with the 1991 Civano Master Plan, the Master PAD will protect areas with 15% slopes to be established in each development plan or plat submittal. There are no Hillside Conservation Area on the site, nor are there any significant topographic features such as rock outcroppings, ridges or peaks within the property.

FIGURE 7: TOPOGRAPHY



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B-8 HYDROLOGY AND WATER RESOURCES

B-8.a Drainage/Hydrology

There are three major watercourses in and around the subject property: The Mesquite Wash, the Civano Wash, and the Pantano Wash. The Mesquite Wash is located along the western side of the property and flows from south to north; while the Civano Wash, which also flows south to north, is centrally located with tributaries extending to the southeast corner of the parcel. Pantano Wash clips the northeast corner of the property in a southeasterly to northwesterly direction. The Civano Wash and the Pantano Wash run parallel along the northern limit of the property prior to converging east of the Houghton Road Crossing.

The Pantano Wash and subsequently the portions of the Civano Wash that are located along the Northern Boundary lie within FEMA-designated flood hazard areas. Areas not within the federally mapped floodplain are designated as Unshaded Zone X, which has been determined to be outside of the 500 year Floodplain.

In addition the City regulates the Civano Wash and the Mesquite Wash located within the project limits as they contain runoff in excess of 100 cfs. Areas within the delineated 100-year floodplain limits that are outside of the incised channels can be characterized as sheet flooding zones. The depths of flooding in the sheet flow areas range from 0.42 to 2.52 feet.

All on-site washes and their respective floodplains are depicted in **Figure 8**, *On-Site Hydrology*. Off-site watersheds that affect the site have been provided in **Figure 9**, *Off-Site Watersheds*.

The peak discharge rates for all washes having a 100-year event flow of >100 cfs are shown on **Figure 8,** *On-Site Hydrology*.

The discharges are based on the best available information at the time of this document. Detailed hydrologic analyses that will further quantify these discharges and drainage areas will be provided as part of the development of this area. These analyses will be submitted to the City for review and approval.

B-8.b Applicability of City Floodplain Ordinance

B-8.b.1 City Floodplain Ordinance

Watercourses that convey discharges greater than 100-cfs are considered regulatory by the City. As such their associated floodplains have been mapped in accordance with City Regulations. The areas subject to regulation include the Mesquite Ranch Wash and the Civano Wash and their tributaries as shown in the Tucson Stormwater Management Study as either designated or proposed ERZ and WASH washes. Any development that impacts into these areas will require a Floodplain Use Permit. As it currently stands, only the proposed drainage infrastructure necessary to provide all weather

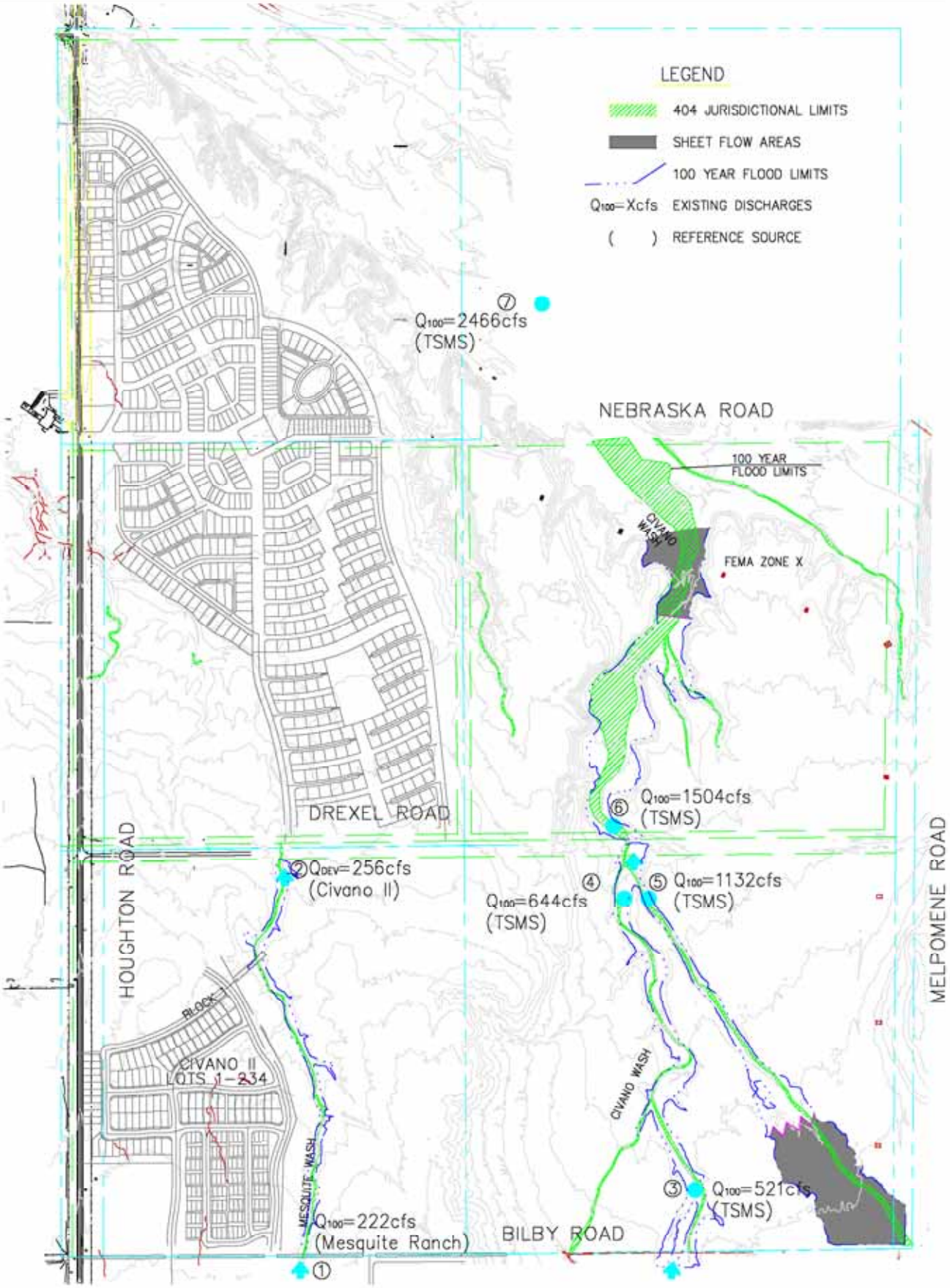
access to the various development areas will encroach in these areas. In addition, the lots located along these watercourses will require that their finish floor elevations be set 1-foot higher than the adjacent 100-year water surface elevation.

As a consequence of the floodplains, development along the regulatory watercourses will adhere to the minimum erosion hazard setback requirements, which account for the lateral migration of the channel. These setbacks are calculated based on the methodologies approved by the City and proportional to the discharge and a factor of safety, which accounts for the level of curvature within the channel. Where approved by the City, the installation of bank protection that meets the City requirements may be used to reduce the setbacks.

B-8.b.2 Article VIII Section 29-12 of the Tucson Code, Watercourse Amenities, Safety, and Habitat ("WASH") Ordinance

The Civano Wash and the Mesquite Ranch Wash have been identified as WASH Ordinance watercourses. All structures must be reviewed for wash ordinance compliance. Mitigation for any approved disturbance within these areas will be completed in compliance with the regulations set forth in the City WASH Ordinance.

FIGURE 8: ON-SITE HYDROLOGY



CIVANO MASTER PAD

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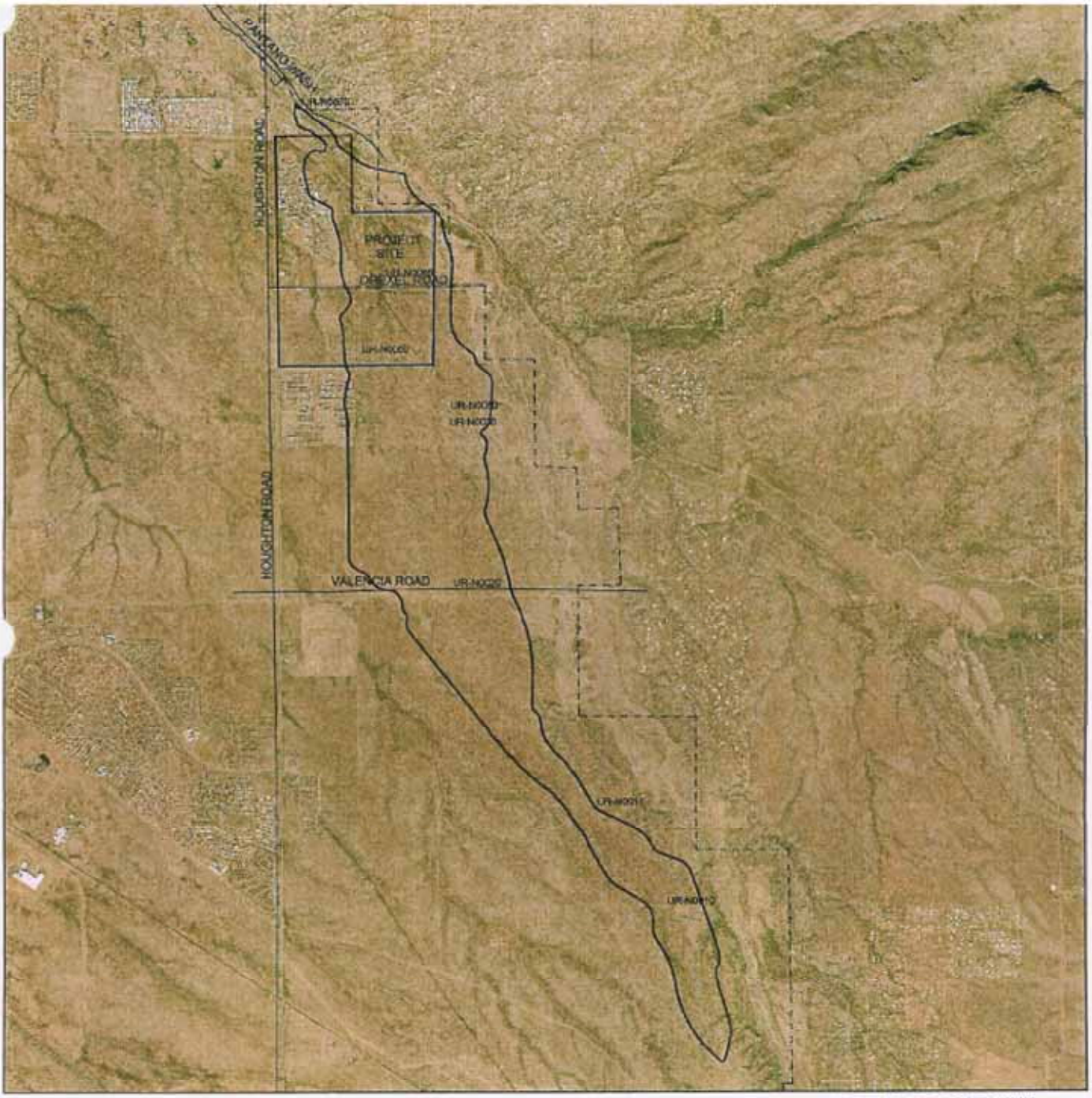
FIGURE 9: OFF-SITE WATERSHEDS



LEGEND

City of Tucson Limits

Watershed Boundary

Civano Master PAD Boundary

0' 2500' 5000'

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Source: Simons, Li & Associates, Inc., 1995, MMLA Engineering, 2003

CIVANO MASTER PAD

0' 2500' 5000'

NORTH

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B-9 VEGETATION AND WILDLIFE

B-9.a Vegetative Communities and Associations

This section describes existing on-site vegetation, vegetative areas especially significant for wildlife, scenic value, or screening, and vegetative densities.

1) On-Site Vegetative Communities and Associations

The following two vegetative communities have been identified on the site. See **Figure 10**: *Vegetation Densities* for the location of these communities.

Arizona Upland Subdivision Community, Palo Verde-Cacti-Mixed Scrub Association

Dominated by leguminous trees and cacti, the species most commonly present in this habitat include the Saguaro cactus (*Carnegiea giganteus*) and Foothill Palo Verde (*Cercidium microphyllum*

Xeroriparian Habitat.

Xeroriparian Habitat is typically associated with ephemeral streams that flow as a result of rainfall. The plant species are typical to those found in upland areas but have greater densities due to the relative excess of water.

Table 2 includes partial list of plants observed on-site.

Table 2
Partial List of Plants Observed On-Site

Common Name	Scientific Name
Mesquite	*Proposis velutina*
Foothill Palo Verde	*Cercidium microphyllum*
Catclaw Acacia	*Acacia greggii*
Whitethorn Acacia	*Acacia constricta*
Saguaro	*Carnegiea gigantea*
Soaptree Yucca	*Yucca elata*
Peniocereus greggi	*Night Blooming Cereus*
Creosote Bush	*Larrea tridentata*
Barrel Cactus	*Ferocactus spp.*
Desert Hackberry	*Celtis pallida*
Cholla Cactus	Various *Opuntia* species
Perennial Grasses	Various
Prickly Pear	Various *Opuntia* species

Source: Field Inventory, 2004 and Native Plant Preservation Plans prepared by The Planning Center dated June 1, 2004.

2. Significant Cacti and Groups of Trees and Federally-Listed Threatened or Endangered Species:

There are saguaros on-site that are listed by the State of Arizona as protected species. The saguaros are evenly scattered through the site, and are generally in good condition. Arizona Game and Fish Department provided a list of special status species that are known to occur in the vicinity of the site. The list includes the following plant species:

- Needle-Spined Pineapple Cactus (Echinomastus Erectocentrus Var Erectocentrus) SC, S, SR
- Stag-Horn Cholla (Opuntia Versicolor) SR

SC is classified as Species of Concern; S is classified as Sensitive; and SR is classified as Salvage Restricted by the US Forest Service and the Arizona State Office of the BLM.

3. Vegetative Densities:

Onsite vegetation densities and vegetation canopy coverage for shrubs and trees were calculated using aerial photographs. Perennial grasses and ground covers were not considered. With the exception of areas adjacent to drainages, the site exhibits a fairly even dispersion of densities over the entire site. Areas directly adjacent to the washes display higher vegetative densities than the rest of the site. Vegetation densities are depicted in **Figure 10**: *Vegetation Densities*.

Vegetation densities were categorized as follows:

- High Density: +/- 4.5 %
- Medium Density: +/- 17.5%
- Low Density: +/- 78%

B-9.b Wildlife Habitat

A letter from the Phoenix Regional Office of the Arizona State Game and Fish Department (AGFD) is included at the end of this section. A summary of the letter is as follows:

1) Threatened or Endangered Species:
According to AGFD's Heritage Data Management System (HDMS) the special status or species listed In **Table 3**: *Potentially Occurring Threatened or Endangered Species,* potentially occur in the project area (3-mile buffer). In addition, the site is located within Zone 2 of the Proposed Critical Habitat for the *Cactus Ferruginous* Pygmy-Owl.

Table 3
POTENTIALLY OCCURRING
THREATENED OR ENDANGERED SPECIES

Common Name	Scientific Name	Status
Mexican Long-Tongued Bat	*Choeronycteris Mexicana*	Species of Concern, Sensitive, Wildlife of Special Concern in Arizona
Needle-Spined Pineapple Cactus	*Echinomastus Erectocentrus Var Erectocentrus*	Species of Concern, Sensitive, Salvage Restricted
Sonoran Desert Tortoise	*Gopherus Agassizii*	Species of Concern, Wildlife of Special Concern in Arizona
Lesser Long-Nosed Bat	*Leptonycteris Curasoac Yerbabuenae*	Listed Endangered, Sensitive, Wildlife of Special Concern in Arizona
Cave Myotis	*Myotis Velifer*	Species of Concern, Sensitive
Stag-Horn Cholla	*Opuntia Versicolor*	Salvage Restricted
Lowland Leopard Frog	*Rana Yavapaiensis*	Species of Concern, Sensitive, Wildlife of Special Concern in Arizona

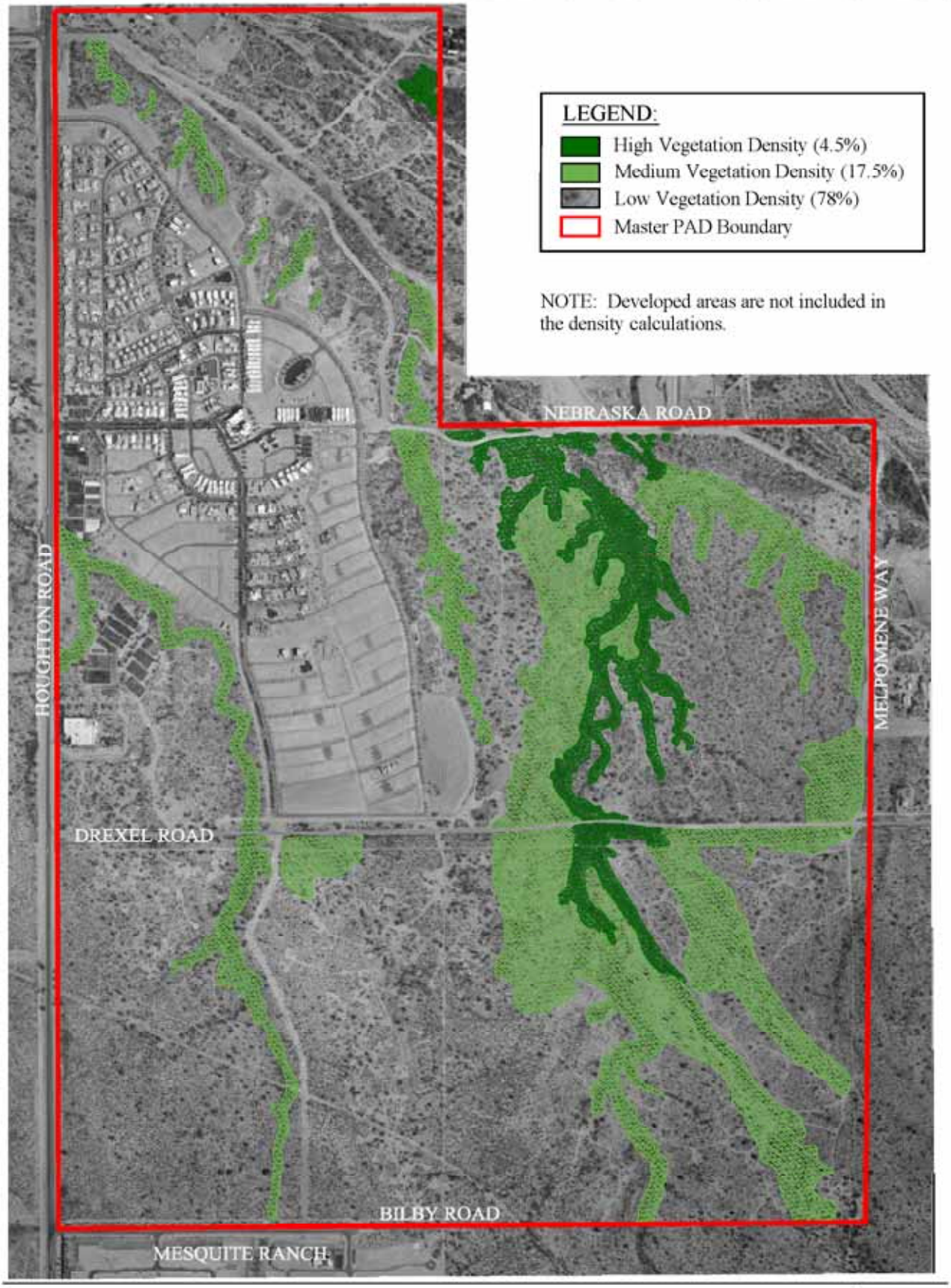
Source: Arizona State Game and Fish Department Letter, 2003

2) High Densities of a Given Species:
No high densities of any given species or critical habitats have been identified within the site in the Arizona Game and Fish Department letter.

3) Aquatic or Riparian Ecosystems
While not explicitly stated in the AGFD letter, xeroriparian areas do exist on the site.

B-9.c Environmental Resource Report Exhibit
An Environmental Resource Report (ERR) Exhibit was prepared and submitted to the City in 1991 as part of the rezoning submittal in Case No. C9-91-14. An updated ERR Exhibit is attached to this Civano Master PAD as **Appendix 3.**

FIGURE 10: VEGETATION DENSITIES



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NORTH

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
2221 WEST GREENWAY ROAD, PHOENIX, AZ 85023-4399
(602) 942-3000 • AZGFD.COM

GOVERNOR
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COMMISSIONERS
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SUSAN E. CHILTON, ARIVACA
W. HAYES GILSTRAP, PIGEON
JOE MELTON, YUMA
MICHAEL M. GOLDBERG, FLAGSTAFF
DIRECTOR
DUANE L. SHROUFE
DEPUTY DIRECTOR
SYLVIA K. FENNELL

September 15, 2003

SEP 16 2003

Ms. Kelly Decker
The Planning Center
110 S. Church
Suite 6320
Tucson, AZ 85701

Re: Special Status Species Information for **Township 15 South, Range 15 East, Sections 1 and 12; Proposed Development of Single-family Residential and Community Recreational Facilities (Proposed Neighborhoods 2 and 3 at Civano at Houghton Road and Irvington Road).**

Dear Ms. Decker:

The Arizona Game and Fish Department (Department) has reviewed your request, dated September 9, 2003, regarding special status species information associated with the above-referenced project area. The Department's Heritage Data Management System (HDMS) has been accessed and current records show that the special status species listed on the attachment have been documented as occurring in the project area (3-mile buffer). In addition, this project does not occur within the vicinity of any Proposed or Designated Critical Habitats.

The Department's HDMS data are not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity.

Making available this information does not substitute for the Department's review of project proposals, and should not decrease our opportunities to review and evaluate new project proposals and sites. The Department is also concerned about other resource values, such as other wildlife, including game species, and wildlife-related recreation. The Department would appreciate the opportunity to provide an evaluation of impacts to wildlife or wildlife habitats associated with project activities occurring in the subject area, when specific details become available.

Ms. Kelly Decker
September 15, 2003
2

If you have any questions regarding the attached species list, please contact me at (602) 789-3618. General status information, state-wide and county distribution lists, and abstracts for some special status species are also available on our web site at: http://www.azgfd.com/hdms.

Sincerely,

Sabra S. Schwartz
Heritage Data Management System, Coordinator

SSS:ss

Attachment

cc: Bob Broscheid, Project Evaluation Program Supervisor
Joan Scott, Habitat Program Manager, Region V

AGFD #09-11-03(03)

Special Status Species within 3 Miles of T15S,R15E Sec 1, 12

Arizona Game and Fish Department, Heritage Data Management System

September 15, 2003

Scientific Name	Common Name	ESA	USFS	BLM	WSCA	NPL
CHOERONYCTERIS MEXICANA	MEXICAN LONG-TONGUED BAT	SC		S	WSC	
ECHINOMASTUS ERECTOCENTRUS VAR ERECTOCENTRUS	NEEDLE-SPINED PINEAPPLE CACTUS	SC	S			SR
GOPHERUS AGASSIZII (SONORAN POPULATION)	SONORAN DESERT TORTOISE	SC			WSC	
LEPTONYCTERIS CURASOAE YERBABUENAE	LESSER LONG-NOSED BAT	LE	S		WSC	
MYOTIS VELIFER	CAVE MYOTIS	SC		S		
OPUNTIA VERSICOLOR	STAG-HORN CHOLLA					SR
RANA YAVAPAIENSIS	LOWLAND LEOPARD FROG	SC	S		WSC	

No Critical Habitats in project area. AGFD # 09-11-03 (03). Proposed Development of Single-family residential and community recreational facilities.

B-10 GEOLOGY AND SOILS

B-10.a Geologic Features

The Civano Master PAD is located west of the Catalina and Rincon Mountains. Three drainageways traverse the site. The larger watercourses carry an active bed of sand, gravel, and rock that is scoured and re-deposited during each flow in the Pantano Wash.

As provided in the *Section B-6: Topography*, slopes are generally gentle, and there are no peaks or rock outcrops within the site.

B-10.b Soils

Sandy soils composed primarily of sand and gravel are the most common soils within the site. **Figure 11**: *Soils* shows soils associations within the project area. There are eight different soil associations classified within the site. These are:

1) Pinaleno-Stagecoach Complex: 5-16% slopes (+/- 249 ac of the site)

2) Pinaleno Very Cobbly Sandy Loam: 1-8% slopes (+/- 203 ac of the site)

3) Riveroad and Comoro Soils: 0-2 % slopes (+/- 37 ac of the site)

4) Tubac Gravelly Loam: 1-8 % slopes (+/- 95 ac of the site)

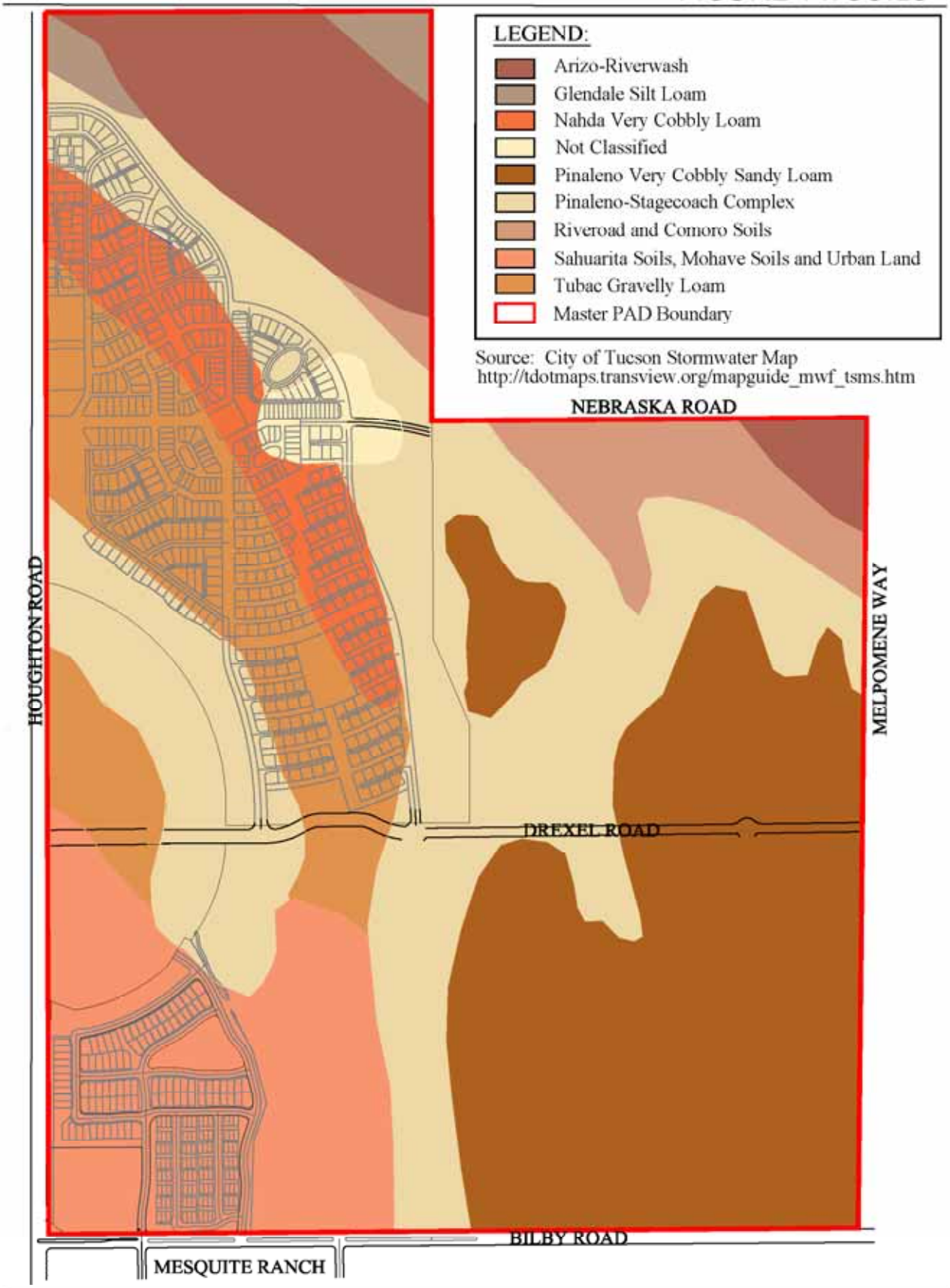
5) Sahuarita soils, Mohave Soils and Urban Land: 1-5 % slopes (+/- 104 ac of the site)

6) Arizo-Riverwash Complex: 0-3 % slopes (+/- 73 ac of the site)

7) Nahda Very Cobbly Loam: 0-3% slope (+/- 45 ac of the site)

8) Glendale Silt Loam: 0-3% slope (+/- 12 ac of the site)

FIGURE 11: SOILS



CIVANO MASTER PAD

NOT TO SCALE

PRELIMINARY NOT FOR CONSTRUCTION

NORTH

B-11 VIEWSHEDS AND VISUAL ANALYSIS

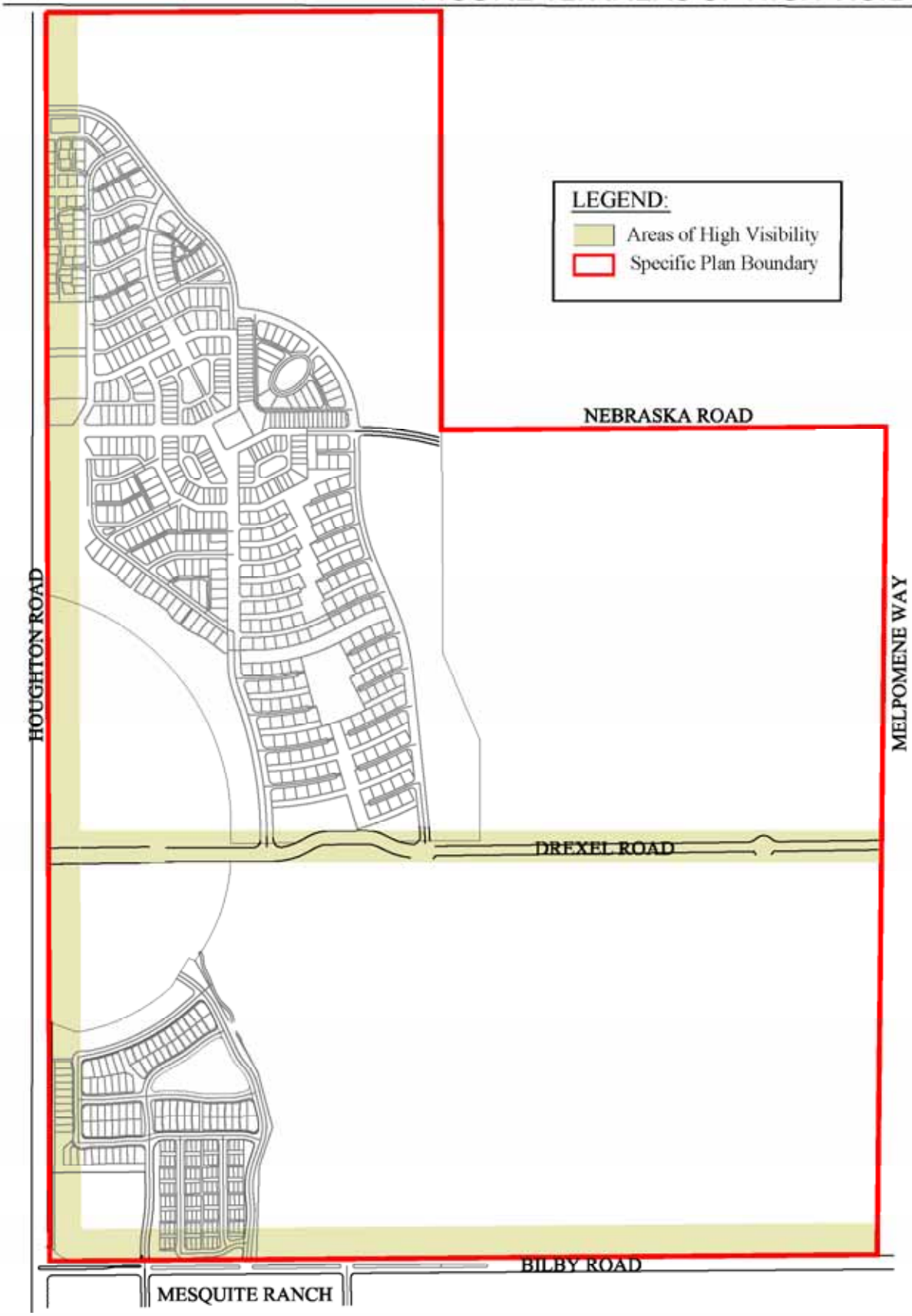
B-11.a Viewsheds Onto and Across the Site

Views onto the site from adjacent areas include views of the on-site washes and vegetation. The utility lines that run east to west on both sides of Drexel Road are visible from adjacent areas. Larger transmission lines located north to south along the eastern boundary are also visible from all directions. Clear views across the entire property are not possible due to the size of the parcel, the vegetation coverage, as well as the slope of the property. No single location from off-site adjacent areas is high enough to afford views across the entire site. No views of off-site features such as the Rincon Mountains or the Santa Rita Mountains are anticipated to be obstructed by this development.

B-11.b Areas of High Visibility from Adjacent Off-Site Locations

The areas of high visibility from adjacent off-site locations exist largely on the property boundaries along Houghton and Bilby Roads, from the bluffs along the Pantano Wash looking west across the property, and along Drexel Road as it crosses the site. The perimeter visibility is due, in part, to the size of the project and the lack of a vantage point from which to view the entire property. The vegetation on site is of generally high quality and of medium density near the project boundaries. See **Figure 12**: *Areas of High Visibility*.

FIGURE 12: AREAS OF HIGH VISIBILITY



CIVANO MASTER PAD

NOT TO SCALE

PRELIMINARY-NOT FOR CONSTRUCTION

NORTH

B-12 PALEONTOLOGICAL AND CULTURAL SITES, STRUCTURES AND DISTRICTS

B-12.a Location of Cultural Resources

The Arizona State Museum (ASM) archaeological records indicate that the property was surveyed by Old Pueblo Archaeology Center and that nine archaeological sites were identified on the property: AZ BB13:340-348 (ASM). Jones A. Dart, archaeologist for Old Pueblo Archaeology Center recommended that no further work was necessary at any of the nine sites identified.

1) Letter from the Arizona State Museum

   The Arizona State Museum concurs with Old Pueblo Archaeology that no further work on the property is necessary. In addition, ASM recommends that if intact archaeological deposits are discovered, pursuant to A.R.S. Section 41-865, all ground disturbing activity in the vicinity of the remains should cease until the ASM Repatriation Coordinator, John Madsen, is contacted at (520) 621-4795. The letter from the Museum is provided as Exhibit III.E.1.a: Arizona State Museum Letter.

C. CIVANO MASTER PAD

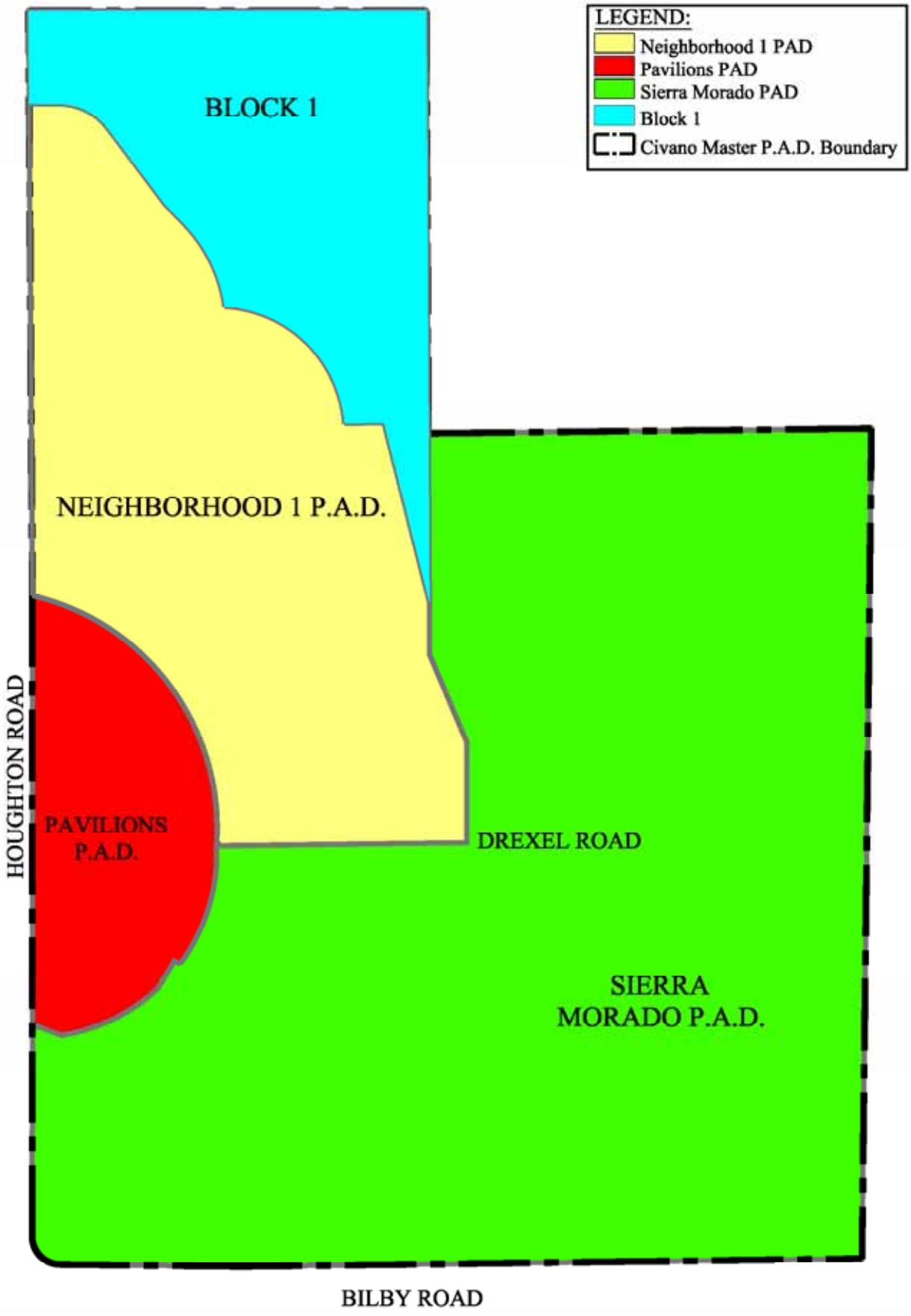
C-1 MASTER PAD APPLICABILITY

The 1991 and 1992 Civano Master Plans include the entire 818-acre Civano project site and focus on principles of sustainability, the use of solar energy and other alternative power sources, respect for and integration of residential and non-residential communities with the natural environment, conservation of water and fossil-fuel resources including alternative modes of transportation, and the creation of a pedestrian-friendly community that fosters interaction within the community and with the natural environment. The Rezoning Conditions require all development to conform to the 1991 Civano Master Plan.

This Civano Master PAD is designed to replace the 1991 and 1992 Civano Master Plans, pursuant to the Revised Civano Development Agreement, Section 3.1.1. This Civano Master PAD covers the entire 818-acre Civano project area and will supercede the Development Compliance Code. **Figure 13**, *Master PAD and PAD District Boundaries* identifies the locations of the various properties affected by the revised Master PAD. Where there is a conflict between the Civano Master PAD and the LUC, Development Compliance Code (with the exception of Article III), the Development Standards or individual Civano PAD Districts, the Civano Master PAD shall govern. The Civano Master PAD shall not govern in any conflict with the Revised IMPACT System Standards, the Revised Memorandum of Understanding or the Development Compliance Code, applicable building codes or other applicable regulations.

In addition to this Civano Master PAD, three PAD Districts will be included in this document that will be subject to the general land use and development plan concepts within the revised Master PAD. The three PAD Districts include the Sierra Morado PAD, the Pavilions PAD, and a minor addition of new area to the existing Neighborhood 1 PAD. The three PAD districts identified above will provide the regulatory development standards for the applicable district, and will be defined separately within Sections D, E and F of this document respectively.

FIGURE 13: MASTER P.A.D. & DISTRICT P.A.D. BOUNDARIES



CIVANO MASTER PAD

Not to Scale

PRELIMINARY-NOT FOR CONSTRUCTION

Bloodgood Sharp Buster

MMLA

C-2 MASTER DEVELOPMENT PLAN

C-2.a Civano IMPACT System

The Civano Master PAD is intended to continue adherence to the goals, principles and values of its predecessor plans, all incorporating over a decade of development at Civano and in the Tucson area. The Revised IMPACT System establishes specific goals that are translated into multiple performance targets for energy and other resource conservation. These goals and performance targets will continue to form the cornerstone for this new Civano Master PAD and apply to all new development within the Civano Master PAD area. The specific goals as defined by the Revised IMPACT System Standards are summarized below.

I. Energy: Reduce building energy demands below 1990 baseline levels with passive and active alternative energy and solar uses (including photovoltaic or other solar power options), and efficient design and construction techniques and equipment.

II. Water: Reduce potable water consumption below Tucson metropolitan baseline levels and use non-potable water, such as reclaimed water, graywater or rainwater harvesting for landscape irrigation.

III. Solid Waste: Reduce landfill-destined and solid waste below Tucson metropolitan baseline levels, recycling construction wastes and use of recycled construction materials on site.

IV. Transportation: Improve air quality by reducing auto dependence through a circulation plan that promotes walking, biking, and electric cart or other alternative energy-saving transportation method.

V. Employment: Create one job within Civano for every two dwelling units.

VI. Affordable Housing:Price at least 20% of the total number of dwelling units for low and moderate-income households.

The Revised IMPACT System Standards (as such may be amended from time to time) are attached as **Appendix 2**. The Revised MOU, implementing the Revised IMPACT System Standards, is attached as **Appendix 1**.

C-2.a.1. Master Developer Self-Certification

In order to provide consistency in the implementation of the Civano IMPACT System throughout the Civano Master PAD, and to expedite the review by the City for plat and site plan approvals, the Civano Certification Committee will self-certify the Revised Civano IMPACT System criteria as identified in Sections 5.31 and 7.0 of the Revised MOU, except that the Master Developer shall delegate the self-certification process to developers of the Pavilions PAD.

C-2.a.2. Pavilions PAD Self-Certification

The Pavilions PAD developers shall establish a Pavilions Certification Committee which shall self-certify the Revised Civano IMPACT System criteria as identified in Sections 5.31 and 7.0 of the Revised MOU.

C-2.a.3. Monitoring

All developers and property owners within the Master PAD area shall cooperate with the Master Developer to implement the periodic monitoring as required by the Revised IMPACT System Standards and Revised MOU.

C-2.b. Master Development Plan Summary

In addition to the existing uses already provided on the site, the master plan will offer a broad range of housing types, centralized retail/commercial services, employment opportunities, and an open space network utilizing the natural drainage channels that dissect the site. The projected population will be served by at least one recreation center, various neighborhood parks, mini parks, and a network of paths, trails and bikeways. The plan recognizes the natural wash features throughout the property, and strives to preserve the majority of the wash corridors in their natural state to preserve and protect the riparian habitat and native vegetation in the area.

The Master PAD will be designed as a planned community with an ecologically and environmentally responsible ethic. The plan calls for the preservation and/or enhancement of the major riparian corridors dissecting the property from south to north. Roadway alignments and residential developments will be oriented to abut natural open space corridors to provide added amenity and a natural desert ambiance to the development. A variety of housing types and residential densities will be provided to create a diverse housing community. Active and passive parks and open spaces will be provided throughout the community in addition to an extensive network of interconnected trails. Supporting commercial and employment services will also be provided within the Master PAD area.

The layout is well integrated with the existing developed portions of the Neighborhood 1 PAD. All land uses are integrated with regard to circulation, infrastructure, aesthetics, preservation of views, and visual character through a unique set of development standards and design guidelines designed to make Civano a unique development consistent with the Desert Village concept of the adopted Tucson General Plan.

Primary access to and from the Master PAD will be via Houghton Road as the major north/south feeder road and Bilby Road, Drexel Road and Seven Generations Way providing direct access into the community. Seven Generations Way currently provides primary access to the existing Neighborhood 1 PAD. Bilby Road will be the major marketing window into the Sierra Morado PAD District and Drexel Road will serve as a

central spine road, providing direct access into the Sierra Morado PAD and the Pavilions PAD from Houghton Road.

C-2.c Master Development Key Planning Factors

The master development plan was developed based on a detailed review of the site analysis and a number of key planning factors. Those factors are summarized below:

- Maximize compatibility and suitability with the land;
- Land uses organized in distinct development units, with a diverse range of densities and housing types and commercial and employment uses. The plan includes centralized community facilities and neighborhood parks with convenient access to each of the development units.
- Responsiveness to drainage constraints created by the Mesquite, Civano and Pantano wash corridors, including preservation and/or enhancement of the major wash corridors on the property;
- Proximity of neighborhoods to community open spaces;
- Encourage social interaction and a mix of ages, uses and lifestyles;
- Housing affordability;
- An emphasis on non-vehicular internal circulation that provides pedestrian and bicycle linkages between residential, employment, commercial, recreation and open space uses throughout the project;
- Retain connectivity of wildlife corridors;
- Sensitivity and compatibility with adjacent land uses;
- Traffic calming features within the major collector road system to reduce vehicle speeds within the community;
- Compliance with Civano IMPACT System Performance Targets.

C-3 DEFINITIONS

The terms used in this Master PAD/Civano PAD Districts shall mean those as defined in the LUC, with the following exceptions or additions:

Alley Loaded: A residential product type that provides the primary vehicular access from public streets through a private alleyway at the rear of the residence (rear yard), while the primary pedestrian entrance is located at the front of the residence (front yard).

Average Area (for residential lots): Calculated by taking the development parcel area minus all dedicated and/or private streets and all natural open space areas divided by the number of residential lots within the development parcel.

Auto Court Cluster: A residential product type that provides the primary vehicular access from public streets through a private, common tract or easement at the rear of the residence (rear yard), clustered around the primary pedestrian access located at the front of the residence (front yard).

The maximum number of units allowed within a single auto court cluster is eight units.

Civano Certification Committee. The Civano Certification Committee shall perform the self-certification provided in Sections 5.31 and 7.0 of the Revised MOU. This committee shall consist of a representative of the Design Review Committee established by the Master Developer, a licensed architect or engineer, a member of the Civano Neighbors organization and a representative of the Master Civano Community Association

Design Review Committee (DRC) or Review Committee: A three or more member committee appointed by the Master Civano Community Association or by subsidiary associations such as the Sierra Morado Homeowners Association, the Pavilions Business Association or the Neighborhood 1 Homeowners Association.

Developer: An individual, entity or owner who acquires or leases development areas within the Master PAD area for the purpose of developing said development areas in accordance with the Master PAD and the Development Agreement.

Development Agreement: The Revised Civano Development Agreement adopted December 8, 2003, Resolution No. 19741, and as it may be amended from time to time.

Development Parcel: The area of land comprised of a single subdivision plat or site plan as identified within Figure 14: Land Use Plan.

Development Units: The development areas within a PAD District, as defined within the Master PAD. The specific Development Units are identified within Figure 14: Land Use Plan.

Front Yard: For an interior lot, the front yard is the lot line bounding the street frontage. For a corner lot, the front yard shall be the shorter of the two lot lines adjacent to the street. For auto court cluster and/or alley loaded types where there is no direct street frontage for each lot, the front yard is the portion of a single-family residential lot where primary pedestrian access is provided.

Functional Open Space: Open spaces which are developed and usable for active and passive recreational activities.

Gross Density: The number of dwelling units on a defined piece or land divided by the total acreage of that defined piece of land, including all planned or dedicated streets, alleys, private access ways, roadways, interior open space, alley easements, and/or drainageways. Area shall extend to the center of adjacent streets or right-of-way or other public space.

Guest House: An attached or detached accessory building used to house guests of the occupants of the principal building. A guest house may provide kitchen facilities. No more than one guest house per single-family lot.

IMPACT System for Sustainable Development: The Civano Revised IMPACT (Integrated Method of Performance and Cost Tracking) System for Sustainable Development adopted December 8, 2003, Resolution No.:19741, as it may be amended from time to time. *See* **Appendix 2.**

Live/Work: Same as Home Occupation as defined within the LUC, except that Live/Work allows for retail services, personal services or medical services to be provided from the home. Gross floor area dedicated for the home occupation in a live/work scenario may take up to 50% of the structure that it occupies. Two outside employees for the home occupation is allowed. Commercial site plan review and/or non-residential development standards shall not be required for Live/Work units, except for those Live/Work units that provide retail services, personal services or medical services.

Lot Coverage: Total coverage of buildings, storage areas and vehicle use area over a development parcel calculated as follows: site area multiplied by the lot coverage percentage allowed equals the total square feet of land area allowed for coverage within a development parcel. The total lot coverage area is then divided by the number of lots in the development parcel to yield a total number of square feet of coverage for allocation to each lot.

Master Civano Community Association: A non-profit association governing various non-profit subsidiary associations located within the Civano Master PAD area and formed under the authority of the Amended and Restated Declaration of Covenants, Conditions and Restrictions for Civano: The Tucson Solar Village, recorded at Docket 10915, Page 639, of the Official Records of Pima County, Arizona, on November 3, 1998.

Master Developer: The Master Developer is the developer under the Development Agreement that is responsible for facilitating cooperation among other developers in the master planning of Civano, including documenting compliance with this Civano Master PAD and its predecessor plans, the Revised Civano IMPACT System and the Revised MOU. The Master Developer shall have the responsibility of ensuring that the Civano Master PAD is complied with as development occurs for all development parcels within the 818-acre Master PAD area. Development and design guidelines may be adopted by the Master Developer to assist in the implementation of the Civano Master PAD. The Master Developer is also responsible for the periodic monitoring and reporting required by the Revised Civano IMPACT System and Revised MOU.

Memorandum of Understanding (MOU): The Revised Civano Memorandum of Understanding, as amended by the parties on December 8, 2003, by City Resolution No. 19741, as it may be amended from time to time. *See* **Appendix 1.**

Mini Parks: Improved open space areas, at least 4,500 square feet in size, which may include improvements such as picnic areas, ramadas, tot lots, as well as other passive recreation amenities.

Natural Open Space: Open space areas including significant natural features, such as natural drainageways, floodplains, and steep slopes that will primarily be left in their natural state. Low impact active and passive recreational opportunities such as trails, signage, and kiosks may be provided in these areas.

Neighborhood 1 Homeowners Association: The subsidiary homeowners association formed under the Amended and Restated Declaration of Covenants, Conditions and Restrictions for Civano 1: Neighborhood One, recorded at Docket 11206, Page 2132, of the Official Records of Pima County, Arizona, on January 4, 2000, as it may be amended from time to time.

Neighborhood 1 PAD District: The existing Civano PAD District for Civano Neighborhood 1 as amended in Section F of this document.

Neighborhood Parks: Improved open space areas, at least one-half acres in size, which may include improvements such as picnic areas, ramadas, tot lots, ball fields and other sports activities as well as other passive recreation amenities.

Neighborhood Trails: A trail system that will connect with the Urban Street Trails system to provide an internal circulation system connecting the recreational amenities, the community center and all individual neighborhoods within the development unit. Neighborhood Trails may include hard surface and natural surface trails.

Net Area: The area of a development parcel, excluding all planned or dedicated streets, alleys, private access ways, roadways and/or alley easements and natural and functional open space areas.

Pavilions Business Association: A subsidiary association of business owners to be formed to govern the Pavilions PAD District by the Pavilions developers.

Pavilions Certification Committee: The Pavilion Certification Committee shall perform the self-certification provided in Sections 5.31 and 7.0 of the Revised MOU. This committee shall consist of a representative of the Design Review Committee established by the Pavilions developers, a licensed architect or engineer, a member of the Civano Neighbors organization and a representative of the Pavilions Business Association.

Product Type: Refers to the various residential development housing options that may be provided within a residential land use. Product type may include traditional single-family homes on a single lot, auto court cluster development, alley-loaded, Z-lots, attached units, etc.

Public Facilities: Any facility (whether publicly or privately owned) which is to be used and/or allocated for the general good of the public. These uses would include, but are not limited to, parks, government services, utilities

and drainage features. Privately owned facilities will be subject to applicable land use regulations.

Rear Yard: The rear yard is the lot line opposite the front yard lot line. For auto court cluster and/or alley loaded housing types where there is no direct street frontage for each lot, the rear yard is the portion of a single-family residential lot where garage access is provided.

Recreation Center: A common recreational facility provided within the development. Amenities within a Recreation Center may include swimming pool and related facilities, clubhouse, meeting rooms, play courts, and other amenities.

Residential Mixed Dwelling Attached: Attached single-family residential units on individual lots for sale with common party walls, such as duplexes, attached auto court cluster or attached alley-loaded product types.

Residential Mixed Dwelling Detached: Detached single family residential units on individual lots for sale with a more unique product design such as auto court cluster, alley-loaded, or other creatively-designed single-family product type.

Residential Multi-Family Attached: Attached multi-family product type such condominium or apartments where multiple dwelling units are built on a single lot.

Residential Single Family Attached: A building containing dwelling units, each of which has primary ground floor access to the outside, and which are attached to each other by party walls without openings in compliance with building codes.

Residential Single Family Detached: A building containing only one dwelling unit entirely separated from buildings on adjoining lots or building sites.

Sierra Morado Homeowners Association: The subsidiary homeowners association formed under the Declaration of Covenants, Conditions and Restrictions for Sierra Morado Community Association recorded at Docket 12420, Page 1235, of the Officials Records of Pima County, Arizona, on November 2, 2004, as it may be amended from time to time.

Traffic Calming: Design features integrated into the street environment that are design to slow vehicular traffic down, creating a safer and more pleasant environment for pedestrians. Traffic calming measures may include design features such as traffic circles, chokers, chicanes, landscaped medians, curvilinear streets, narrow street sections, and tree-lines streets. All traffic calming measures shall meet Fire Department requirements.

Z-Lots: A residential product type whereby the individual lot side yards may be staggered or off-set to allow a mix of front-facing, side-entry and rear-placement garages.

C-4 PROPOSED LAND USES

The land uses within the Civano Master PAD include residential, commercial, employment, recreation and open space land uses as defined below.

C-4.a. Residential Land Uses

A variety of housing types are proposed within the Civano Master PAD. Homes will vary in character and size to meet the diverse needs of the projected community population. Most residential buildings will be generally limited to single story and two story units. Some of the higher density residential parcels and Live/Work units, however, may include buildings of up to four stories or 48 feet in height.

Residential densities may vary from parcel to parcel, creating variety and diversity in the type of product as well as varying price ranges within the community. The specific range of densities within the residential zoning districts is defined within the individual PAD Districts within Section D and F of this document. Various residential product types will be included within the Master PAD area; including various neotraditional design elements such as alley loaded garages, auto-court cluster, staggered setbacks, and front porches. The various product types proposed within the Master PAD may include, but are not limited to:

- Residential single-family detached;
- Residential single-family attached;
- Alley-loaded attached and detached residential units facing common pedestrian tracts;
- Z-lots with staggered units to allow a mix of front-facing, rear-loaded and side-entry garages;
- Single-story auto court cluster units;
- Two-story auto court cluster units;
- Live-Work residential/office or higher density residential parcels with buildings of up to four stories or 48 feet in height.

The Live/Work units will be provided to accommodate home office uses within designated residential development parcels exclusively within the Sierra Morado PAD. Within the Sierra Morado PAD, the Master Developer shall designate the location of any Live/Work units on the final plat prior to final plat approval for each plat where Live/Work will be allowed. Live/Work studios may be outlets for artisans, manufacture of specialty goods, and entrepreneurs. This type of dwelling and outlet will be in demand by small retail businesses and artists looking for an incubator environment and by businesses that need "walk by" and specialty location traffic.

C-4.b. Non-Residential Land Uses

Various non-residential land uses may be provided within the Civano Master PAD. Within the residential areas, low intensity non-residential

land uses such as religious uses, office space, live/work units, home occupation, and even a corner café may be provided as permitted within the individual PAD Districts and under City development regulations. Additionally, more intense non-residential uses may be provided in the commercial zoning district within the individual PAD Districts. Non-residentially zoned property may include more intense uses such as larger office development, major commercial and retail services, restaurants, entertainment facilities, major medical uses, as well as high density residential land uses. See **Figure 14**: *Land Use Plan* for the location of the non-residential land use areas.

In addition to the mix of low intensity non-residential land uses allowed within the residential land use areas, the more intense non-residential land use areas are centrally located within the Civano Master PAD in order to:

1) Encourage and promote pedestrian and non-motorized access from all Civano neighborhoods;
2) Take full advantage of the Houghton Road corridor as a major street to heighten retail exposure;
3) Minimize traffic within the residential neighborhoods;
4) Promote mass transit opportunities from within the Master PAD area.

The major non-residential land uses within the Civano Master PAD will provide commercial/employment services to the various Civano residential neighborhoods as well as to the surrounding communities.

C-4.c Open Space Land Uses

There are two primary open space uses proposed within the Civano Master PAD as described below and shown in ***Figure 15: Open Space, Recreation and Trails Plan***. Calculations of natural open space are shown in **Table 4,** *Natural Open Space Area.* The PAD will meet or exceed the 30% natural open space goals as set forth in the original Civano Master Development Plan. The PAD has an additional goal of 20% functional open space for a total goal of 50% open space.

C-4.c.i. Natural Open Space Areas

The Civano Master PAD will include a significant amount of natural open space due to the extensive natural features that exist on the property. These are areas that include the highest density and variety of vegetative communities as depicted in **Figure 10**, *Vegetation Densities*. Within these areas are the floodplains and major natural drainageways that traverse the site from south to north, as well as hillside areas with steep slopes. The Mesquite Wash, the Civano Wash, and the Pantano Wash are the three major watercourses in and around the subject property. The Mesquite Wash is located along the western side of the property, the Civano Wash is centrally located with tributaries extending to the southeast corner of the parcel, and the Pantano Wash clips the northeast corner of the property. Preserving these areas not only protects the natural element of the vegetation but also protects the environmental

significance of associated wildlife habitat. Mitigation plans for any necessary disturbance into the regulated wash or riparian areas will be completed in accordance with the regulations set forth in the City WASH Ordinance and ERZ requirements.

Additionally, the Scenic Corridor Buffer Zone, an area that must be preserved or reestablished and maintained as a natural area, and the Overhead Utility Easements (OHE), areas that are deemed desirable for enhancing prime natural open space areas, will be included in this open space designation. The natural open space areas are suitable for wildlife habitat and some low impact active and passive recreation opportunities such as pedestrian trails for walking and bird-watching.

The city of Tucson offers two methods for compliance with its Native Plant Preservation Ordinance: the full inventory method and the 30% set aside method. Because Unit 1 of the Sierra Morado PAD used the full inventory method, its 49 acres are excluded from natural open space calculations. The 30% natural open space goal is based upon the total PAD area of 818 acres minus the 49 acres of Sierra Morado Unit 1, or 769 acres. This results in a natural open space goal of approximately 231 acres. Projected contributions to the 30% natural open space goal are indicated in **Table 4**.The Native Plant Preservation strategies selected for compliance with the City's Native Plant Preservation Ordinance, and selected to meet the overall goal of 30% natural open space, are identified within each individual district PAD.

Table 4
Natural Open Space Area

Location	Natural Open Space
Civano N-1 PAD	89 Acres
Pavilions PAD	1.8 Acres
Sierra Morado PAD Units 2-4	152.4 Acres
Total Acreage	243.2 Acres
Open Space Goal (30% of 769 Acres)	230.7 Acres
Sierra Morado PAD Unit 1	Full native plant inventory used

C-4.c.ii. Functional Open Space Areas

Functional open space includes active and passive open space areas which are more developed and usable for recreational activities, drainage, and pedestrian circulation. These open space areas include major community pedestrian plazas and landscaped promenades as well as all open spaces, such as common area corridors, that are accessible by the entire Civano community.

The Civano Master PAD will include various centralized open space areas, many of which are already provided as part of the Civano Neighborhood 1 PAD. The Sierra Morado PAD will contain a community center, located in Development Unit 2, as well as at least two neighborhood parks, located in Development Units 1 and 3. Additionally, the Sierra Morado PAD will incorporate at least nine Mini Parks: two in Unit 1, two in Unit 2, two in Unit 3, and three in Unit 4. Mini Parks will be located within close walking distance of all of the individual neighborhoods within each Development Unit. Furthermore, additional open space, such as common area corridors, may provide opportunities for internal pedestrian linkages within the development as well as additional passive recreational opportunities.

The Community Center shall provide a community pool and may provide related facilities such as clubhouse, sport courts, meeting facilities, and other community amenities as determined by the master developer. Each Neighborhood Park (including the outdoor portion of the Community Center) shall be a minimum of 1/2 acre, and shall include a turf area, a ramada with picnic tables, and at least three of the following amenities or other new amenities as such reasonably become available to the Developer:

- Sport courts
- Outdoor gathering areas
- Traditional play equipment
- Alternative playgrounds
- Secondary walking paths
- Park benches
- Barbecue grills
- Opportunities for community art
- Butterfly, hummingbird, or other theme gardens

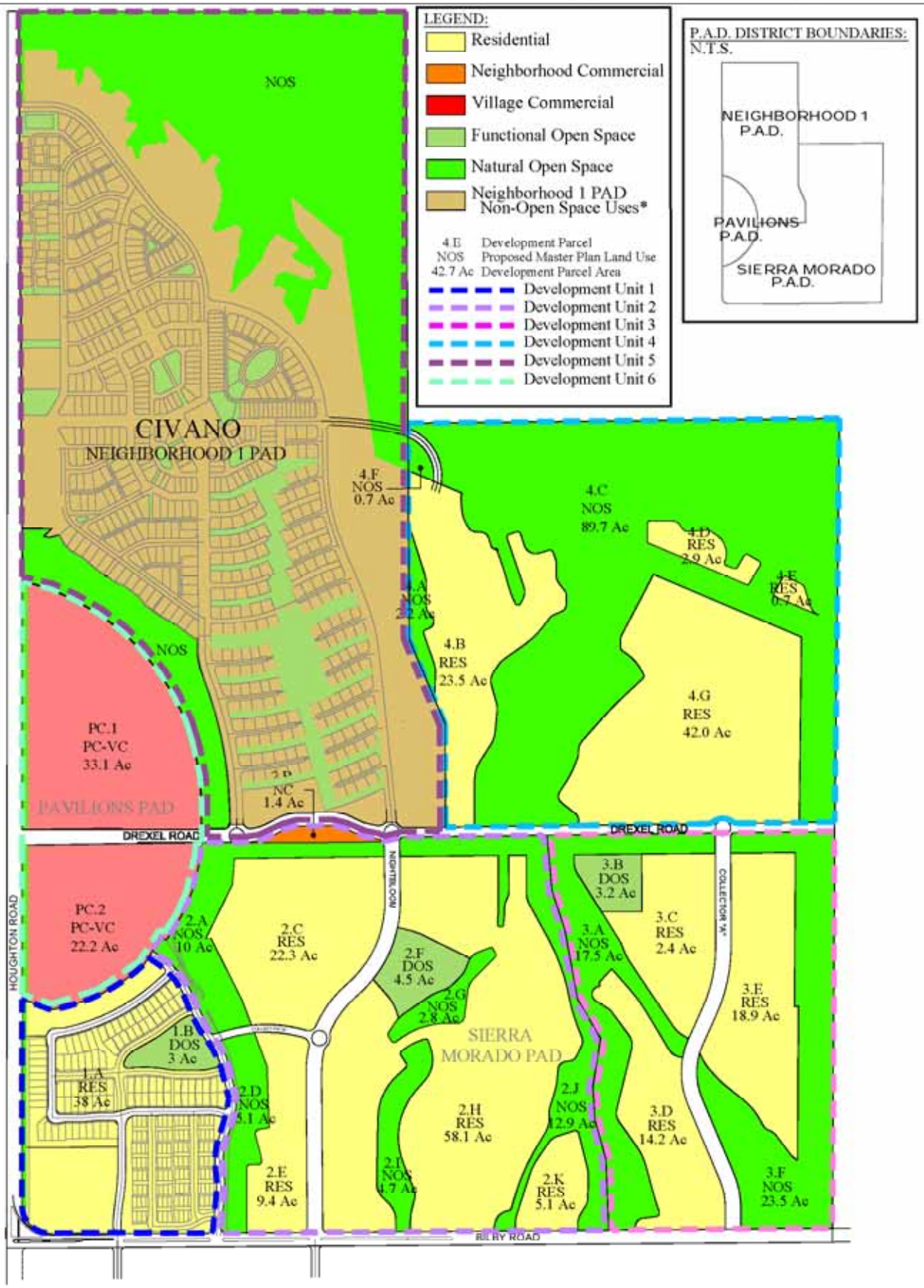
Each Mini Park shall be at least 4,500 square feet and shall include at least two of the following amenities or other new amenities as such reasonably become available to the Developer:

- Turf areas
- Traditional play equipment
- Alternative playgrounds
- Ramadas
- Picnic tables

- Park benches
- Barbecue grills
- Opportunities for community art

All parks will be irrigated with reclaimed water and will incorporate water harvesting features, native vegetation, and recycled or low environmental impact building materials. Additionally, the Sierra Morado Declaration of Covenants, Conditions and Restrictions, recorded at Docket 12420, Page 1235, Official Records, Pima County, Arizona (as may be amended from time to time) shall provide for sustainable park maintenance that minimizes or eliminates the use of pesticides, herbicides, chemical fertilizers, and fossil fuel-burning machinery.

FIGURE 14: LAND USE PLAN



CIVANO MASTER PAD

Not to Scale

PRELIMINARY NOT FOR CONSTRUCTION

C-5 RECREATION AND TRAILS

The Civano Master PAD will offer a variety of recreational opportunities, as well as support the objectives of the Pima County Trails System Master Plan and the City Parks, Trails and Open Space Master Plan.

A series of trails will be provided within the open space areas, through neighborhoods and parallel to roads to create a usable trail network that connects various destinations within the community and neighboring destinations consistent with the requirements to provide access to disabled persons. These trails will provide opportunities for walking, jogging, hiking and nature viewing, as well as alternative transportation opportunities throughout the community. The trail system will be integrated with recreation and trail facilities provided throughout the development and will also be designed for easy access to nearby schools. All paved trails include curb cuts for ADA accessibility and will meet ADA minimum requirements. Where possible, all natural surface pedestrian and multi-use trails will meet ADA minimum requirements. See **Figure 15**: *Open Space, Recreation and Trails Plan* for location of trails throughout the community and **Figure 16**: *Trails Cross Sections* for cross sections of the various trails discussed below.

The types of trails that will be provided in the Civano Master PAD may include:

C-5.a Pedestrian Trails

The Pedestrian Trails, with a minimum width of 4', paved (i.e. concrete) or natural surface (i.e. earthen or compacted decomposed granite); will connect to the Multi-Use Trails. This trail system provides an internal circulation system connecting recreational amenities and each of the residential development parcels within the Development Units. The pedestrian trails may also provide connection opportunities to the Pima County regional trail system.

C-5.b Multi-Use Trails

The Multi-Use Trail is a minimum 8' wide paved asphalt or natural surface (i.e. earthen or compacted decomposed granite) trail system which connects the Pedestrian Trails to the community center, neighborhood parks, residential subdivisions, non-residential uses, and the open space system throughout the community. The Multi-Use Trails may also provide connection opportunities to the Pima County regional trail system.

C-5.c Divided Urban Pathway

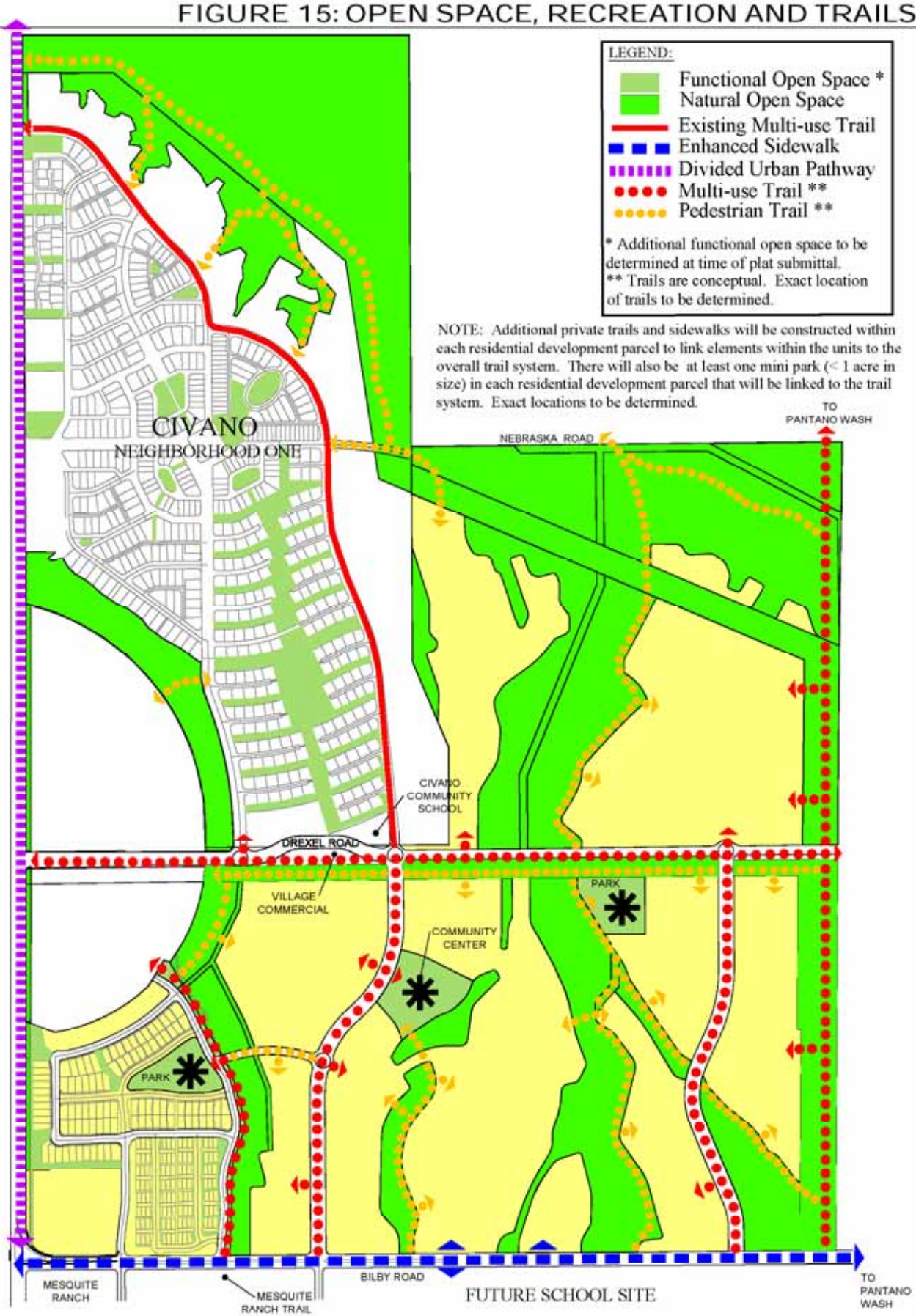
The Divided Urban Pathway consists of a minimum 12' multi-use paved pathway and a minimum 8' wide paved asphalt or natural surface (i.e. earthen or compacted decomposed granite) trail (if such trail is determined feasible by the Director of the City Parks and Recreation Department) to be located along the east side of the Houghton Road right-of-way. This pathway will connect the Multi-Use Trails to neighboring destinations and will extend from the north side of Bilby Road to the northern edge of the undeveloped property within the

Pavilions PAD area, where right-of-way is available (note that much of the area north of the Pavilions PAD area has already been developed and adequate right-of-way is not available to extend the improvements to the northern edge of the property).

C-5.d Enhanced Sidewalk

The Enhanced Sidewalk consists of a minimum 6' concrete sidewalk for pedestrian use with a minimum 5' commuter bike lane adjacent to vehicular travel lanes and parallel to the sidewalk along Bilby Road. Where possible, the bike lane and sidewalk are separated by a landscaped buffer. This trail system connects the Multi-Use trails to neighboring destinations and will extend along the northern site of Bilby Road from Houghton Road to Melpomene.

FIGURE 15: OPEN SPACE, RECREATION AND TRAILS



CIVANO MASTER PAD

Not to Scale

PRELIMINARY-NOT FOR CONSTRUCTION

NORTH

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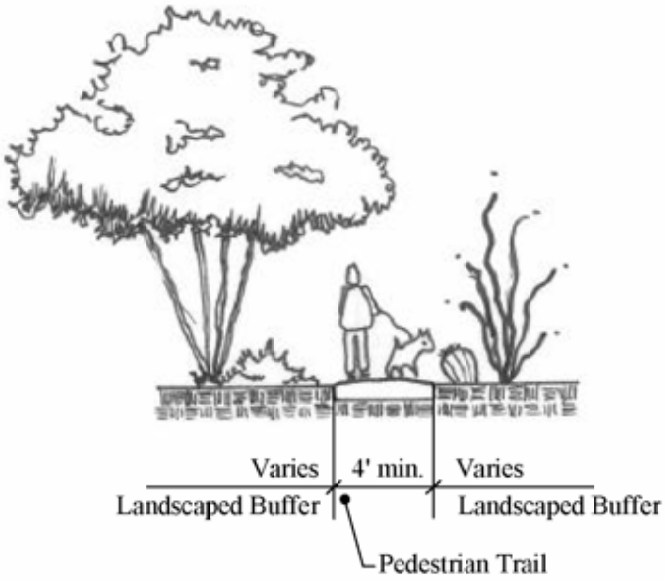
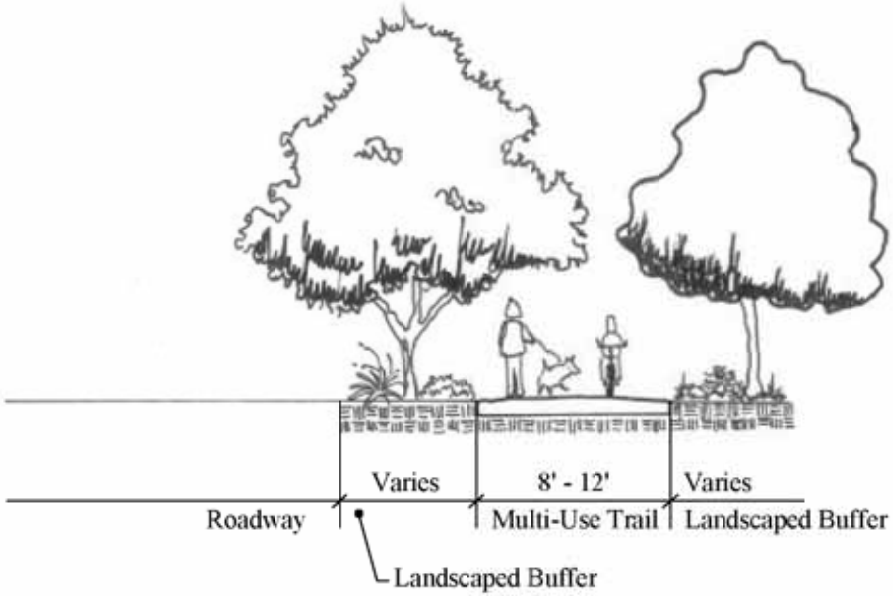


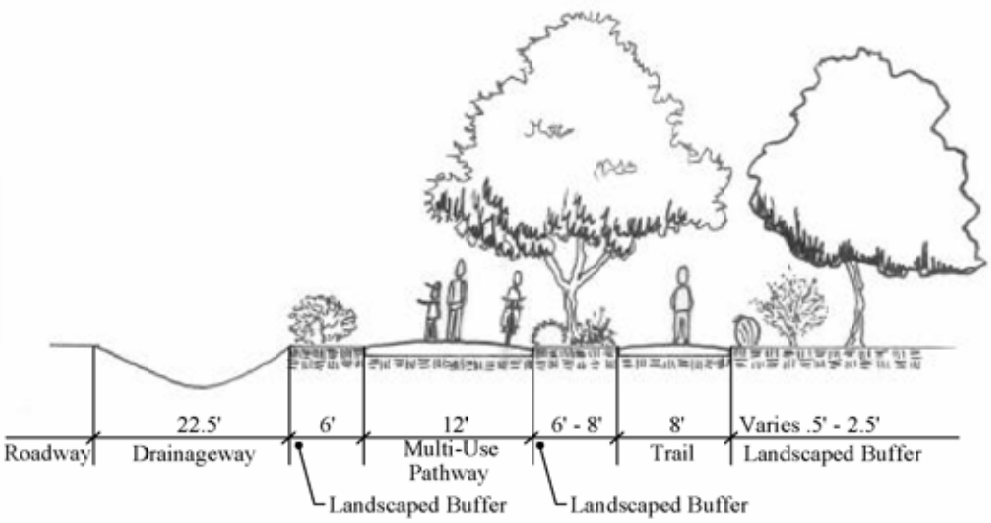
PEDESTRIAN TRAIL



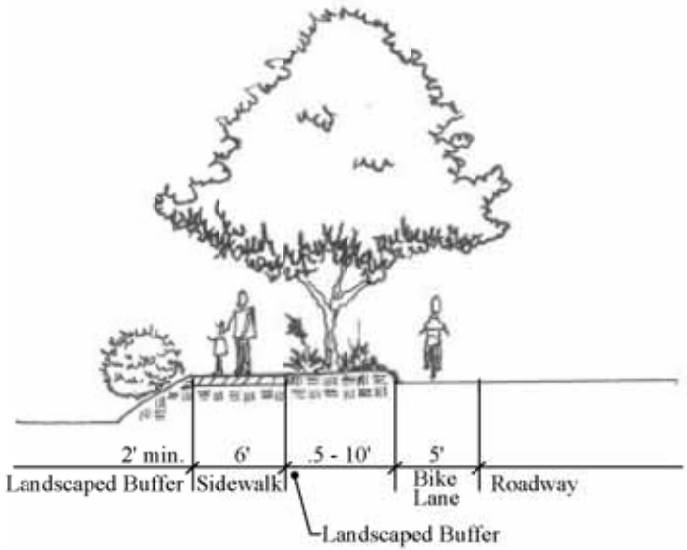
MULTI-USE TRAIL

Bloodgood Sharp Logo sm.tif

FIGURE 16B: TRAILS CROSS SECTIONS



DIVIDED URBAN PATHWAY



ENHANCED SIDEWALK

CIVANO MASTER PAD

C-6 SCHOOLS

The Master Developer has coordinated with the Vail School District regarding schools to serve the Civano Master PAD. The Vail School District recently purchased a 40-acre school site immediately adjacent to the Civano Master PAD on the south side of Bilby Road and east of the Mesquite Ranch subdivision. The 40-acre site is planned to include both elementary school and middle school facilities. The elementary school is scheduled to be completed in 2006 while the middle school is scheduled to be completed in 2007-2008. These schools will also serve the Civano neighborhoods.

The Civano Master PAD also includes the existing Civano Community School, an elementary school facility which will provide access to residents of Civano.

C-7 TRAFFIC AND CIRCULATION

The balance of land use and circulation facilities is important to the ultimate quality of life for Civano residents. The intent of the proposed circulation system is to balance opportunities for mobility within, and throughout the community by incorporating vehicular, bicycle, pedestrian, and future transit provisions to support and encourage a multi-modal transportation system within the Civano community. These facilities and design standards are discussed below.

C-7.a. Vehicular

The primary arterial roadway alignments that will serve the Civano Master PAD are Houghton Road and Bilby Road. Houghton and Bilby provide the primary north/south and east/west access to the Civano community. Drexel Road, located ½ mile north of Bilby, will provide direct access to the major commercial areas externally from Houghton Road, as well as internally to the residential districts. Drexel will also serve as an internal spine road through the community, connecting the individual Development Units and neighborhoods with the centralized community center and other amenities. Drexel Road will include various traffic calming measures such as traffic circles, narrow roadways, and on-street parking to slow and discourage off-site cut-through traffic (See **Figure 17**, *Vehicle Circulation Plan*). All traffic calming measures will meet Fire Department requirements. Seven Generations Way also provides direct access from Houghton Road to the development from the north.

Collector roads will connect Houghton Road and Bilby Road to the various Development Units and individual development parcels throughout the Civano community. Internal circulation will be provided within each development parcel, ultimately connecting to one of the collector roads and/or arterial roadways along the perimeter of the development.

Within each development unit local streets will provide direct access to homes. The local street network will be the primary basis upon which

the subdivisions are designed. The actual local street network will be based on several key considerations, including respect of the physical site characteristics, the residential and non-residential uses to be served, provision of fire protection, refuse collection requirements, solar orientation, and so on. There will be a variety of street patterns, including grid, curvilinear, discontinuous and others. Street design will include provisions for traffic calming, such as chokers, traffic circles, chicanes, short segments, cul-de-sacs, detached sidewalks, landscaped medians and islands and others.

C-7.b. Bicycle

The Master PAD includes paved bicycle lanes or paths along all arterial and collector streets to provide bicycle circulation within the community. The arterial streets include 5-foot wide on-street bike lanes within the street for bicycle commuter traffic. The collector streets include 12-foot wide, paved multi-use bike paths on one-side of the street. See **Figure 15**: *Open Space, Recreation and Trails Plan* for locations of bike lanes and paths.

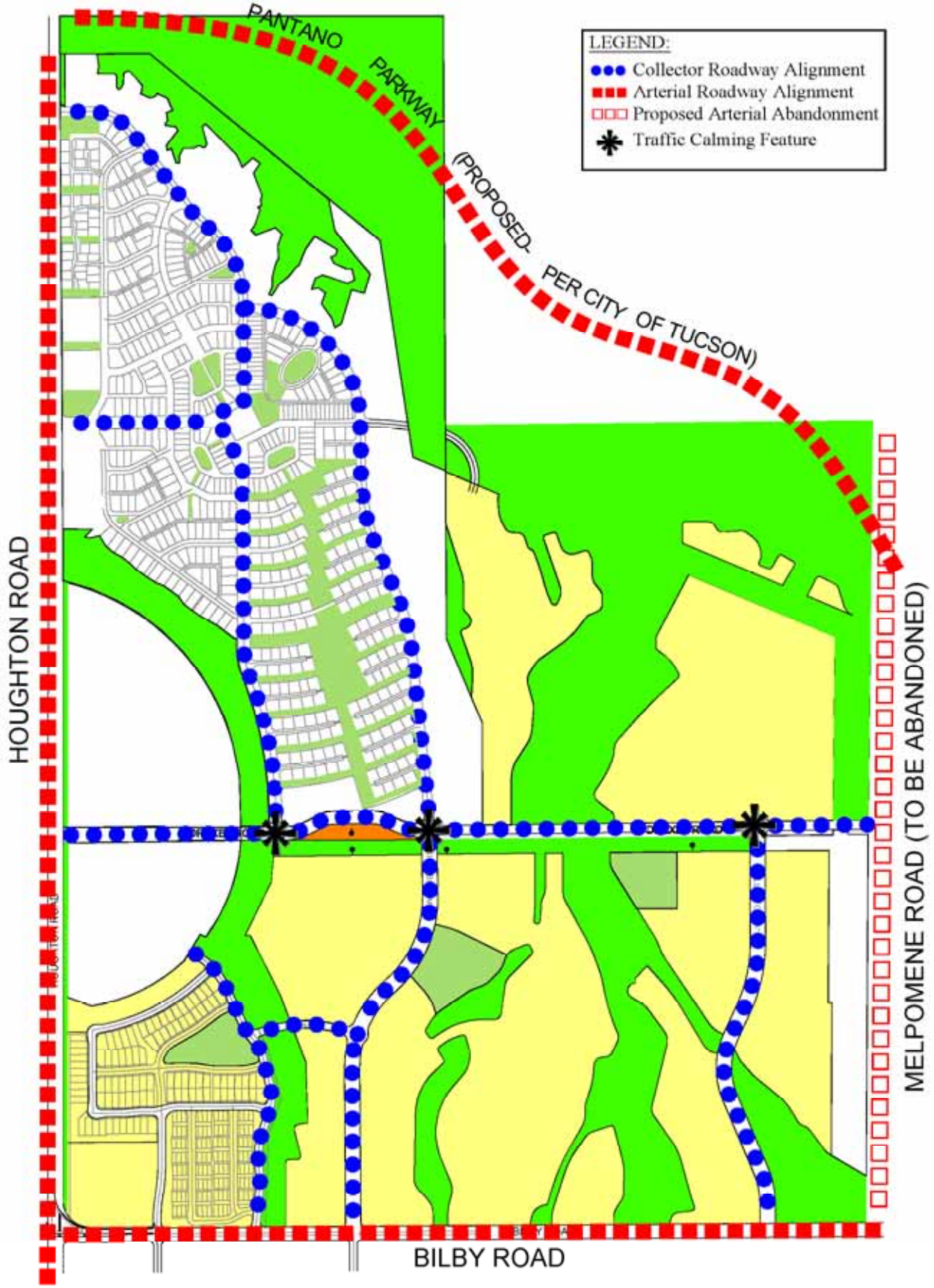
C-7.c. Pedestrian

The Master PAD will provide a network of paved sidewalks, trails and paths throughout the community, consistent with the requirement to provide access for disabled persons. All arterial and collector roadway alignments within the community will provide paved, setback sidewalks of varying widths as defined within the street cross sections provided in *individual PAD Districts*. The sidewalks will be shaded with tree-lined streets for aesthetics and comfort during the summer months. Additional off-street trails and paths will be provided throughout the community to provide pedestrian linkages to parks, schools, open spaces, community facilities, commercial/ employment uses and residential neighborhoods (see *Section C-5, Recreation and Trails* for further details on trails).

C-7.d. Public Transportation

Sun Tran currently does not provide and does not indicate plans to extend transit service to this area. However, the Master PAD will provide for bus stops within the project for future transit service. Depending on future service locations and frequencies by Sun Tran, bus stops shall be provided along Houghton Road, Bilby Road and Drexel Road or at other locations as determined by DSD in consultation with SunTran. The public trails and sidewalks discussed above will provide direct links to future bus stop locations within and adjacent to the development.

FIGURE 17: VEHICULAR CIRCULATION PLAN



CIVANO MASTER PAD

Not to Scale

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C-8 LANDSCAPING

The overall landscape goal for the Civano Master PAD is both a conservation and sustainable landscape approach through the application of xeriscape principles. Xeriscape is a comprehensive approach to landscaping that incorporates seven basic principles which lead to water conservation.

To reduce the "urban heat island" effect, vegetation will be used to decrease building temperatures while integrating landscaping for the shading of pedestrians, bicyclists, and parking. Reduction in the "heat island" will encourage greater use of these areas by pedestrians and bicyclists.

Landscape irrigation in the common areas, rights-of-way and some residential areas will be accomplished with the City's reclaimed water service. In all residential areas, a functioning system using reclaimed water, greywater or rainwater harvesting or other alternative irrigation system not dependent on potable water shall be made available for all landscape irrigation.

Integrated with the goals of conservation and sustainability, the landscape created in Civano Master PAD will be designed to create a lush and aesthetically pleasing atmosphere in compliance with the Revised MOU, as well as provide an environment that enhances the quality of life and helps both meet the needs of the residents and the community's performance standards.

C-8.a. Streetscapes

The intent of this development is to incorporate tree-lined streets with street sections that include sidewalks, bicycle pathways and landscape borders that buffer pedestrians from vehicular traffic. Within the street rights-of-way, the widths of landscape borders will differ by street designations. Some street sections will include lush vegetated medians that divide the vehicular traffic lanes. Canopy trees will be provided within these street medians as well as the landscape borders. Landscaping will meet or exceed City density standards.

C-8.b. Landscape Theme

Specifics of landscape themes are provided for within the individual district PAD areas as follows: Civano Neighborhood 1 Planned Area Development District landscape theme is found in the Civano Landscape Design Guidelines authorized by the Amended and Restated Declaration of Covenant, Conditions, and Restrictions for Civano 1: Neighborhood 1, recorded at Docket 11206, Page 2132 of the Official Records of Pima County, Arizona on January 4, 2000. The Sierra Morado Planned Area Development District landscape theme is found in the Sierra Morado PAD and the Pavilions Planned Area Development District landscape theme is found in the Pavilions PAD.

C-9 HYDROLOGY/DRAINAGE

The proposed project will not negatively impact the existing drainage patterns. Runoff will be conveyed from the development into the existing drainageways, which will remain natural under post-construction conditions. Runoff will be conveyed either directly into the Pantano Wash or into the Mesquite Wash and Civano Wash and consequently into the Pantano Wash as per existing conditions without adversely impacting downstream properties. Passive and active recreational facilities may incorporate water harvesting measures into their design. Reclaimed water will be used in common areas, parks and amenity areas.

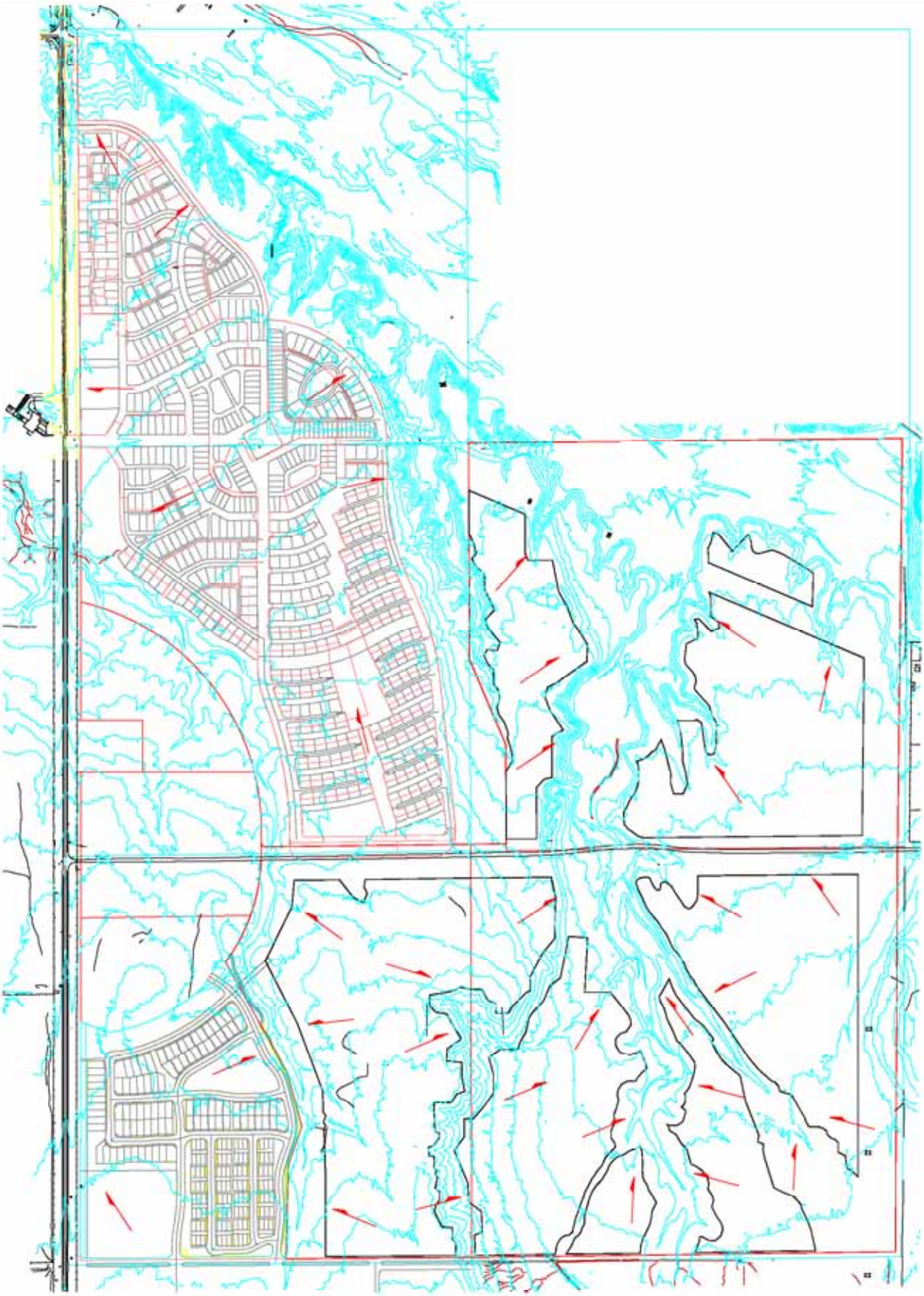
C-9.a. Post-Development Hydrology / Drainage Plan

The proposed Development Plan has been designed to allow the majority of washes and riparian areas along the watercourses to remain in a natural state, as shown in **Figure 18**: *Post Development Hydrology*. Under post-construction conditions, runoff from the development will be conveyed to these natural areas via a series of designed drainage structures. These structures will be designed in accordance with City standards. Runoff will then be discharged directly into the natural areas. Erosion control measures will be incorporated into the design to ensure that the exiting discharges will not have any negative impacts on the natural watercourses.

C-9.b. Grading

All grading plans shall limit site clearance on residential lots to preserve existing desert vegetation and maximize natural drainage as part of development plans or plats for individual subdivisions or PAD Districts as provided in the Revised MOU.

FIGURE 18: POST DEVELOPMENT HYDROLOGY



CIVANO MASTER PAD

SCALE: NTS

NORTH

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C-10 HILLSIDE AREAS-STEEP SLOPES

No significant impacts are planned onto steep slopes greater than 15%. Isolated disturbances of steep slopes necessary for reasonable development will be mitigated in accordance with the City's requirements.

C-11 INFRASTRUCTURE, PUBLIC SERVICES, UTILITIES

C-11.a. Water

There are two water mains within the Houghton Road right-of-way. A 24-inch protected main which serves Rita Ranch to the South and a 12-inch main which tees east along the Bilby Road alignment. Unit 1 taps into this 12-inch main along Bilby Road for its service. The 24-inch protected main could be tapped if a service agreement is signed and reimbursement is made to Rita Ranch (See **Figure 19**: *Water and Sewer Infrastructure Plan*).

C-11.b. Sewer

Civano Master PAD can be serviced via two collector lines, one existing and one proposed. An existing 15/18 inch collector line generally follows the eastern bank alignment of the Mesquite Wash (G-2000-070) through Neighborhood 1 to the north and Mesquite Ranch to the south. A new collector sewer line (alignment yet to be determined) shall generally run north-south through the eastern third of the property in accordance with the State Land Patent Agreement 53-52553-01.

Under existing conditions (actual developments and commitments for service through approved Sewer Service Agreements), there is capacity for this project development in the downstream conveyance system and in the existing 21-inch diameter public sewer (G-95-033) located north within the East Nebraska Road alignment and within parcel 141-01-1120 and in the existing 15/18-inch diameter public sewer (G-2000-070) located within Parcel 101-01-111C (see **Figure 19**: *Water and Sewer Infrastructure Plan*).

C-11.c. Electric

Electric service can be provided via an existing 128 kV overhead line which follows the Drexel (spine) Road alignment.

C-11.d. Reclaimed Water

There is an existing reclaimed water system built throughout all of Civano Neighborhood 1. Each residence has a reclaimed stubout to their property line for service connection. There is also an existing 12-inch reclaimed water line along the Houghton Road alignment. From this 12-inch line an 8-inch line (PN 2-060-081-2004) will be constructed to the east through Civano II and will be stubbed out for future extension. Reclaimed water lines will be extended to provide reclaimed water to common areas outside of Neighborhood 1 and all non-residential uses.

C-11.e. Solid Waste (Refuse Collection)

The Civano Master PAD will provide for a variety of different residential densities and product types. The specific method of refuse collection will vary depending on the residential product type proposed for each individual development parcel. For traditional residential single-family detached development, standard curb-side service for Automatic Plastic Containers (APC) will be provided. This type of development will meet the City's requirements for APC's per Section 6-01.0 of the Development Standards.

In addition to the traditional residential single-family product types, various other product types, such as auto-court cluster product and alley-loaded product will be provided within the community. The auto-court cluster and alley-loaded product types will also meet the requirements for APC's per Section 6-01.0 of the Development Standard. The auto-court cluster product will include refuse and recycle storage either in the garage or within the side-yard of the lots behind a screen wall. For pick-up days, the cans will be located along the curb adjacent to the cluster unit. The specific location and spacing for the trash and recycle storage and pick-up locations are shown in **Figure 19A**: *Auto-Court Refuse Collection and Utility Exhibit*. **Figure 19A** also demonstrates the distance between the storage location and the pick-up location for each unit within the auto-court cluster. The furthest travel distance includes the rear units at approximately 118-feet.

The alley-loaded product type will also meet the requirements for APC's per Section 6-01.0 of the Development Standard. The alley-loaded product will include refuse and recycle storage either in the garage or between the units behind a screen wall. For pick-up days, the cans will be located along the private street (alley) adjacent to each unit. The specific location of the pick-up locations are shown in **Figure 19B**: *Alley-Loaded Refuse Collection and Utility Exhibit*.

Although it is not anticipated, if the spatial requirements for APC's cannot be met for a particular subdivision, then centralized refuse containers will be provided. For residential developments within the Sierra Morado PAD District that will provide centralized refuse containers, such centralized refuse containers may be located up to 300 feet from a residence using such container for refuse disposal. All centralized refuse container locations shall provide at least two containers, one for trash collection and the other for recycled material in accordance with the City's recycling program requirements. All centralized refuse containers shall be screened on three sides by a solid masonry block wall or other solid, opaque material. A solid, opaque closing gate shall be provided to adequately screen the refuse containers and provide access for residents and collection vehicles. Landscaping should be provided around the perimeter of the refuse container screen walls to provide additional visual buffer as appropriate.

C-11.f. Telecommunications

Individual developments shall establish provisions for fiber optic or similar telecommunications infrastructure or, where technologically available, satellite or remote telecommunication services, to all non-residential and Live/Work locations at the time of plat or development plan approval.

C-11.g Recreational Facilities

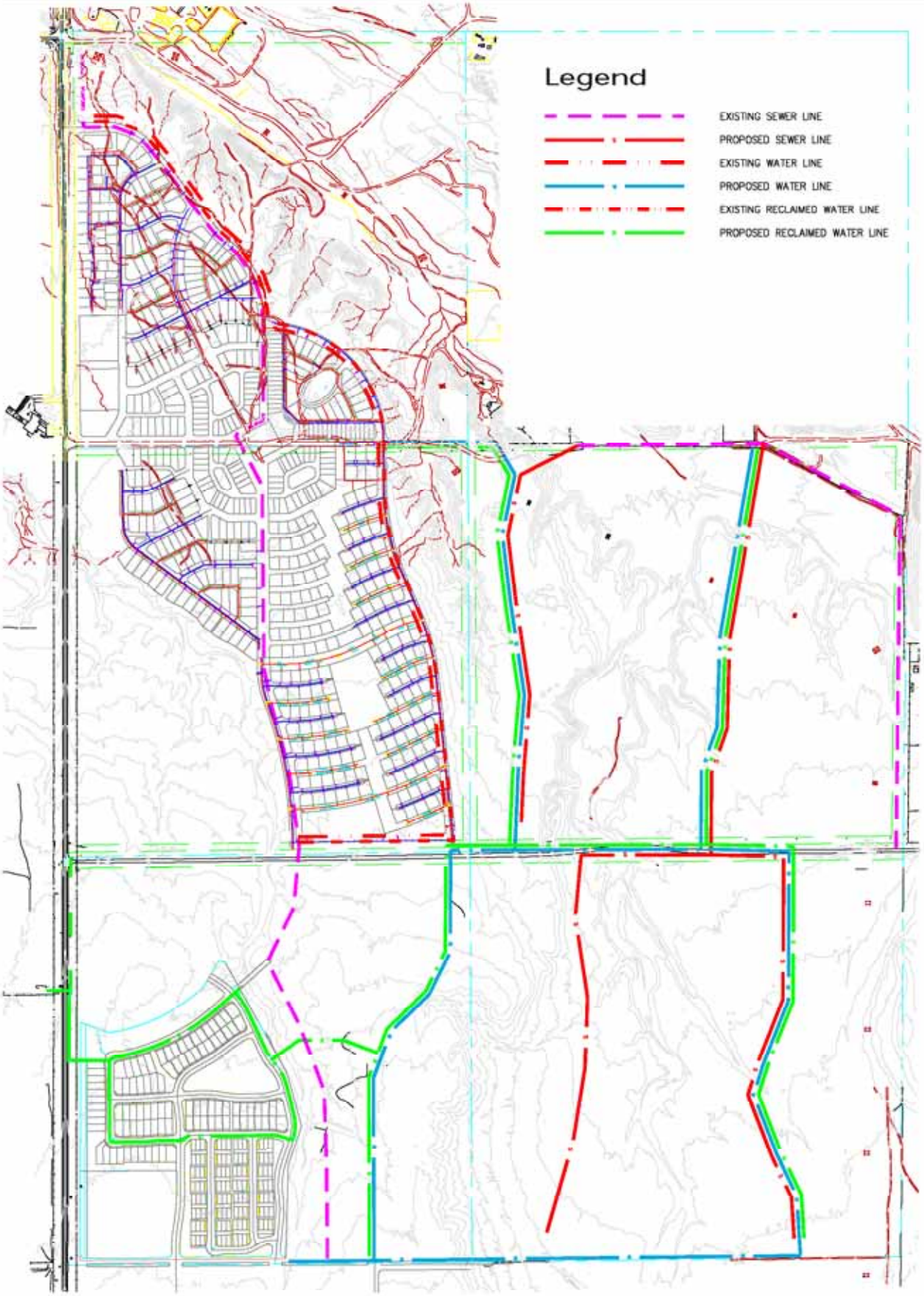
Within 24 months of the effective date of approval of this Master PAD, a recreational facility for the Sierra Morado PAD District shall be completed to the extent that the pool facilities within the recreational facility have been inspected, approved and permitted by the City and are available for use. During that 24-month period, building permits for construction of homes within the Sierra Morado PAD District may be issued subject to Additional Zoning Condition No. 3 on the Tentative Plat for Civano II as approved by the City.

C-12 PHASING AND IMPLEMENTATION

Much of the existing Neighborhood 1 PAD is already built or under construction. The Sierra Morado PAD will be built within a single phase, however, the platting and construction of infrastructure will occur incrementally from a southwesterly to northeasterly direction ultimately based on market conditions and absorption rate of the various housing product types proposed within the development. The Pavilions PAD will be built independent from the Sierra Morado PAD, and may occur concurrently with the Sierra Morado PAD. See **Figure 20**: *Development Phasing Plan* for proposed Development phasing.

The Developers shall provide copies of future tentative plats or development plans for development within the Sierra Morado PAD district and the Pavilions PAD district to the Civano Neighbors organization and to the Neighborhood 1 Homeowners Association at the time that such plats or plans are submitted to the City. The Civano Neighbors organization and the Neighborhood 1 Homeowners Association may provide comments about such plats and plans to the Developers.

FIGURE 19: WATER & SEWER INFRASTRUCTURE PLAN



CIVANO MASTER PAD

SCALE: NTS

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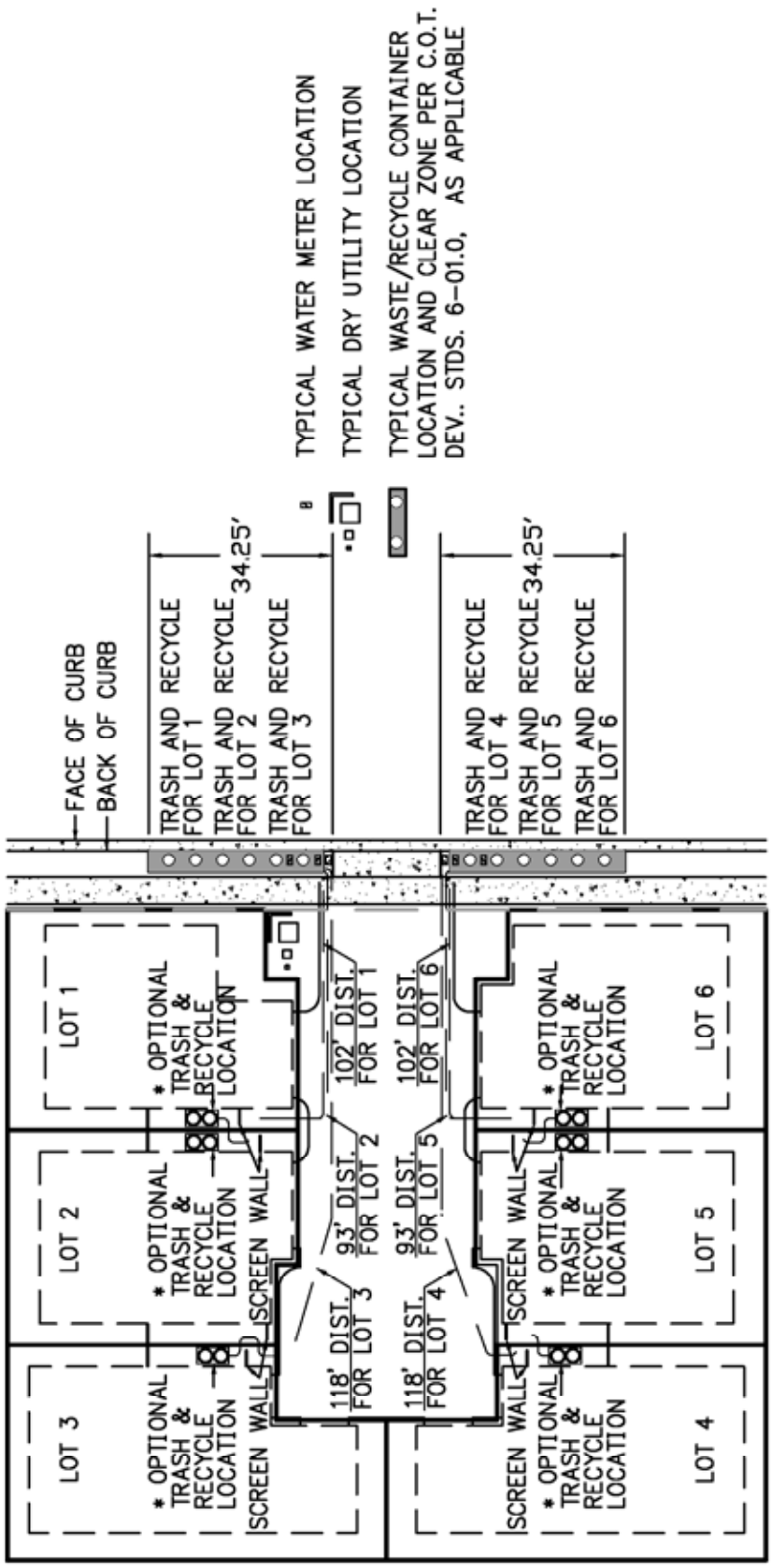


FIGURE 19A

AUTO COURT REFUSE COLLECTION & UTILITY EXHIBIT

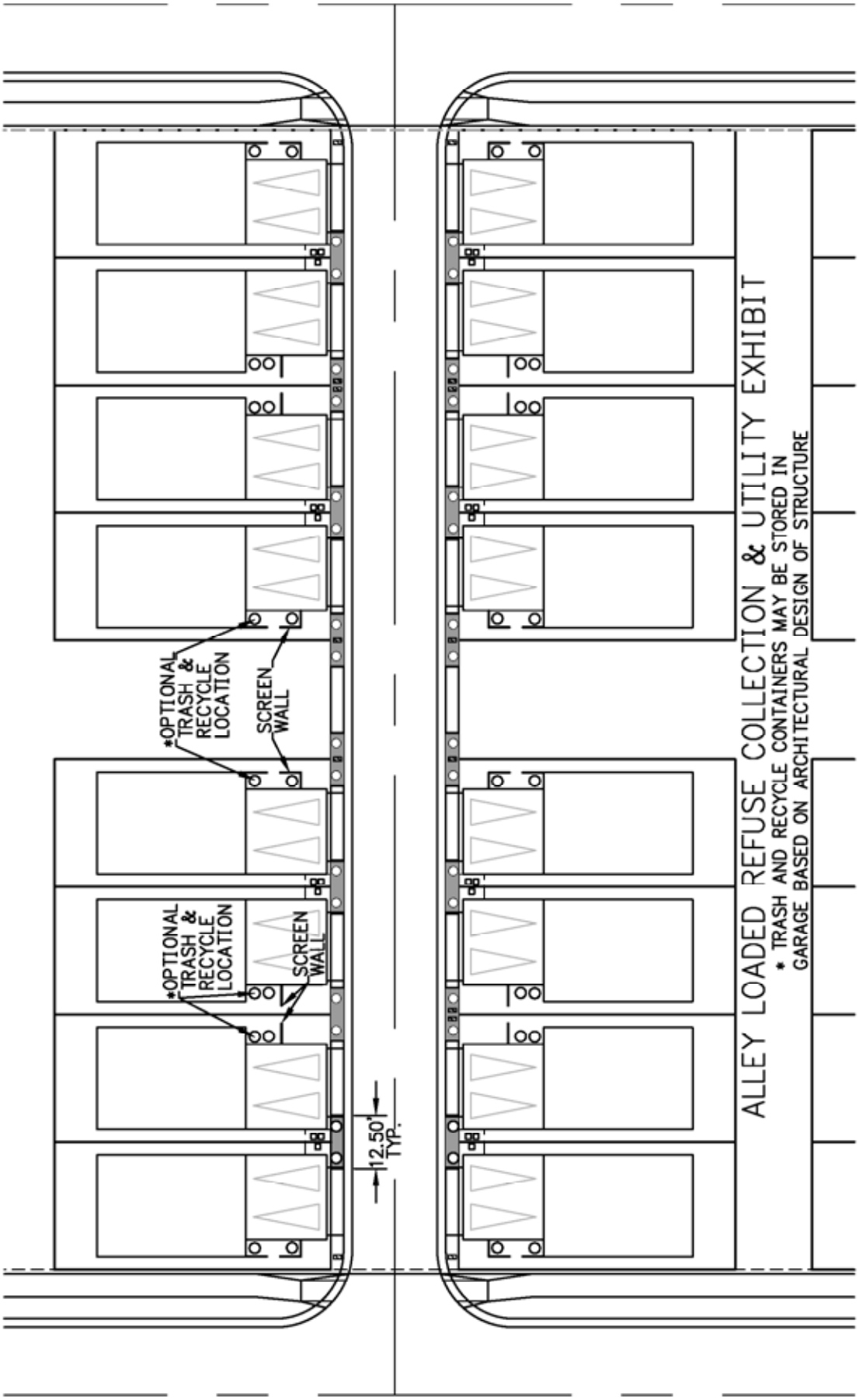
* TRASH AND RECYCLE CONTAINERS MAY BE STORED IN GARAGE BASED ON ARCHITECTURAL DESIGN OF STRUCTURE

SCALE: NTS

NORTH

PRELIMINARY-NOT FOR CONSTRUCTION

FIGURE 19B: ALLEY LOADED REFUSE COLLECTION AND UTILITY EXHIBIT



CIVANO: SIERRA MORADO PAD

SCALE: NTS

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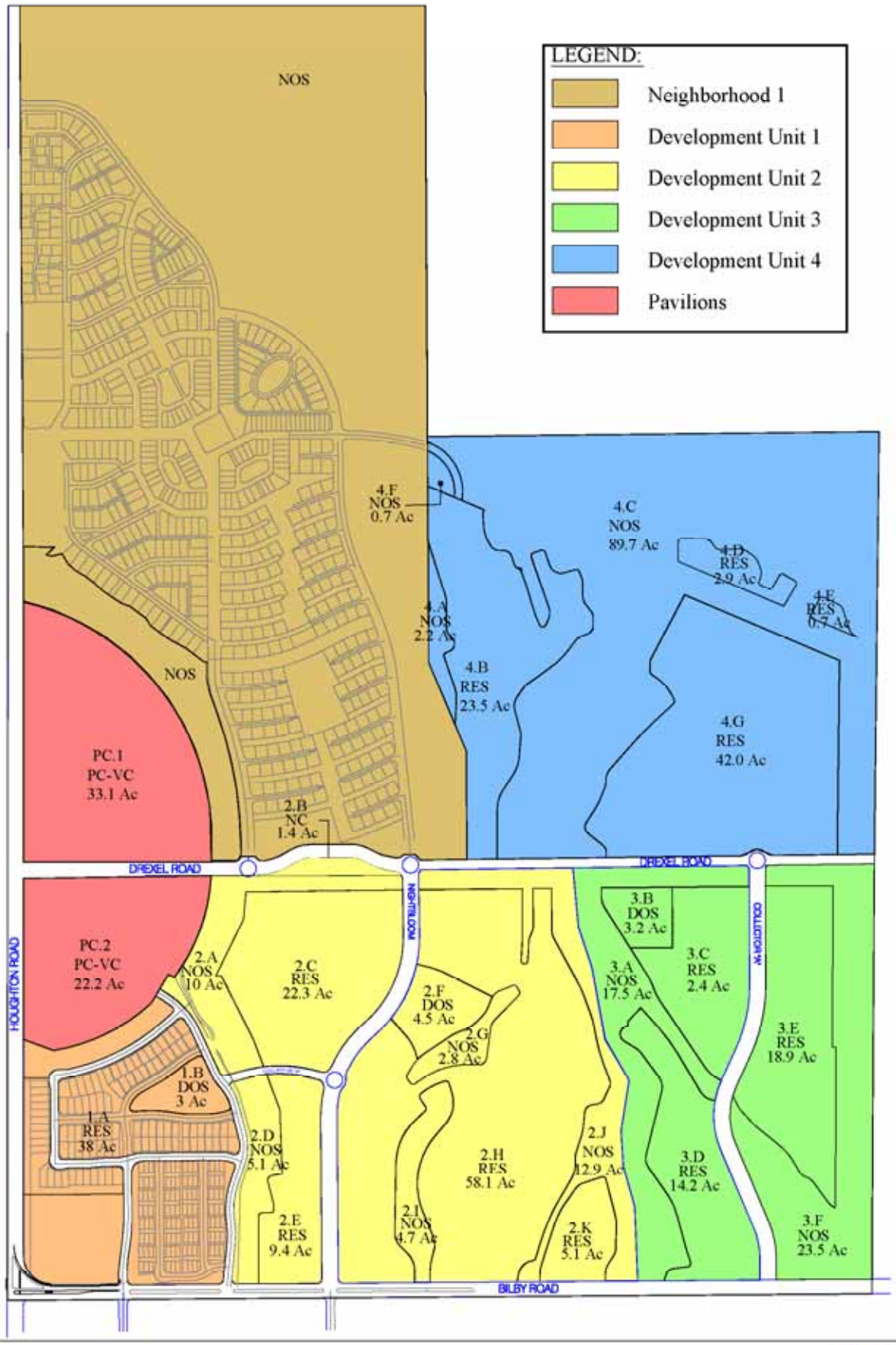
PRELIMINARY-NOT FOR CONSTRUCTION

FIGURE 20: DEVELOPMENT PHASING PLAN



CIVANO MASTER PAD

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D SIERRA MORADO PAD DISTRICT REGULATIONS

D-1 PURPOSE AND INTENT

This section is intended to provide the regulatory zoning provisions for the Sierra Morado PAD, which is designed to guide the implementation for the community "vision" through the plan review and development permit process, and to comply with provisions of the Planned Area Development Zone, LUC Section 2.6.3. These provisions constitute the primary tools for use by the City, the Master Developer, and subordinate developers in ensuring that the Sierra Morado PAD develops in conformance with the vision presented by the Master PAD as adopted by the Mayor and Council.

The development regulations will govern the land use densities, intensities, and location criteria within the Sierra Morado PAD. Furthermore, this section includes development standards related to base zoning districts, property use, building and landscape setbacks, building height, lot coverage requirements and general development standards. The intent of these standards is to establish clear minimum development standards, allow for the orderly progression of development, and to provide flexibility over time without compromising mutually-agreed upon goals and overall vision for the Sierra Morado PAD. Unless otherwise specified herein, all development within the Sierra Morado PAD shall conform to all Ordinances, Codes, Policies and Regulations of the City.

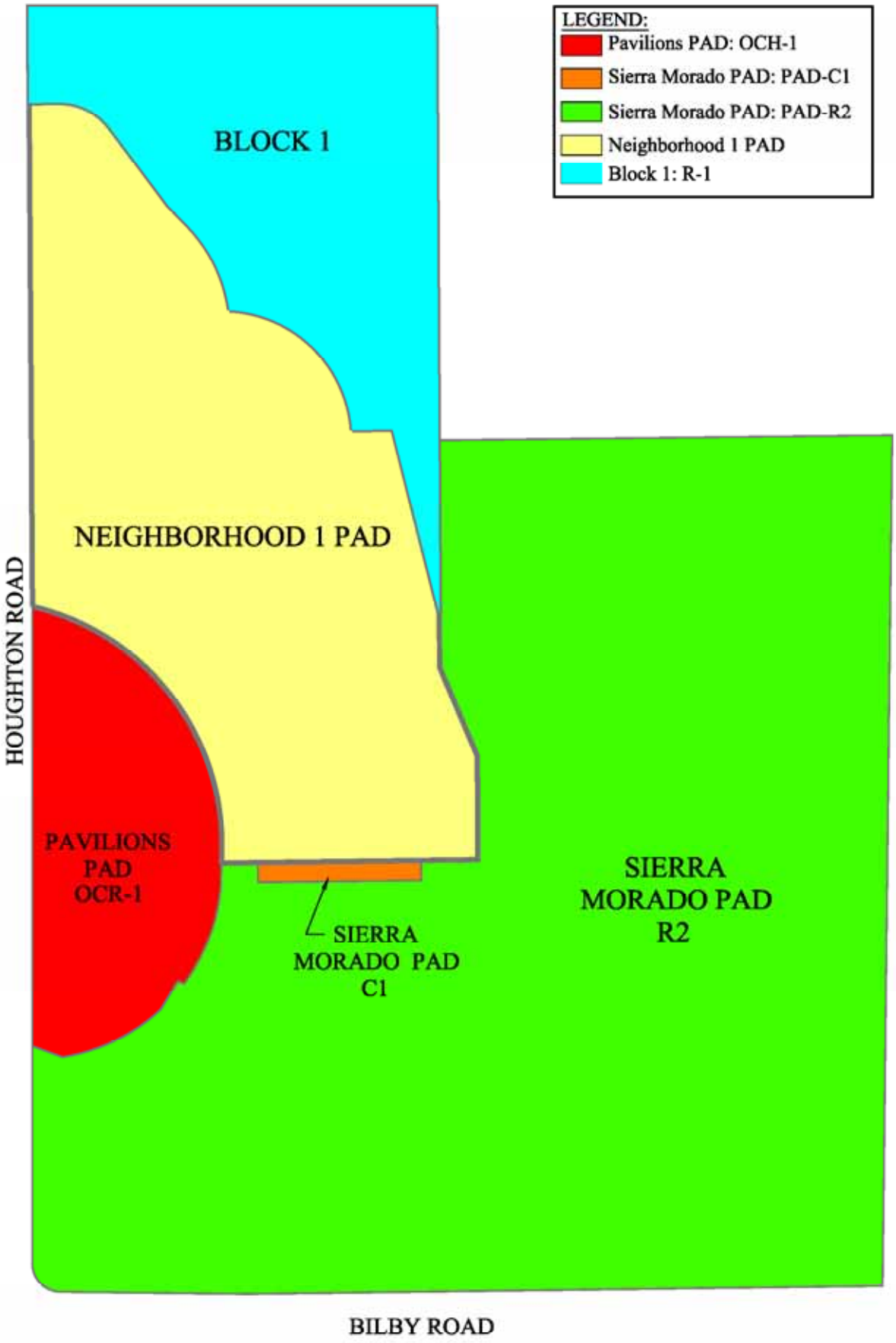
D-2 ZONING DISTRICTS

The base zoning districts proposed for the Sierra Morado PAD include the following:

Residential District (PAD-R2): This zoning district is intended to provide for mixed density, single family and multi family residential development, live/work units, parks, and other public services necessary for an urban residential environment (similar to the LUC R-2 Residence Zone).

Commercial 1 District (PAD-C1): This zoning district is intended to provide for low-intensity, commercial and other uses compatible with adjacent residential district (similar to the LUC C-1 Commercial Zone). **Figure 21**, *Zoning Boundaries* depicts the proposed zoning districts associated with the overall land use plan. A proposed mix of residential densities and product types as well as neighborhood commercial services within the Sierra Morado PAD will promote diversity within the community while maintaining a high-quality community environment. The diversity in lot sizes within the community will promote opportunities for a range of lifestyles, including affordable housing. The neighborhood commercial district is provided within a highly visible and central location to the overall community, providing excellent access from all neighborhoods within Civano for employment opportunities as well as access to community services.

Table 5, *Land Use Density/Intensity Table* lists the target and maximum number of proposed residential units by Development Unit. This number is the basis of analysis and recommendations for the scale and development of proportional public infrastructure facilities. The target number of units also represents the general distribution of residential units throughout the PAD District. This representative distribution is particularly relevant to the evaluation of the planned infrastructure facilities (roads, water lines, sewer lines, electrical distribution lines, etc.).



CIVANO MASTER PAD

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D-3 RESIDENTIAL ZONING DISTRICT

D-3.a. Introduction

The residential zoning district proposed for the Sierra Morado PAD is PAD-R2. Within the PAD-R2 zoning district, four residential land use categories have been identified which will be the basis of the regulatory development standards for the residential land uses within the PAD District. The four land use categories are:

- Residential Single Family Detached
- Residential Mixed Dwelling Detached
- Residential Mixed Dwelling Attached
- Residential Multi-Family Attached

Each of the four land use categories represents a different option for the type of residential development product and density, and therefore, different residential development standards will apply depending on which land use category is selected. The Residential Single Family category is designed to accommodate the residential single family detached product types. The Residential Mixed Dwelling Detached is designed to accommodate a more innovative and creative single-family detached residential development, including alley-loaded product, auto-court cluster and other medium to high density detached single-family product types. The Residential Mixed Dwelling Attached is designed to accommodate a more innovative and creative single-family attached residential development, including alley-loaded product, auto-court cluster and other medium to high density attached single-family product types on individual lots with common party walls. The Residential Multi-Family Attached product type is designed to accommodate an attached, multi-family product that will be constructed on a single lot and will not include individual land ownership. Any land use category can be selected within the PAD-R2 zoning district, however, prior to the tentative plat submittal to the City, a land use category must be declared in order to ensure the proper regulatory development standards will be applied to the project.

D-3.b. Development Unit Densities

Within the overall Sierra Morado PAD, four Development Units have been defined within the Land Use Plan. Each Development Unit will provide a mix of residential densities and product types, and will include a maximum and target total number of units as defined within **Table 5**, *Land Use Density/Intensity Table*. In order to ensure diversity of product types throughout the PAD District, a minimum of three (3) different product types will be provided within Development Unit 2 and a minimum of three (3) different product types will be provided within Development Units 3-4. The majority of Development Unit 1 is already platted and includes 192 total units. Two additional parcels are still to be platted within Development Unit 1 with an estimated 70 units proposed, for a gross density of 5.7 Residences per acre (RAC). Within Development Unit 2, the target number of residential units is 577 for a gross density of 3.9 RAC. The total allowable number of units within Development Unit 2 is 692. Development Unit 3

includes a target of 347 units for a gross density of 3.6 RAC. The total number of allowable units within Development Unit 3 is 416. Development Unit 4 includes a target of 369 units for a gross density of 2.3 RAC. The total allowable number of units within Development Unit 4 is 443. See **Figure 14**, *Land Use Plan* for locations of each of the four Development Units discussed above. Overall within the Sierra Morado PAD, the total target number of units is 1,852 with an overall target density of 3.9 RAC gross.

A Density/Intensity Table for the various development units within the Sierra Morado PAD is provided in **Table 5**: *Density/Intensity Table*. This table will supplement and/or supersede adopted LUC and Development Standards. The Density/Intensity Table is intended to provide for a target and maximum number of residential dwelling units within each development unit, as well as define Floor Area Ratios for applicable non-residential land uses. This table will assist in guiding the overall residential density and non-residential intensity, as well as determine the appropriate infrastructure requirements for the overall development.

Table 5
Sierra Morado PAD Land Use Density/Intensity Table

Sierra Morado PAD	Zoning District(s)	Approximate Gross Acres	Approximate Net Acres	Net Zoning Density Range (RAC)	Target Density	Allowable Unit Range		Projected Floor Area Ratio (FAR)
						High	Target	
Pulte Unit 1	PAD-R2	53.86	47.48	2.5 - 25.0	5.3	300	250	-
Pulte Unit 2	PAD-R2, PAD-C1	153.02	147.9	2.5 - 25.0	3.9	692.4	577	0.5
Pulte Unit 3	PAD-R2	99.75	96.6	2.5 - 25.0	3.6	416.4	347	-
Pulte Unit 4	PAD-R2	163.91	163.9	2.5 - 25.0	2.3	442.8	369	-
Total		**470.54**	**455.87**			**1,852**	**1,543**	-

D-3.c. Diversity in Product Type

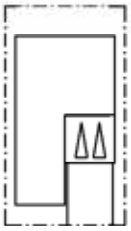
The Sierra Morado PAD will include a diversity of housing product and architectural styles, making it a unique and exciting place to live. Many of the individual subdivisions will be designed as smaller, distinct neighborhoods to allow for the development of a diverse and unique community with variety in architectural styles and housing types, affordability, visual diversity and aesthetics that will afford a wide array of choices for Civano residents. Smaller, distinct neighborhoods will also create a strong sense of place within each of the individual neighborhoods within the overall Sierra Morado PAD. To insure such diversity along individual streets, no two homes with the same color scheme and no two homes with the same architectural elevation shall be placed adjacent to each other.

D-3.d. Garage Treatment

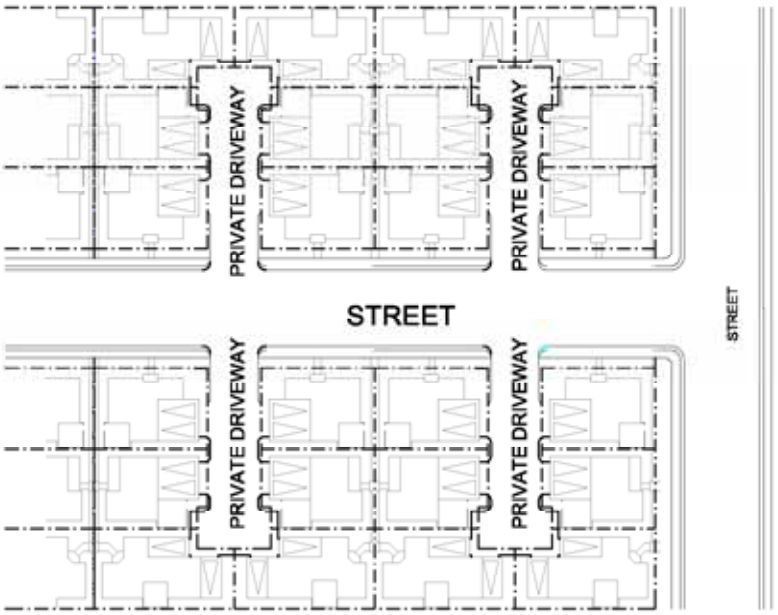
The Sierra Morado PAD will provide subdivision and housing product design to minimize the perception of garages that face the street. **Figure 22**: *Garage Treatment* identifies three design that will be used to minimize the perception of garages facing onto streets including recessed garages, auto-court entry garages and alley/private drive entry garages. Within the Sierra Morado PAD, at least 67 percent of the residential lots will incorporate one

of these three or similar or future new garage designs to be determined by the Developer in consultation with the Civano Neighbors organization to minimize the perception of garages facing the streets.

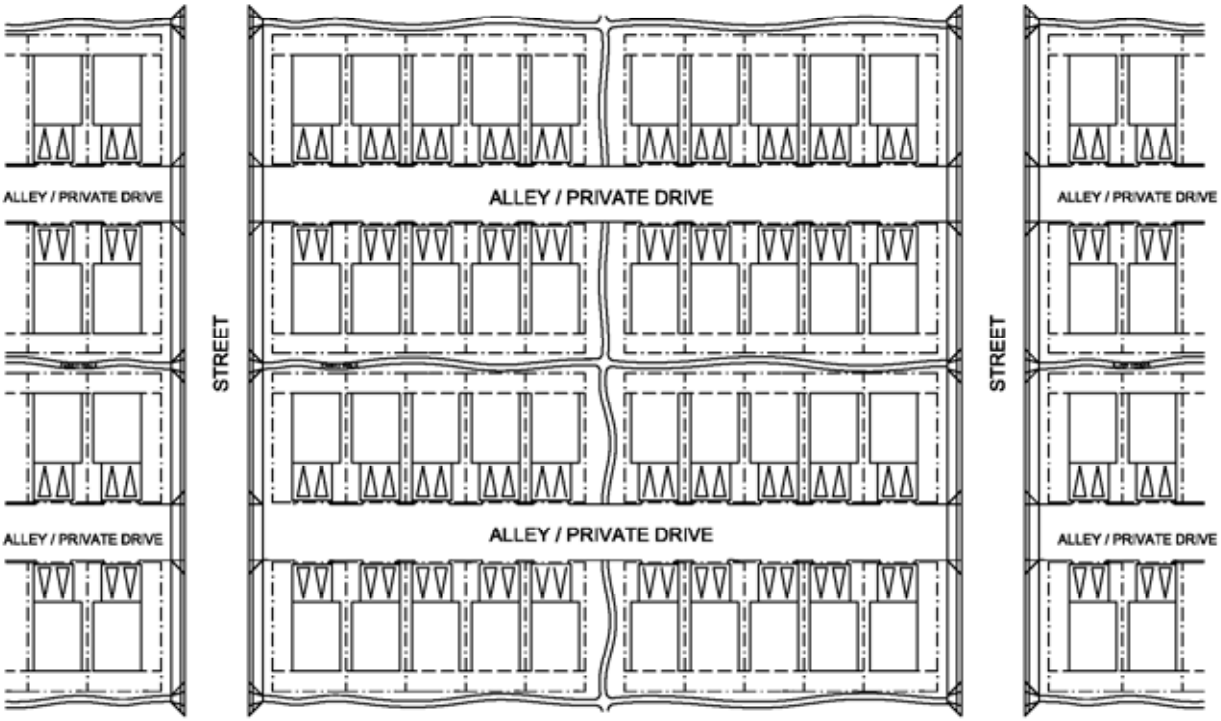
FIGURE 22: GARAGE TREATMENT EXAMPLES



Recessed Garage:
Recess the garage behind Living by a minimum of (12.5').



Auto Court Lots:
All garages access off of an auto court



Alley / Private Drive Garage:
All garages access off of an alley

CIVANO: SIERRA MORADO PAD

SCALE:
NOT TO SCALE

Bloodgood Sharp Buster

D-3.e. Streetscapes

Public streets within the residential subdivisions will have detached sidewalks and be tree-lined to provide shade and the sense of a narrower street section. The sidewalks will be setback from the curb to provide protection, shade and a pleasant environment for pedestrians. Alleys, private access ways, auto court tracts, and other private roadways intended primarily for automobile traffic (and not pedestrian traffic) may not include sidewalks or landscaping.

Table 7, *Residential Development Standards*, provides a summary of proposed development standards for each of the residential land use categories within the PAD-R2 zoning district (See **Figure 21**, *Zoning Boundaries* for the location of the PAD-R2 zoning district). The residential development standards will serve to permit design flexibility within various residential product types, while maintaining minimum development standards compatible with the overall community.

D-3.f. Permitted Principal Uses

The following principal uses are permitted within all land use categories within the PAD-R2 zoning district:

- Single family detached housing;
- Accessory building or use;
- Guest house;
- Residential, mixed dwelling, attached and detached
- Single family attached housing;
- Multi-family attached housing;
- Civic Uses, Commercial Uses and Recreational Uses (as permitted by LUC Section 2.3.5.2.C, .D and .E);
- Home occupation (subject to LUC Sections 3.5.7.2 and 3.5.7.3)
- Live/Work* (as defined within Section C-3 of the Master PAD);
- Parks, public and private; and
- Temporary residential start-up uses, including sales/marketing facilities, model home complexes and related accessory uses.

  * Although the Live/Work uses are permitted anywhere within the PAD-R2 zoning district, specific locations for Live/Work units must be designated by the Master Developer within each subdivision plat prior to final plat approval.

D-3.g. Secondary Land Uses

The Sierra Morado PAD-R2 zoning district will permit secondary land uses as provided in LUC Section 2.3.5.4, Secondary Land Uses with the following exceptions:

- Home occupations may include 1 outside employee and 1 customer on premises at any one time.
- Uses listed in LUC Sections 2.3.5.4.B.1.a and 2.3.5.4.C are not allowed within the PAD-RZ zoning district.

D-3.h. Special Exception Uses

The Sierra Morado PAD-R2 zoning district will permit Special Exception land uses as provided in LUC Section 2.3.5.3:

D-3.i. Residential Development Standards

The Sierra Morado PAD shall recognize the development standards provided within **Table 6**, *Residential Development Standards*. These standards are intended to introduce an element of design flexibility and creativity and allow the use of a "New Urbanism" and "Neo-Traditional" design approach to the Sierra Morado PAD. The proposed Residential Development Standards will supersede the standards provided within the LUC in accordance with Section 2.6.3. The residential district standards provide development standards for lot area, lot width, yard setbacks, building heights, and lot coverage for each residential lot.

Table 6
Residential Development Standards

District	Lot Size			Building Height	Minimum Yard Setbacks (8)					Distance Between Buildings	Maximum Lot Coverage
	Average Area	Minimum Area	Minimum Width	Stories / Feet	Front	Side		Street Side	Rear		
	(1)		(2)		(3)	Min.	Total			(4)	(5)
							(7)	(6)			
Residential Single Family Detached											
Standards	5,000	4,500	40	2 / 34	10	0	6	8	10	---	65%
Residential Mixed Dwelling Detached											
Standards	2,000	1,500	20	3 / 36	3	0	6	8	1	---	75%
Residential Mixed Dwelling Attached											
Standards	1,500	1,000	15	3 / 36	3	0	0	8	1	10	75%
Residential Multi-Family Attached											
Standards	1000	NA	NA	4/48	10	7	14	8	10	10	75%

(1) The average Area per Dwelling Unit shall be calculated as follows: Average Area = Gross Subdivision plat area minus all dedicated street area (or street tract area in the case of private streets) and all natural open space areas (disturbed and undisturbed) / the proposed number of residential lots within the plat.

(2) Minimum lot width permitted within the land use category.

(3) Front yard setbacks indicate distance to living component of the structure and for side-entry garages. Within the Residential Single Family land use category, driveway depth shall be 18' from back of sidewalk for front entry garages. Driveway depth (distance to face of garage) may be reduced to 1 feet if a minimum 2-car garage is provided on-site for each unit and common visitor parking requirements are met in accordance with the requirements of this PAD District.

(4) Minimum distance permitted between buildings on the same lot or as required by the UBC.

(5) Residential lot coverage shall be calculated for each Residential Development Parcel as a whole, not on an individual lot basis and reported on the preliminary and final plats. The calculation is as follows: Site Area multiplied by the allowable lot coverage percentage equals the total square feet of area allowed for coverage within the Development Parcel. The total coverage area is then divided by the number of lots in the Development Parcel, to yield a total number of square feet of coverage for allocation to each lot.

(6) Private drives, alleys and auto court tracts that provide exclusive vehicular access to garages (not primary pedestrian access) are not considered streets for purposes of street perimeter setbacks. All setbacks shall be as defined within Table 7.

(7) Development standards for all non-residential land uses within residential zoning districts shall comply with the non-residential development standards provided within Table 8: Non-Residential Development Standards.

(8) Allowable setbacks shall be measured from the exterior face of vertical structural walls. Overhangs, bay windows, chimneys, exterior posts/columns, solar panels, mechanical equipment, light fixtures, pop-outs, and other architectural features shall not be considered in calculating setbacks.

D-4 NON-RESIDENTIAL ZONING DISTRICTS

The non-residential areas within the Sierra Morado PAD will be located within the PAD-C1 zoning district. The PAD-C1 zoning district is intended to provide low intensity commercial and other uses that are compatible with adjacent residential uses. The PAD-C1 district is intended to accommodate a mix of retail, commercial, office and residential land uses.

Table 5, *Land Use Density/Intensity Table* identifies the allowable floor area ratio for non-residential land uses within the PAD-C1 district.

D-4.a. Permitted Uses

The Sierra Morado PAD will permit the Permitted Land Uses as defined in LUC Section 2.5.3.2 with the following exceptions.

- LUC Section 2.5.3.2.E: Permitted residential uses shall only be those listed in Section D-3.f of the Sierra Morado PAD.

D-4.b. Secondary Land Uses

The Sierra Morado PAD will permit the Secondary Land Uses as defined in LUC Section 2.5.3.4.

D-4.c. Special Exception Land Uses

The Sierra Morado PAD will permit the Special Exception Land Uses as defined in LUC Section 2.5.3.3.

D-4.d. General Restrictions

The Sierra Morado PAD will include the General Restriction provided in LUC Section 2.5.3.6.

D-4.e. Non-Residential Development Standards

The Sierra Morado PAD shall recognize the development standards provided within **Table 7**, *Non-Residential Development Standards*. The non-residential development standards have been developed to regulate development standards for all development within the PAD-C1 zoning district. The proposed standards will supersede the standards provided within the LUC in accordance with LUC Section 2.6.3. The PAD-C1 district standards provide development standards for lot area, lot coverage requirements, building height, setbacks and perimeter landscape requirements.

For all residential uses within the PAD-C1 district, refer to **Table 6**, *Residential Development Standards* for required development standards. Any of the land use categories may be declared at the time of development plan or plat submittal for residential land uses within the PAD-C1 zone.

Table 7
Non-Residential Development Standards

Development Category	Development Standard
Minimum Lot Area	None
Minimum Lot Width	None
Separation between Buildings	None
Maximum Lot Coverage	None
Minimum Building Setback From Any Street	None
Minimum Side Yard (perimeter of zoning district only, not individual parcels or buildings)	5 feet
Minimum Rear Yard (perimeter of zoning district only, not individual parcels or buildings)	10 feet
Maximum Building Height	2 stories or 36 feet
Minimum Street Landscape Area	10 feet
Minimum Perimeter Landscape Area	10 feet

(1) Residential uses within the non-residential zoning district shall conform to the development standards within any of the residential land use categories defined within Table 7, Residential Development Standards. A land use category must be declared at the time development plans are submitted to the City for review.

D-5 LANDSCAPE THEME

In keeping with the landscape goals of conservation and sustainability through the application of xeriscape principles, numerous landscape themes are proposed within the Sierra Morado PAD.

The basic approach to water conservation in xeriscape design is to establish hydrozones in the landscape. Three hydrozones will be used in the project. The three hydrozones are the oasis zone (Zone 1), transition zone (Zone 2), and arid zone (Zone 3). The oasis zone is located in areas other than public streets adjacent to residential properties but with intense pedestrian use and is where higher water use plants are utilized. Within this zone there are no restrictions on plant selection and the use of turf is allowed. Zone 2 is the transition zone between Zone 1 and Zone 3 where the plant selection has lower water requirements than those selected in Zone 1. The Zone 2 plant selection will be from the City's Drought Tolerant Plant List. Zone 3, the arid zone, is usually in the perimeter areas where the plant selection includes those with the lowest irrigation requirements. Plants in this zone typically can survive without irrigation once established. Plants in Zone 3 are typically indigenous to the area but are also drawn from the City's Drought Tolerant Plant List (See **Figure 23**: *Streetscape and Landscape*

Theme and **Figure 24**: *Streetscape and landscape Cross Sections* for detailed cross sections of the various themes).

1) Entry Corridor Zone
This area includes the Scenic Corridor Zone, and a required buffer area along Houghton Road where indigenous plant material will be preserved. Previously disturbed areas may be enhanced with indigenous material. Traveling east into the site on Bilby and Drexel Roads, the public streets adjacent to residential properties must limit landscaping consistent with the Revised MOU. Areas beyond the buffer zone will transition into Zone 2 plant material. Median plantings will become more dense and lush, providing a grand boulevard entrance feel to help create a sense of place and identity to the community as one proceeds deeper into the site.

To unify the Drexel Road and Bilby Road landscape theme with the existing landscape on the northern side of Drexel Road (Civano Neighborhood 1) and the existing landscape on the southern side Bilby Road (Mesquite Ranch) a similar plant palette will be selected.

2) High Visibility Collector Street
Nightbloom Road serves as the grand entrance for the Sierra Morado PAD as well as a primary east/west connector from Neighborhood 1 to Bilby Road. In accordance, this area will provide high visual interest. Conceived as a transitional zone (Zone 2), plants will be selected for year-round interest, long blooming periods, and general aesthetic value. Tree species will be selected for their ability to create a canopy effect that will provide a comfortable, inviting multi-modal transportation environment.

3) Collector Streets "A" and "B"
These tree-lined streetscapes may include Zone 2 or 3 under-story plants selected for year-round interest, long blooming periods, and general aesthetic value. To blend in with the natural environment, portions of streetscape may be designed in a more naturalistic manner using a primarily indigenous plant palette. The remaining areas will exhibit a more formal design intent.

4) Local Streets
With the use of one dominant tree species (that will vary by street), these streetscapes intend to create a sense of identity and place-making within the neighborhood villages. This design approach will provide an elegant look to the landscape while minimizing an overall monoculture for the entire project.

5) Residential Areas
In all residential areas, a functioning system using reclaimed water, greywater or rain harvesting or other alternative irrigation system not dependent on potable water shall be made available for all landscape irrigation. Residents will be encouraged to take advantage

of such irrigation system and to use xeriscape principles in their landscaping.

6) Internal Courtyard Areas
The landscape theme for the internal courtyard areas is one of a desert canyon oasis. The plant palette selected here will include plants that are more shade tolerant and will include a variety of annuals and perennials that attract butterflies and hummingbirds.

7) Internal Common Area Open Space
Plant species incorporated into these areas will be selected primarily for their wildlife and aesthetic value.

8) Parks Areas
These areas will include a variety of plant palettes most appropriate to their intended use. Conceptually, areas intended for active recreation will fully utilize the concept of hydrozoning where the zones will radiate outward from the oasis zone (turf area) to the arid zone. Areas focused towards passive recreation will focus on a more native plant palette, with a more naturalistic design focus.

9) Open Space Areas
Natural open space as well as open space created by overhead utility easements may be enhanced with indigenous vegetation. However, the majority of this open space will be left undisturbed.

10) Neighborhood Commercial Area
To create a sense of identity, a bold design for the neighborhood commercial area will focus on plants selected for their year-round interest, long blooming periods, and general aesthetic value. Trees will be selected for their ability to create a canopy effect that will provide a comfortable pedestrian friendly environment.

11) Landscape Buffers Between Street and Sidewalk
The following apply to all landscape buffers as depicted in **Figure 24**: *Streetscape and Landscape Cross Sections* that will be constructed between the street and sidewalk:

a) One (1) canopy tree shall be provided for every twenty-five (25) linear feet of landscape buffer or fraction thereof, excluding vehicular ingress or egress points, where feasible based on lot design and traffic considerations.

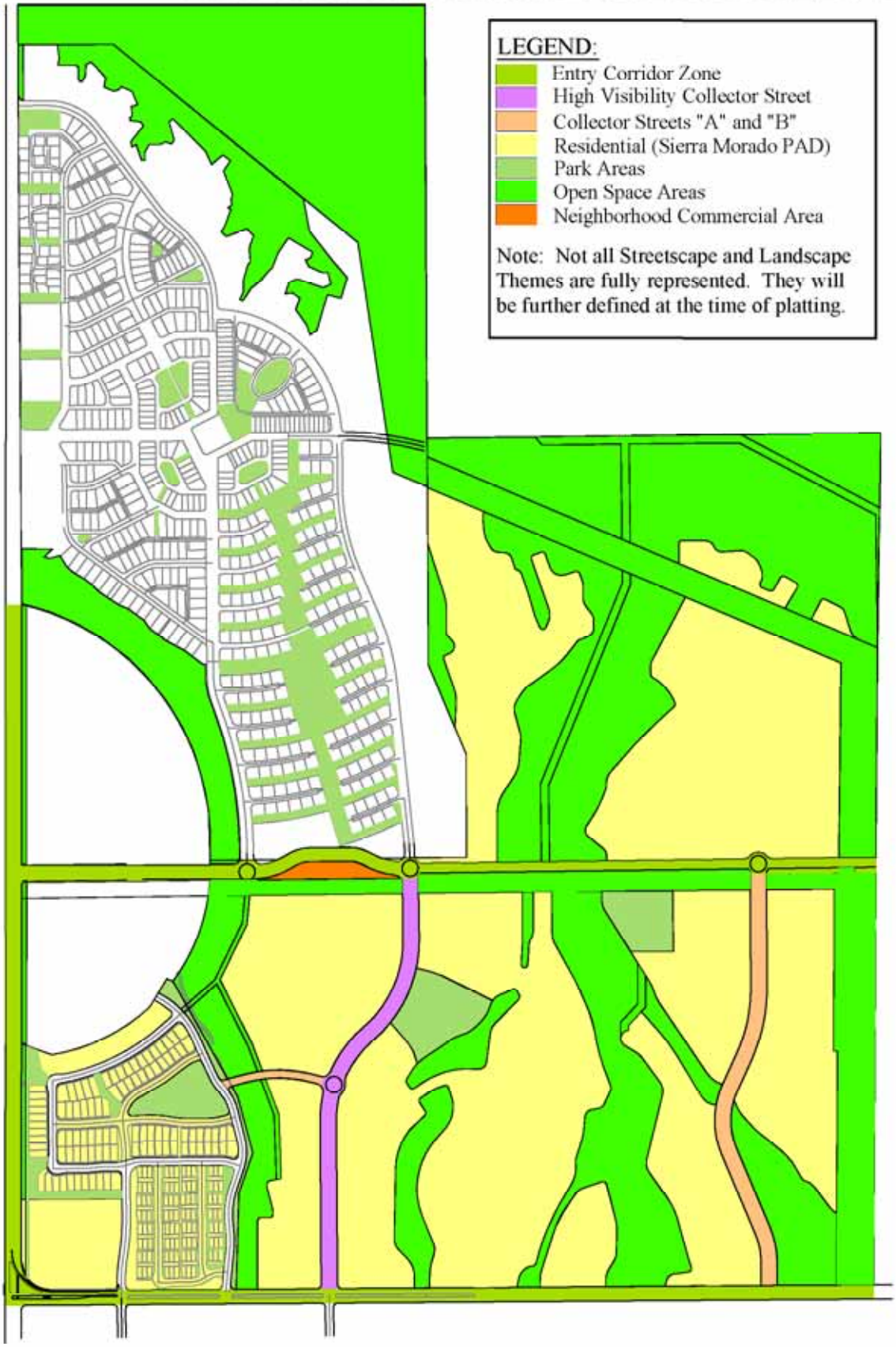
b) A minimum of one (1) canopy tree shall be provided within a landscape buffer for an individual lot, where feasible based on lot design and traffic considerations.

c) Trees may be planted at varying distances apart.

12) Public Right-of-Way Median Landscaping

Median landscaping must comply with LUC Section 3.7.2.9, except that where canopy trees may be provided, one (1) canopy tree shall be provided for every twenty-five (25) linear feet of median landscaping area or fraction thereof, excluding vehicular ingress or egress points, where feasible based on lot design and traffic considerations. Median landscaping must be irrigated using reclaimed water and/or water harvesting methods as provided herein at the Master Developer's cost for at least two (2) years.

FIGURE 23: STREETSCAPE AND LANDSCAPE THEME



CIVANO: SIERRA MORADO PAD

NOT TO SCALE

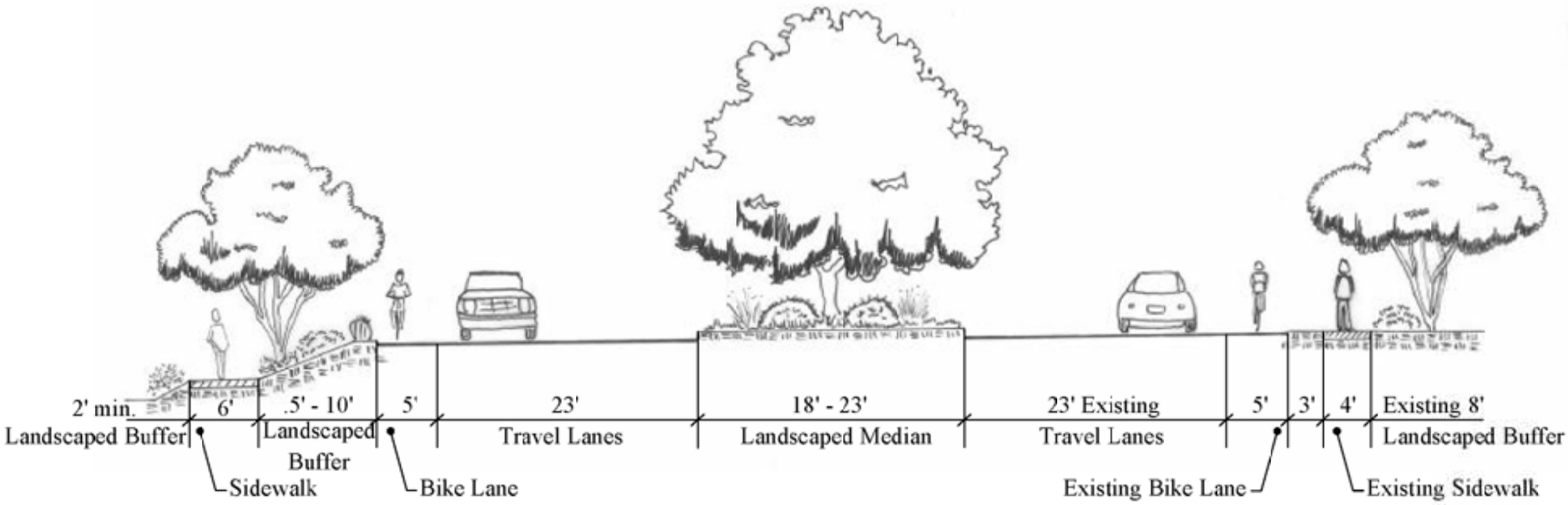
PRELIMINARY-NOT FOR CONSTRUCTION

NORTH

Bloodgood Sharp Logo sm.tif

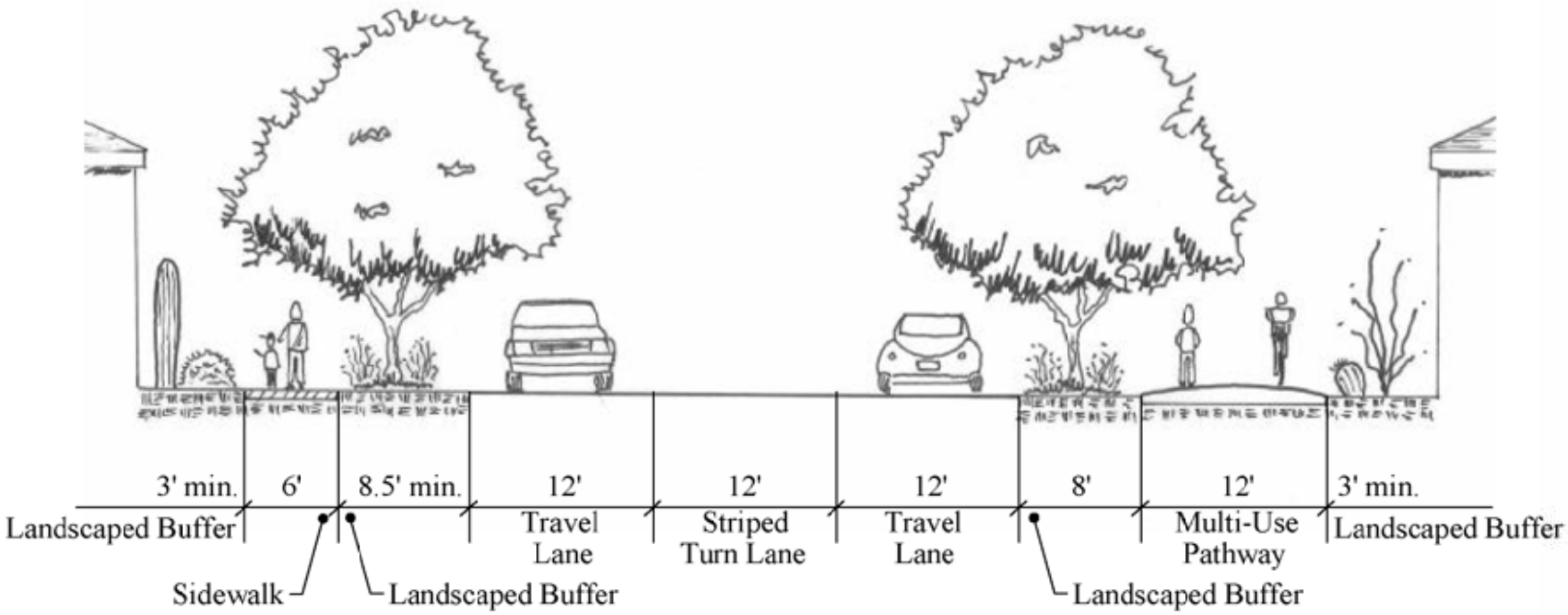
MMLA

FIGURE 24A: STREETSCAPE AND LANDSCAPE CROSS SECTIONS



ENTRY CORRIDOR ZONE - BILBY ROAD (TYP.)

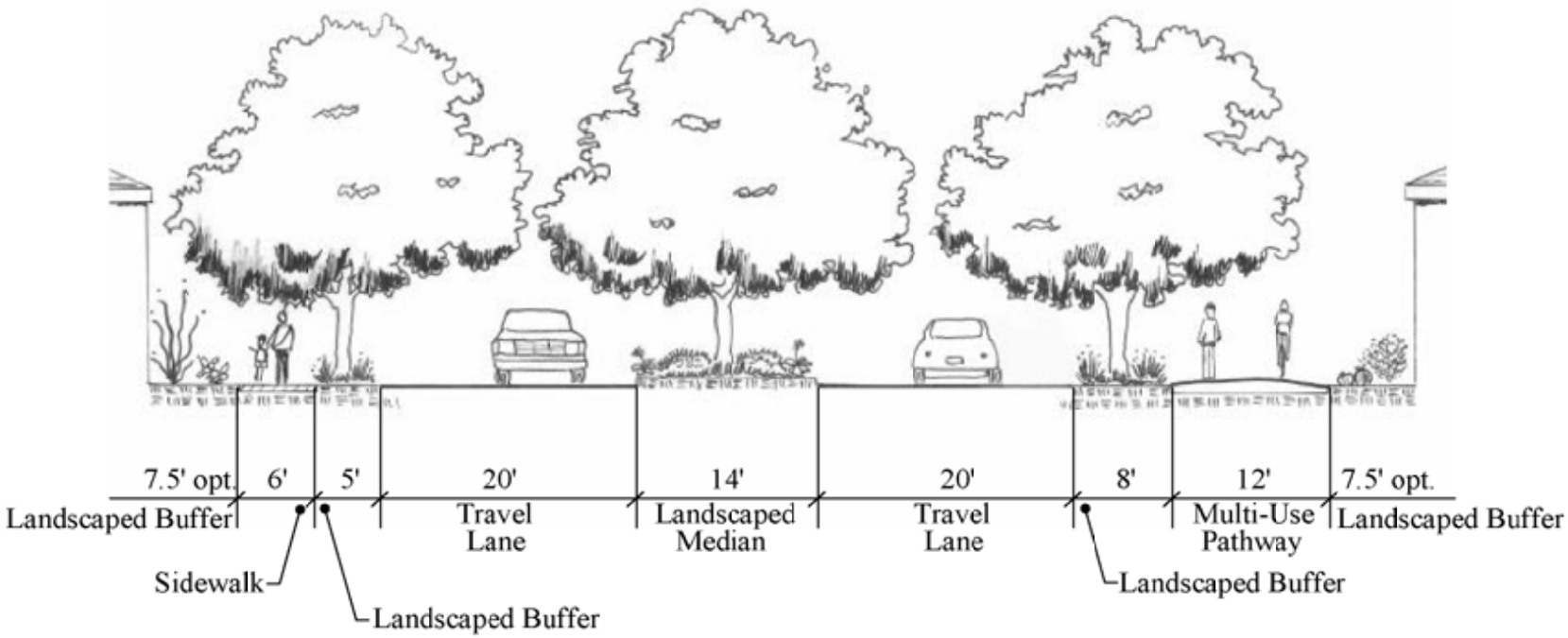
FIGURE 24B: STREETSCAPE AND LANDSCAPE CROSS SECTIONS



COLLECTOR STREET (TYP.)

CIVANO: SIERRA MORADO PAD

FIGURE 24C: STREETSCAPE AND LANDSCAPE CROSS SECTIONS



HIGH VISIBILITY COLLECTOR STREET

* Note: Trees canopies as depicted are for conceptual purposes only. To meet city fire code requirements, tree canopies will be maintained to provide a minimum 15' vertical clearance.

D-6 GENERAL DEVELOPMENT STANDARDS

This section is intended to supplement or supersede standards of general application provided within the LUC and Development Standards which may conflict with any of the standards herein.

D-6.a. Roadway Design Standards

The street development standards for the Sierra Morado PAD will comply with Section 3.01.0 of the City's Development Standards with the following exceptions:

- Total right-of-way width, pavement width, curb type, medians, bike lanes and paths, parking lanes, sidewalks and transit facilities (bus stops and bus bays) for all public and private functional street classifications (Local, Collector and Arterial streets) shall comply with the standards and subsequent street cross sections set forth below.

D-6.a.1. Arterial Roadways

The master plan includes two arterial roadways, Houghton Road and Bilby Road. Since both Houghton Road and Bilby Road are on the perimeter of the Master PAD area, the design standards defined below are for the half-street improvements including the east half on Houghton Road and the north half of Bilby Road (See **Figure 25**: *Arterial Street Cross Sections*). These standards conform to the City's MS & R Plan.

Houghton Road

The half street cross section for the east side of Houghton Road will include a ten foot half median, two 12 foot lanes, a five foot bike lane, and a tapered acceleration lane. In addition, a 12 foot multi-use path and an eight foot pedestrian pathway (if such pedestrian pathway is determined feasible by the Director of the City Parks and Recreation Department) are part of the half street section. Landscaping and drainage will be accommodated between the vehicular and the pedestrian areas. The City has designated Houghton Road as a Scenic Corridor. The design standards applicable to this corridor within the Civano Master PAD area will include preserving view sheds, additional setbacks, restrictions and adherence to earth tone colors. The Civano Master PAD satisfies the intent of the Houghton Road Scenic Corridor and therefore, no further review will be required.

Bilby Road

The half street cross section for the north side of Bilby Road will range from 100-foot right-of-way to 115-foot right of-way. In order to create a grand entry into the Civano community from Houghton Road, the cross section between Houghton Road and Courtland Drive will include a 115-foot right of way to provide a wider center landscaped median, and will narrow to a 100-foot right-of-way north of Courtland Drive to the eastern boundary of the project at the Melpomene alignment. The half-street section will include a center

median with water harvesting features and sustainable landscaping, two vehicle travel lanes, a bike lane, landscaping and a paved sidewalk between Courtland Drive and the end of the Mesquite Ranch subdivision. Between the Mesquite Ranch subdivision and the Melpomene alignment, the half-street section will include half of a 14 foot two-way left turn lane, a 12 foot lane, an 11 foot lane, a five foot bike lane, a landscape buffer, and a 6-foot paved sidewalk.

The Melpomene Way alignment will not be required to be constructed to serve the Civano Master PAD. Consequently, the existing 45-foot Melpomene Way right-of-way north of Bilby Road on the project site may be abandoned after the completion of Drexel Road and Collector "A" are constructed to provide continued access to property owners east of the project site. Upon the abandonment of Melpomene Way, right-of-way may be dedicated on the project site for the future Pantano Parkway, a limited access parkway that is planned to cross a portion of the northeast corner of the project site. The location of the Melpomene Way right-of-way to be abandoned and the Pantano Parkway right-of-way to be dedicated is presented on **Figure 17**, *Vehicle Circulation Plan.*

D-6.a.2 Collector Roadways

In addition to the existing roads within the Neighborhood 1 PAD, the Master PAD includes four primary Collector roads, Drexel Road, Nightbloom, Collector "A" which is a north/south collector near the eastern perimeter of the PAD District, and collector "B", which is a short street, located in Development Unit 2 and connects Nightbloom Road with Development Unit 1. The design standards as defined below provide a general description of the street cross section for each collector street (See **Figure 26**: *Collector Street Cross Sections*).

Drexel Road

Drexel Road provides the primary east/west spine through the development connecting Houghton Road with the eastern boundary of the project at the Melpomene Road alignment. Drexel Road is intended to provide direct access from Houghton Road to the Pavilions PAD, as well as local access east through the Master PAD area to the Melpomene Road alignment. The cross section for Drexel Road will vary, but generally will include an 85-foot right of way with two 12 foot travel lanes, a 12 foot two-way left turn lane and either no parking, parking on one side (allowable only in areas where no lots front right-of-way), or parking on both sides. In addition, the street section will include an eight foot median with a 12 foot multi-use pathway on one side and paved sidewalk on the other side.

As the central spine through the community, it is important that traffic speeds along Drexel Road remain appropriate for the adjacent land uses. In order to minimize traffic speeds and create a pleasant and pedestrian-friendly adjacent environment, multiple traffic circles are proposed at appropriate intervals and locations. This will provide

aesthetic and visual interest, while ensuring that traffic speeds are appropriate through the center of the community between Civano Boulevard and Nightbloom Road. See **Figure 28**: *Traffic Circle Intersection Detail* for a detail of a typical proposed traffic circle.

Nightbloom Road

Nightbloom Road will be designed as the primary marketing window into the Sierra Morado PAD. As such, the cross section will include landscaped center median, tree-lined streets, multi-use bike path and pedestrian sidewalks. The cross section includes an 85-foot right-of-way with optional landscape easements to provide additional landscaping adjacent to the right-of-way. Optional on-street parking may be provided to accommodate parking needs for the community center and some of the proposed residential developments immediately adjacent to the street right-of-way.

Collector "A"

Collector "A" will provide an north/south connection between Bilby Road and Drexel Road, and provide local access to individual development parcels within Unit 3 of the Sierra Morado PAD. The cross section for this collector road will be similar to Drexel Road.

Collector "B"

Collector "B" connects Nightbloom Road to Development Unit 1 of the Sierra Morado PAD. The cross section for this collector road will include a 60-foot right-of-way with a 5-foot wide sidewalk set back 5-feet from the curb.

The specific cross sections for the various collector streets are provided in **Figure 26**: *Collector Street Cross Section.*

D-6.a.3. Local Roadways

The Civano Master PAD will include numerous local public and private roadway cross sections, depending on the adjacent land use category, residential product type, and requirements for efficient vehicular and non-vehicular circulation within individual development parcels. The design standards as defined below provide a general description of the various public and private street cross section for each type of local street proposed within the Civano Master PAD. The specific cross sections for local roadways are provided in **Figure 27**: *Local Street Cross Sections.* Note that single-family residential lots with driveways along the street must include on-street parking.

Local Roadways

Five additional local public roadway cross sections are proposed within the Sierra Morado PAD.

a) Local Street with no On-Street Parking: Includes a 44-foot right of way with one travel lane in each direction, minimum 5-foot sidewalk setback a minimum of 5-feet from the curb. Either vertical or wedge curb may be used within this section.

This street section is not allowed where single-family residential lots with driveways front the local street. Vertical curb shall be used for this street section, except that two foot wedge curb may be used in areas where no lots front these streets.

b) Local Street with On-Street Parallel Parking on One Side Only: Includes a 50-foot right-of-way with one travel lane in each direction, parallel parking on one side of the street, minimum 5-foot wide sidewalks setback a minimum of 5-feet from the curb. Either vertical or wedge curb may be used within this section. This street section is not allowed unless there are no single-family residential lots with driveways front the local street on the side with no on-street parking. Vertical curb shall be used for the side of the street with no on-street parking. Wedge curb must be used in areas where parking lanes is less than seven feet wide.

c) Local Street with On-Street Parallel Parking on Both Sides: Includes a 56-foot right-of-way with one travel lane in each direction, parallel parking on both sides, minimum 5-foot sidewalks setback a minimum of 5-feet from the curb. Either vertical or wedge curb may be used within this section, except that wedge curb must be used in areas where parking lane is less than seven feet wide.

d) Local Street with On-Street Parking at 90 degrees on One Side: Includes a 57 foot right-of –way with one travel lane in each direction, 90 degree (perpendicular) parking on one side of the street, minimum five foot wide sidewalks with setbacks varying from 2.5 feet to five feet. Either vertical or wedge curb may be used within this section.

e) Local Street with On-Street Parking at 45 degrees on One Side: Includes a 57.5 foot right-of –way with one travel lane in each direction, 45 degree (angular) parking on one side of the street, minimum five foot wide sidewalks with setbacks varying from 1.75 feet to five feet. Either vertical or wedge curb may be used within this section.

All of the local street cross sections defined above will be public streets to be dedicated to the City. Gates restricting access to these streets will not be constructed.

See **Figure 27**: *Local Street Cross Sections* for cross sections of the local streets as defined above.

Local Private Drives

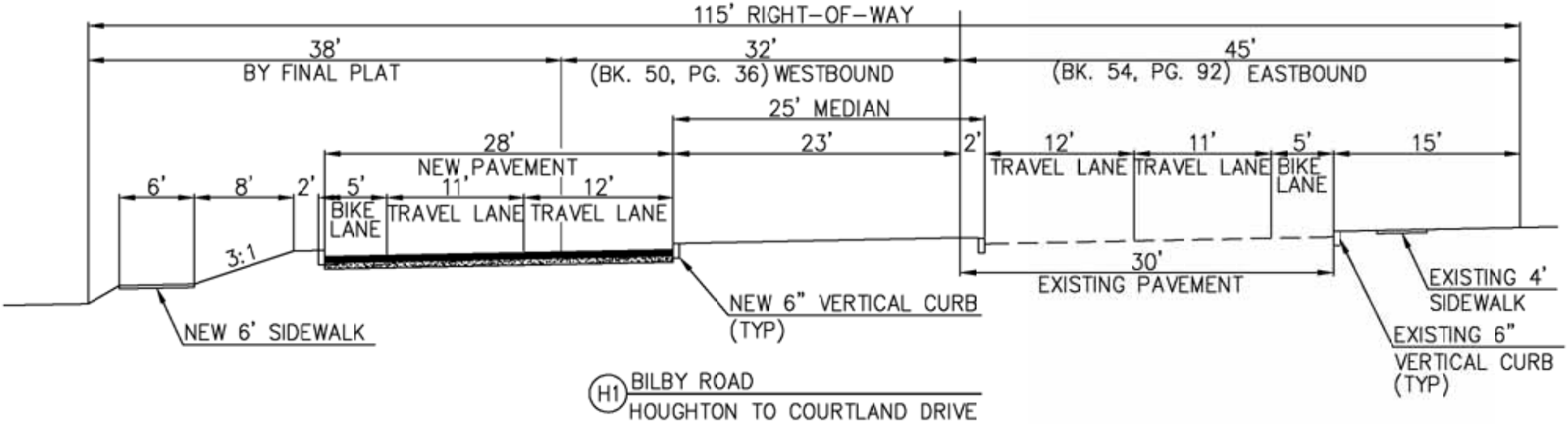
Various private drive sections are also proposed within the Civano Master Plan in order to provide design flexibility with some of the non-traditional residential product types, such as the alley-loaded

product, auto-court cluster, etc. As these are private drives, they will be recorded as joint benefit use easements and maintained by the designated homeowners association. The private drive sections defined below are in addition to any local private roadway sections existing or proposed within the Neighborhood 1 PAD and as defined above in the Local Roadways section.

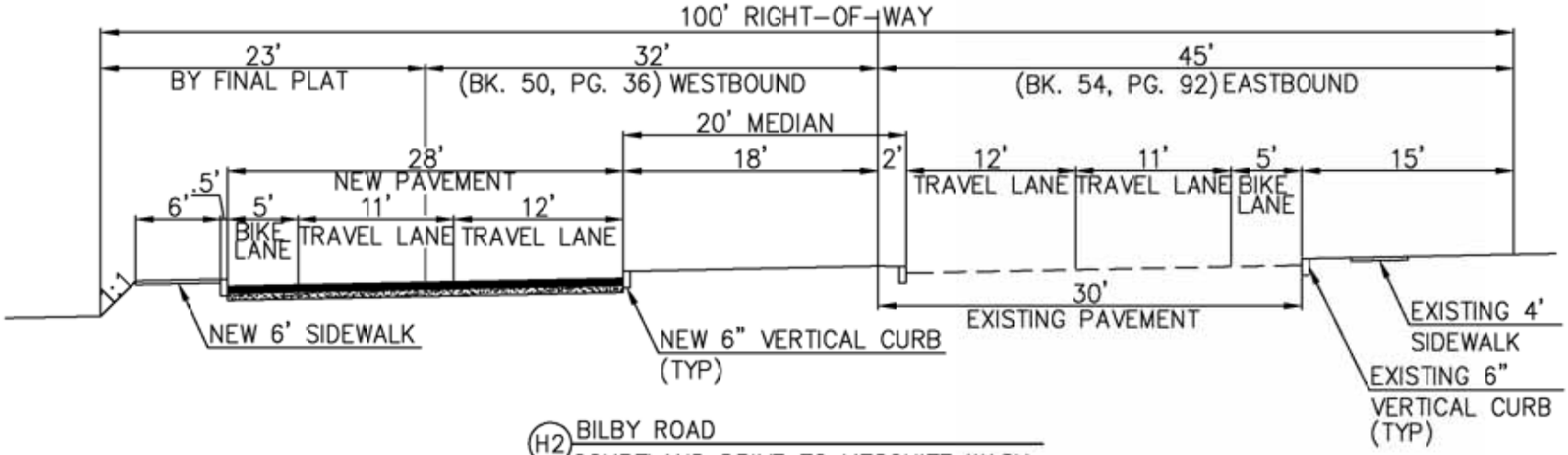
Private Drives with no On-Street Parking or Sidewalks:
Includes a 30 foot Use and Benefit, Utility, and Sewer easement or tract with one travel lane in each direction. Private drives may be provided, but are not limited to, the following residential product types:

Where private drives provide exclusive access to garage doors within the alley-loaded product and/or auto-court cluster product, sight visibility triangles shall include a 10-foot stem into the alley or auto-court tract where accessing onto a circulation road (private drive or local street). Additionally, private drives that provide exclusive access to garage doors will not exceed a length of 350-feet without an intersecting private drive or local street.

FIGURE 25A: ARTERIAL STREET CROSS SECTIONS



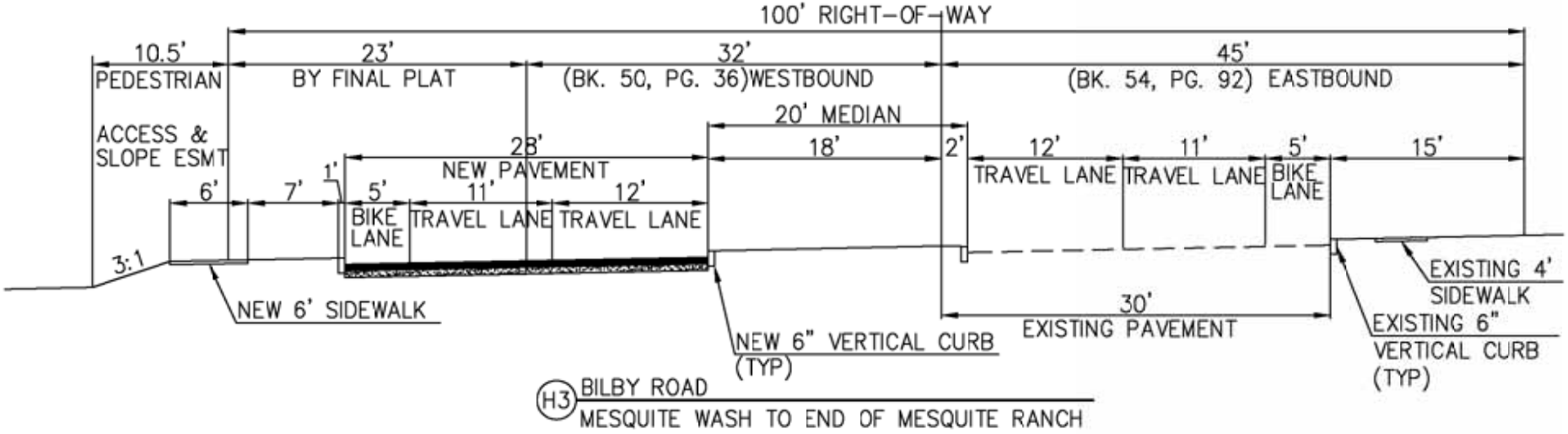
H1 BILBY ROAD
HOUGHTON TO COURTLAND DRIVE



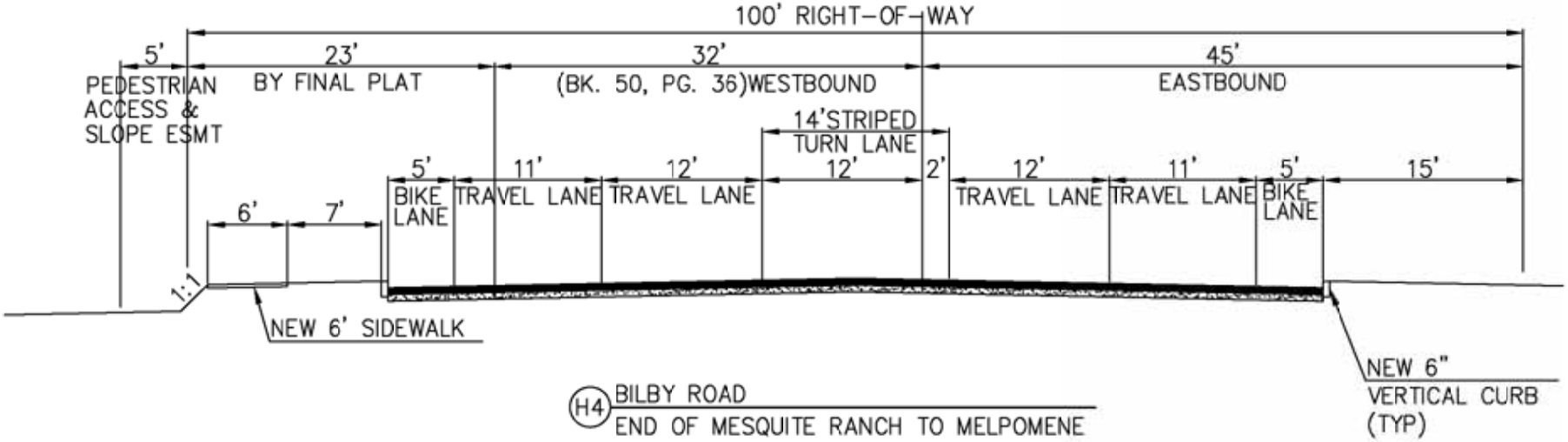
H2 BILBY ROAD
COURTLAND DRIVE TO MESQUITE WASH

CIVANO: SIERRA MORADO PAD

FIGURE 25B: ARTERIAL STREET CROSS SECTIONS



H3 BILBY ROAD
MESQUITE WASH TO END OF MESQUITE RANCH



H4 BILBY ROAD
END OF MESQUITE RANCH TO MELPOMENE

CIVANO: SIERRA MORADO PAD

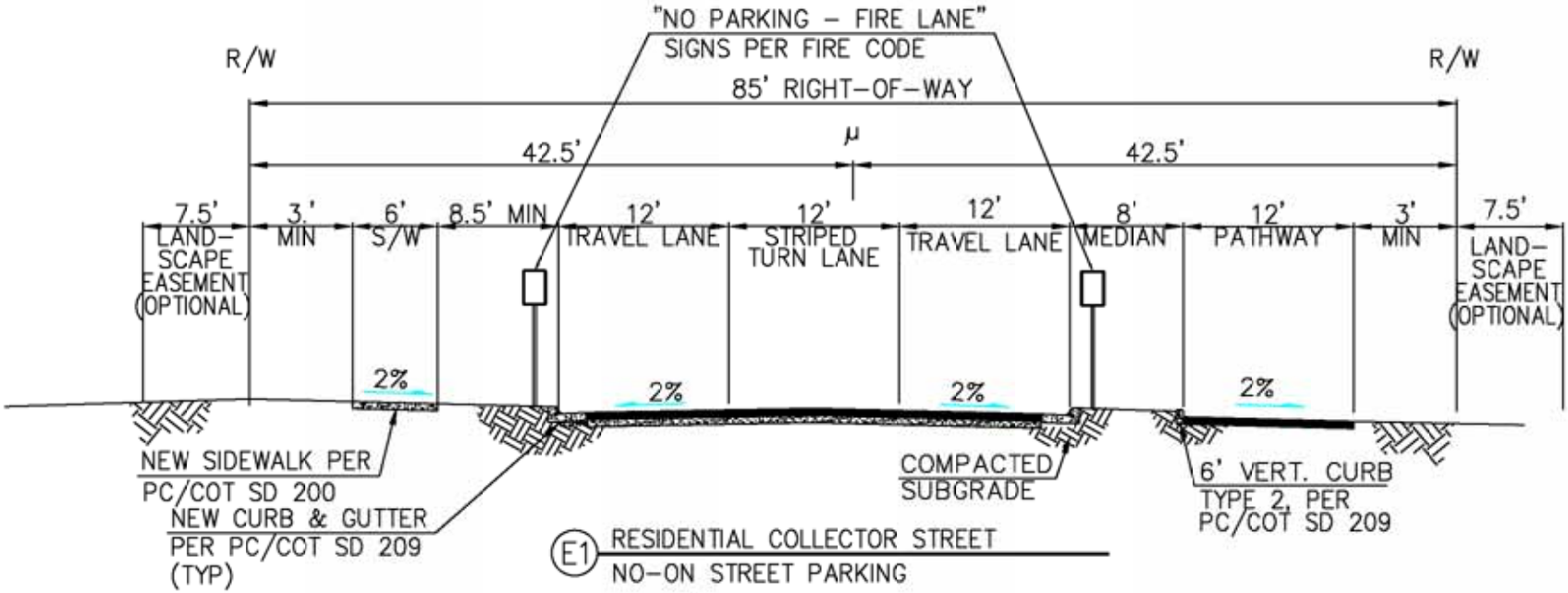
LVA Urban Design Studio L.L.C.

Architects and Planners, Inc. Bloodgood Sharp Buster

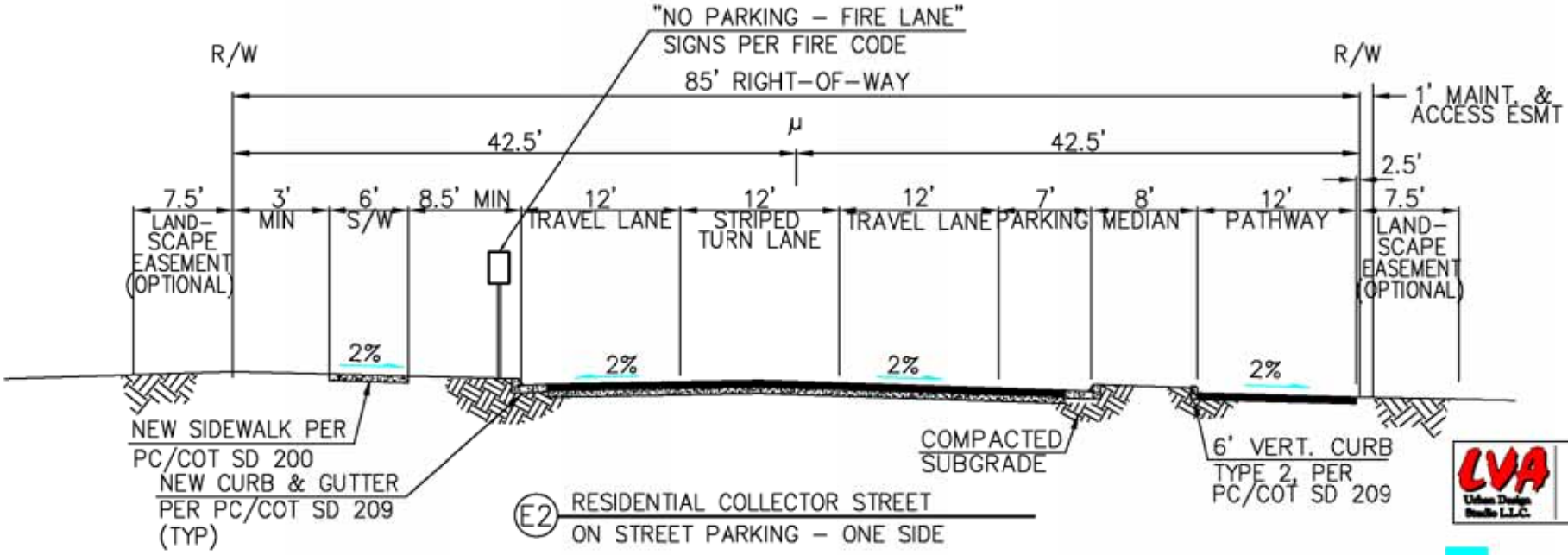
MMLA

Novak Environmental, Inc.

FIGURE 26A: COLLECTOR STREET CROSS SECTIONS



E1 RESIDENTIAL COLLECTOR STREET
NO-ON STREET PARKING



E2 RESIDENTIAL COLLECTOR STREET
ON STREET PARKING – ONE SIDE

CIVANO: SIERRA MORADO PAD

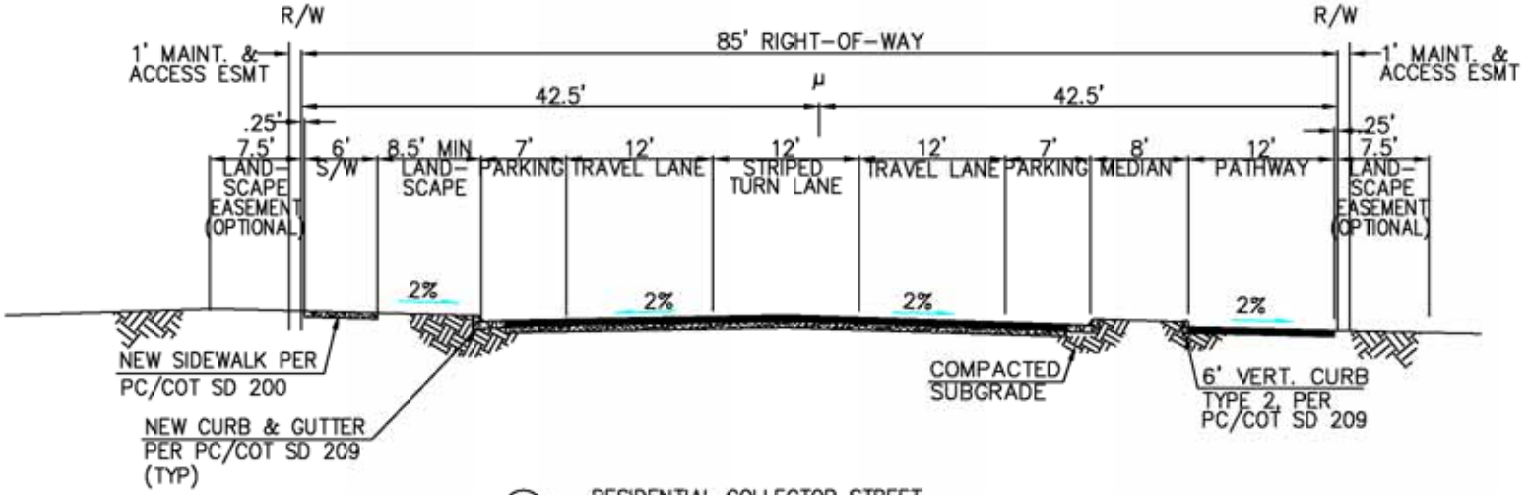
Bloodgood Sharp Buster

MMLA

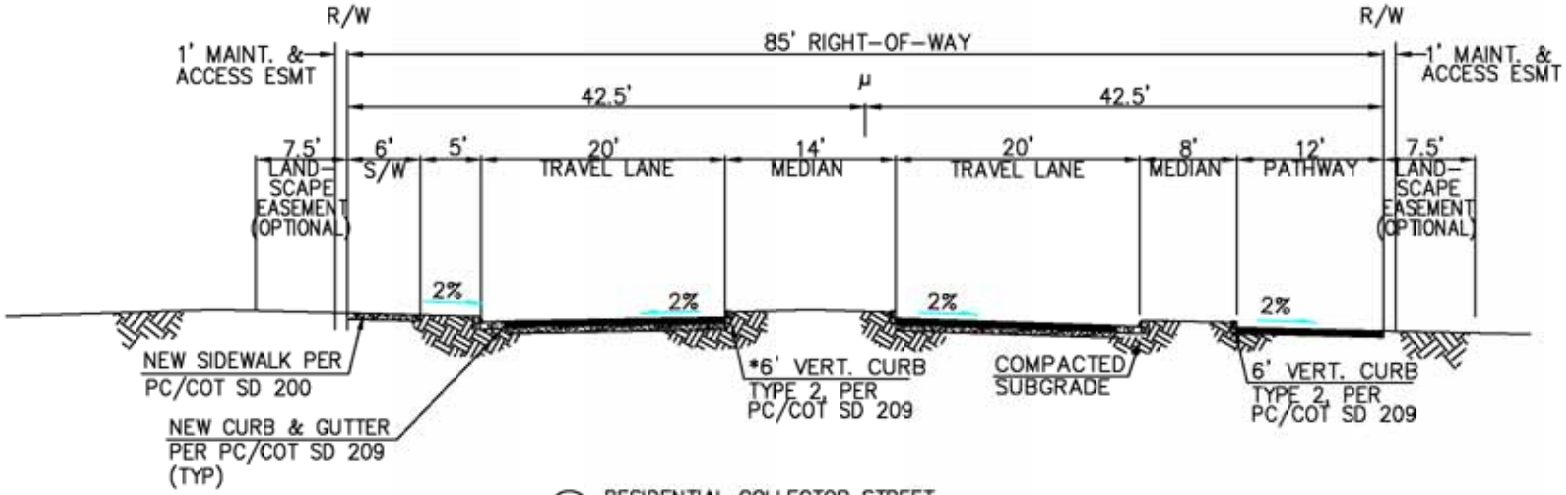
LVA Urban Design Studio L.L.C.

Novak Environmental, Inc.

FIGURE 26B: COLLECTOR STREET CROSS SECTIONS



E3 RESIDENTIAL COLLECTOR STREET
ON STREET PARKING – TWO SIDES



F1 RESIDENTIAL COLLECTOR STREET
ON STREET PARKING – TWO SIDES
* RIBBON CURB MAY BE USED IN AREAS WHERE THERE IS WATER HARVESTING POTENTIAL

LVA Urban Design Studio, L.L.C.
Bloodgood Sharp Buster
MMLA
Novak Environmental, Inc.

FIGURE 26C: COLLECTOR STREET CROSS SECTIONS

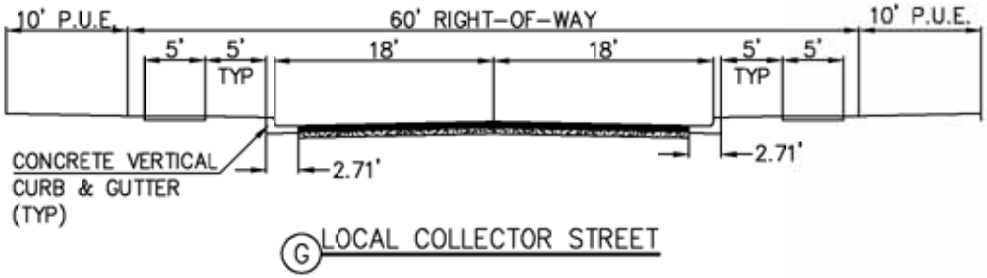
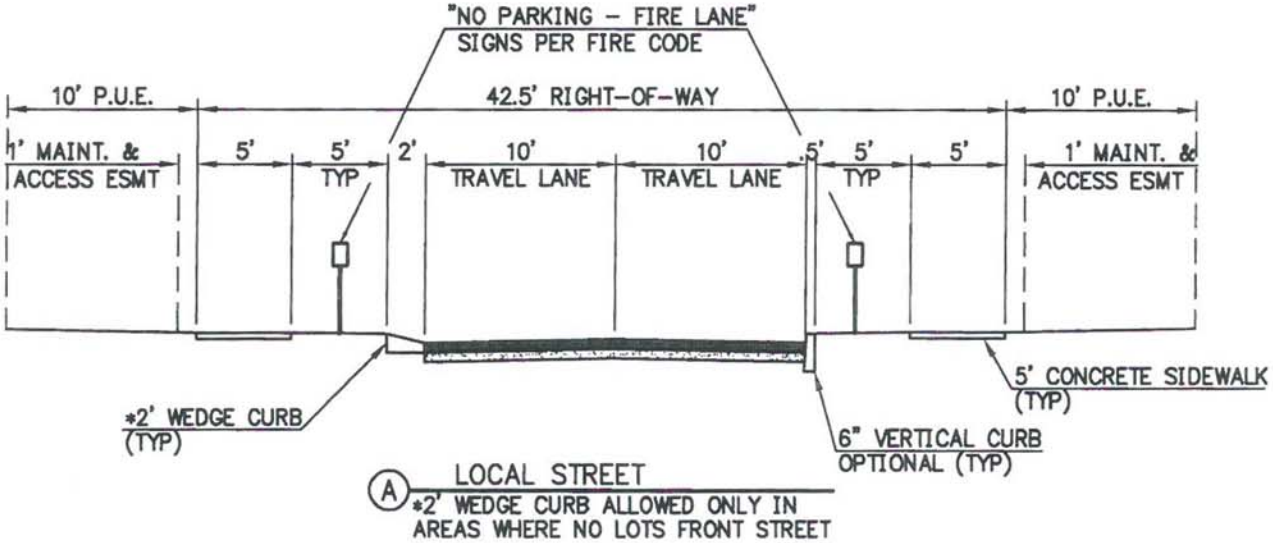


FIGURE 27A: LOCAL STREET CROSS SECTIONS



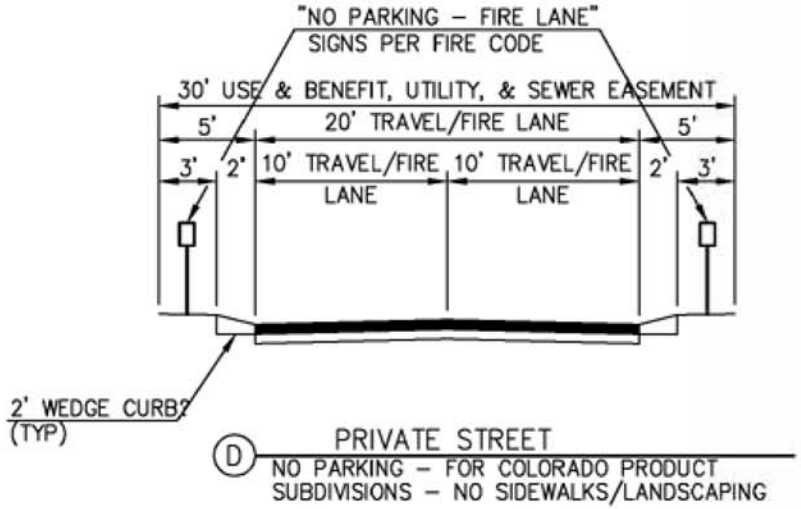
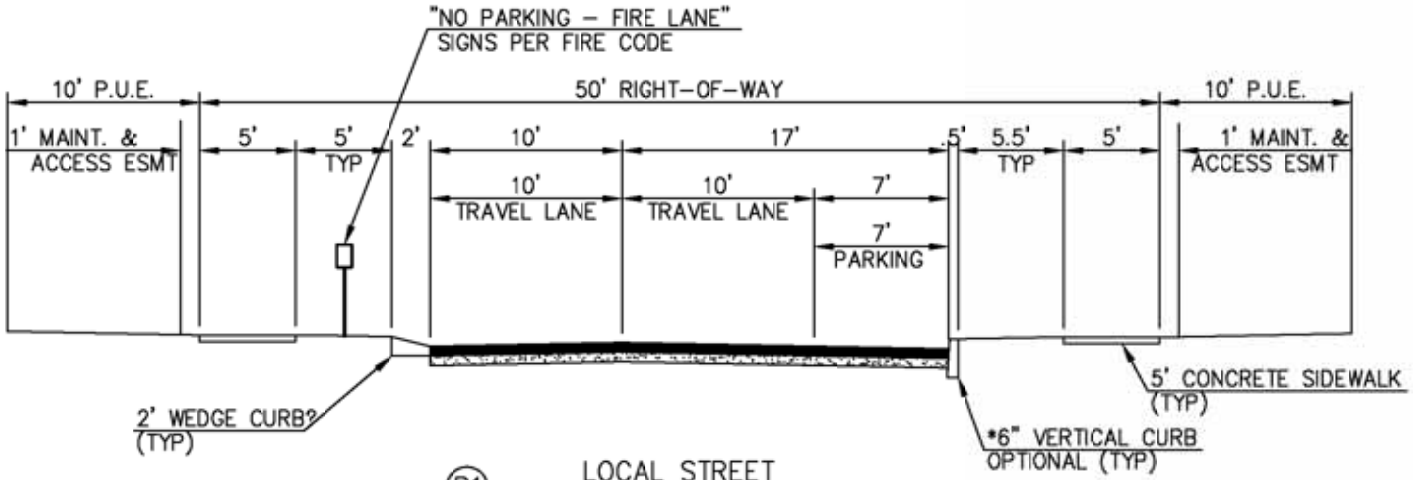
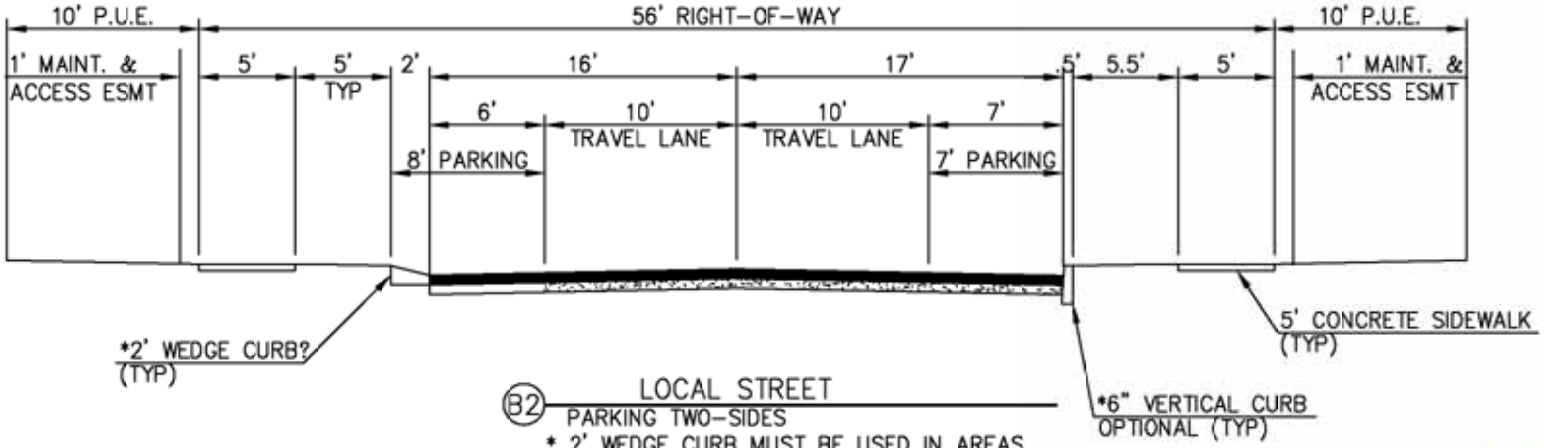


FIGURE 27B: LOCAL STREET CROSS SECTIONS

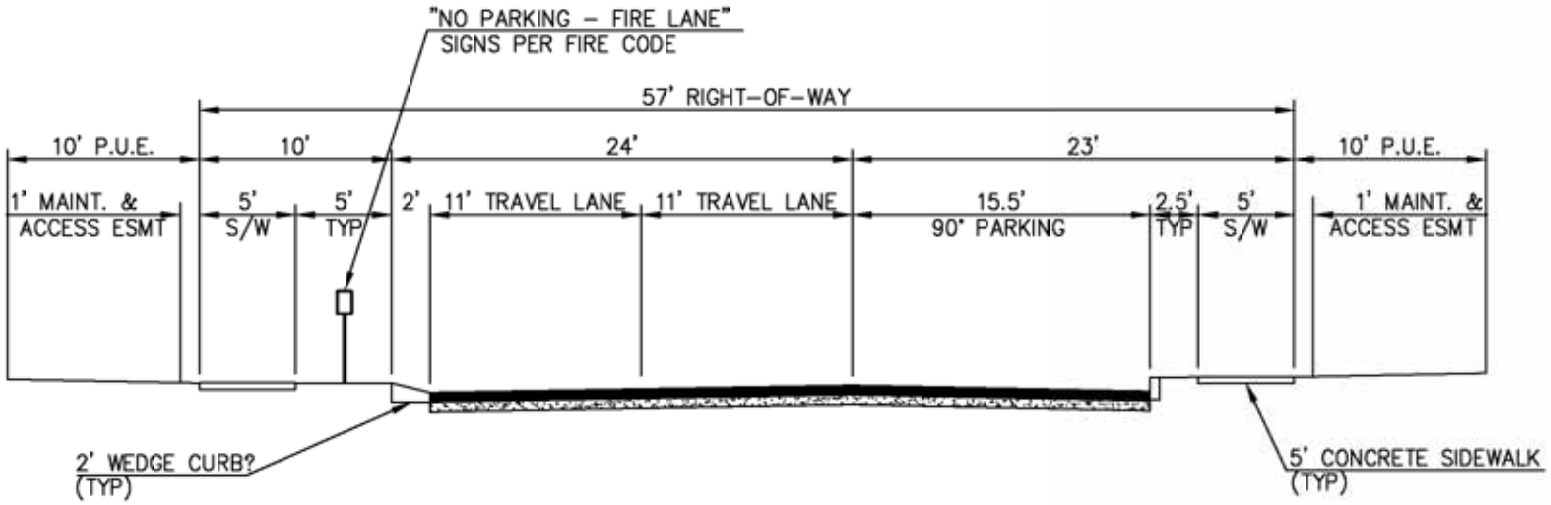


B1 LOCAL STREET
PARKING ONE-SIDE
* 2' WEDGE CURB MUST BE USED IN AREAS WHERE PAVEMENT PORTION OF PARKING LANE IS LESS THAT 7'

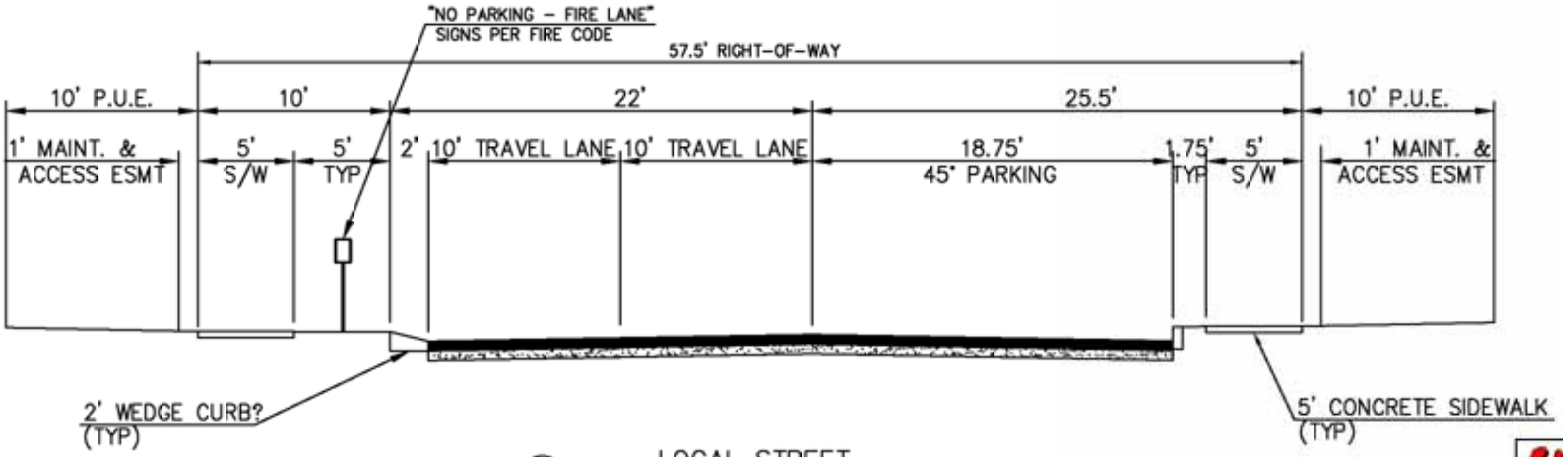


B2 LOCAL STREET
PARKING TWO-SIDES
* 2' WEDGE CURB MUST BE USED IN AREAS WHERE PAVEMENT PORTION OF PARKING LANE IS LESS THAT 7'

FIGURE 27C: LOCAL STREET CROSS SECTIONS



C1 LOCAL STREET
90° PARKING

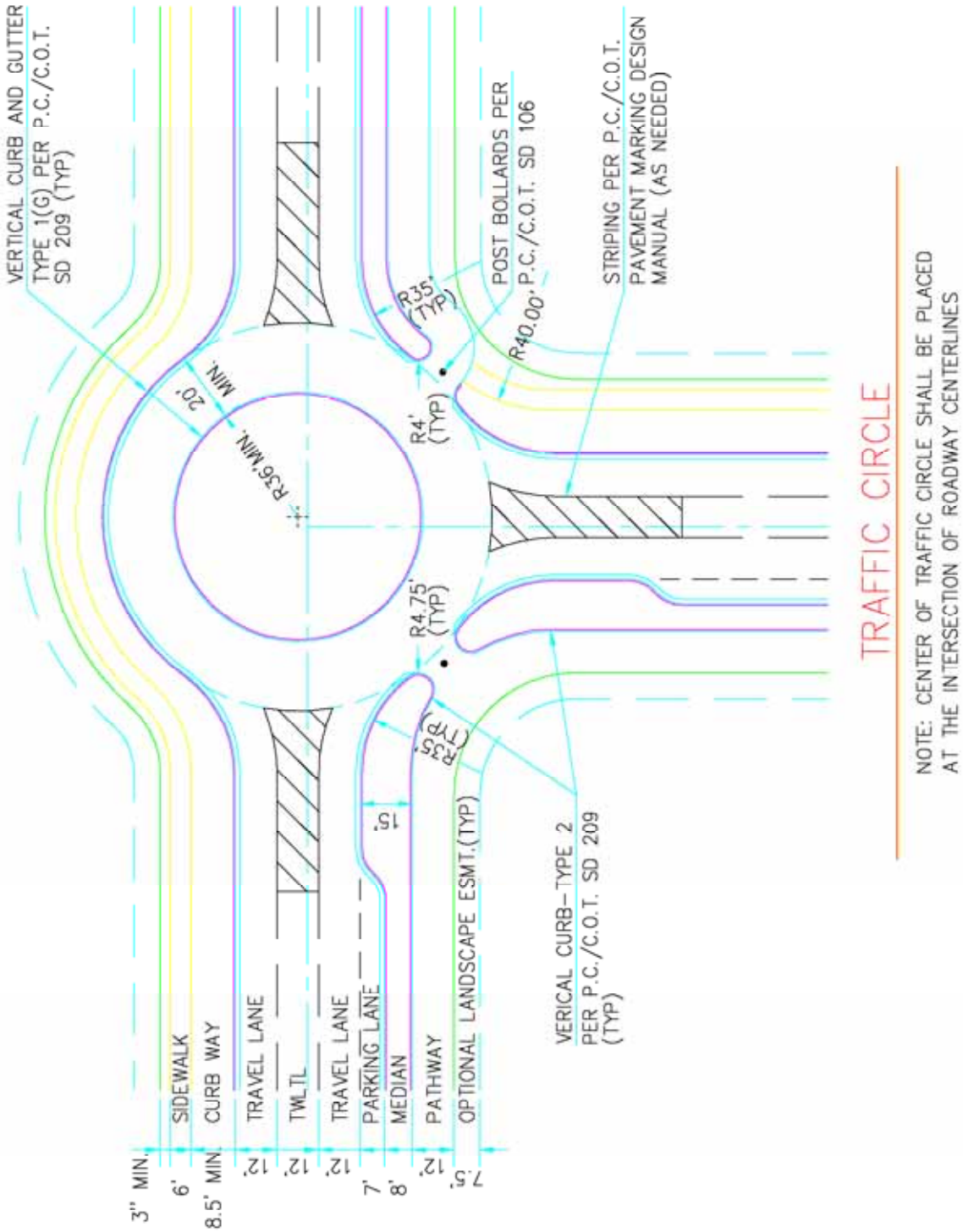


C2 LOCAL STREET
45° PARKING

FIGURE 28: TRAFFIC CIRCLE INTERSECTION DETAIL

LEGEND:

TWLTL = TWO-WAY STRIPED LEFT TURN LANE



CIVANO: SIERRA MORADO PAD

SCALE: NTS

NORTH

PRELIMINARY NOT FOR CONSTRUCTION

Roodgood Sharp Buster

MMLA

D-6.b. Vehicle and Bicycle Parking Requirements

Due to the integrated land use mix and pedestrian orientation of the Sierra Morado PAD such that neighborhood retail services, recreation, civic and employment uses are provided within walking distance of residential uses, motor vehicle parking requirements are deemed to be below the parking space requirements of the LUC for certain Land Use Groups/Classes. Spatial dimensions of a parking space and accessibility requirements will be in conformance with the LUC, Development Standards, and ADA requirements. The PAD District will comply with the LUC, Division 3: Motor Vehicle and Bicycle Parking Requirements with the following exceptions:

1) Motor vehicle parking requirements for each of the Land Use Group/Class categories with the exception of the Residential Use Group permitted within the PAD-R2 and PAD-C1 districts may be reduced by 50% of the parking spaces as required by the LUC. For the residential land use group, 1.0 visitor parking spaces per single family dwelling unit shall be provided.

2) Parking spaces required for residential land uses may be located anywhere within the limits of the development parcel (individual plat or site plan) in which the residential development is located, including within the individual lots, in common parking areas, or on-street parking within or immediately adjacent to the development parcel.

3) Visitor parking spaces required for residential land uses may be located in common parking areas or on-street parking on one or both sides of the street within or immediately adjacent to the development parcel. Visitor parking spaces shall not be located on individual single family lots to meet the visitor parking space requirements because parking spaces on individual single family lots are located on private property and may not be used by the guests of other residents.

4) Parking spaces required for an individual residential unit shall be located within three hundred (300) feet of such individual residential unit. Parking spaces required for non-residential land uses may be located on site, in the same block, or in another block but within six hundred (600) feet of the land use it serves as defined in LUC Section 3.3.7.1.B.

D-6.c. Off-Street Loading Requirements

The Sierra Morado PAD will comply with the LUC Division 4: Off-Street Loading requirements with the following exceptions:

1) A maximum of two loading spaces will be provided within the PAD-C2 zoning district as follows:
   - One loading space shall be provided once a total of 2,500 square feet of non-residential square footage is developed.
   - A second loading space shall be provided once a total of 10,000 square feet of non-residential square footage is developed.

2) Loading spaces as required above shall be a minimum of 8.5' x 18' and shall be centrally located within or adjacent to the development.

3) Access and maneuvering of loading spaces can utilize streets and alleys regardless of the abutting zone or land use.

D-6.d. Landscaping and Screening Requirements

The Sierra Morado PAD will comply with Division 7: Landscaping and Screening Regulations of the LUC with the following exceptions:

1) To encourage the connectivity between the neighborhoods within the Sierra Morado PAD, as well as Civano Neighborhood 1, interior landscape borders between parcels and/or land use zones are not required.
2) Parking area screening is not required but the requirement for landscaping of canopy trees within common parking areas will be increased above the Code's requirements such that one (1) canopy tree is required for each four (4) parking spaces. Location standards will meet or exceed the LUC.
3) Street landscape borders are not required except as defined within this document. See **Figure 24**: *Streetscape and Landscape Cross Sections.*
4) In order to accommodate retaining walls as needed, a combination retaining wall and screen wall can be a maximum of 10 feet in height, provided that the retaining wall portion does not exceed 4 feet in height and the screen wall does not exceed 6 feet in height measured from the lowest point of the wall.

D-6.e. Native Plant Preservation

The general native plant preservation strategy for the Sierra Morado PAD is envisioned as one that provides for the preservation and protection of species in a "Set-Aside" area that exhibits a high resource value, as well as for the salvaging and transplanting of high quality, viable specimen plants on the remainder of the site. In addition to the 30% set-aside method, all required Ironwoods and Saguaros will be inventoried. Following are the methods of compliance chosen:

1) The 30% Set-Aside method is being selected as the primary strategy for compliance with the City's Native Plant Preservation Ordinance. As such, the requirement of an Environmental Resources Report shall be fulfilled in the assessment of area to be set-aside as natural undisturbed open space. This strategy will apply to Development Units 2 thru 4 within the Sierra Morado PAD. This 30% Set-Aside area is intended to generally conform to Natural Open Space areas depicted in **Figure 15**: *Open Space, Recreation and Trails Plan.* Of the 407 total acres in Units 2-4, approximately 152 acres are designated as Natural Open Space. This area is illustrated on **Figure 15**, and is designated because of its high resource value. This area contains floodplains, most of the diverse wildlife habitats and vegetation, major natural drainageways and hillside areas with steep slopes. These areas are suitable for wildlife habitat and for passive recreational opportunities. As such, these areas will include passive recreation trails within the natural undisturbed open space areas. To minimize disturbance of native vegetation, these trails will be field located.

2) In accordance with Section 3.8.6 of the Native Plant Preservation LUC, the Set-Aside method will also include an inventory and analysis of all plants listed as Federal Endangered Species and Protected Native Plants (all saguaros and ironwoods). Preservation and mitigation for these species will conform to the LUC.

3) The developer is committed to preserve-in-place or salvage high quality, viable specimen plants not inventoried as part of the Set-Aside requirements. Supplemental inventory work will be done to identify these additional plants. The salvaged specimen plants will be transplanted within the development areas.

4) The Full-Inventory method has been employed for Development Unit 1. This plan was approved on July 20, 2004, by the City, Case #S03-021. The inventory strategy maximized the number of plants to be salvaged, transplanted on site and/or preserved-in-place.

The Sierra Morado PAD will comply with Division 8: Native Plant Preservation requirements of the LUC with the following exceptions:

- Within the designated set-aside areas natural surface earthen pedestrian or earthen multi-use trails will be included in the 30% natural undisturbed open space calculations.

- Overhead Utility Easements (OHE) areas that are deemed desirable for enhancing natural undisturbed open spaces areas and/or have a high density and variety of vegetative communities be included in the 30% natural undisturbed open space calculations.

E. COMMERCIAL PAVILIONS PAD DISTRICT REGULATIONS

E-1. PURPOSE AND INTENT

This section is intended to provide the regulatory zoning provisions for the Pavilions PAD, which is designed to guide the implementation of the vision for the commercial portion of the Civano community through the plan review and development permit process, and to comply with the provisions of the Planned Area Development Zone, Section 2.6.3 of the LUC. These provisions constitute the primary tools for use by the City and developers in ensuring that the Pavilions PAD develops in conformance with the vision presented by this document as adopted by the Mayor and Council. This section also constitutes the Commercial Master Plan as contemplated by Section 3.1.1.2 and 3.1.1.3 of the Development Agreement. The figures and tables in this document concerning the hydrology, topography, traffic impact and other aspect of the Civano Master PAD area do not all contain detailed information concerning the Pavilions PAD; the required information shall be submitted to the appropriate City of Tucson staff in connection with applications for block plats or development plans for the pertinent areas of the Pavilions PAD.

The development regulations govern all material aspects of land use within the Pavilions PAD. Furthermore, this section includes development standards related to the base zoning district, permitted uses and general development standards. Where a provision of this Section E varies from a provision of the LUC, the provision of this Section E shall govern. The Pavilions PAD consists of Sub-Districts A, B and C as indicated on **Figure 29,** *Pavilions PAD Sub-Districts*, which are sometimes referred to herein generically as a Sub-District or Sub-Districts. The provisions of this Section E apply uniformly across all of the Sub-Districts unless otherwise specifically provided herein.

E-2 COMMERCIAL ZONING DISTRICT.

The base zoning district proposed for the Pavilion PAD is OCR-1. This zoning district shall be as defined in Section 2.6.1 of the LUC as modified by this Section E-2. **Figure 21,** *Zoning Boundaries* depicts the location of the Pavilions PAD OCR-1 zoning district in relation to the overall land use plan. No development designators shall apply because pertinent development standards are more specifically addressed in Section E-4 of this document.

E-2.a. Permitted Land Uses

The permitted land uses within the Pavilions PAD OCR-1 zoning district (including but not limited to Special Exception Land Uses) are as defined within Section 2.6.1 of the LUC with the exceptions contained in this Section E-2. Without limiting the generality of the foregoing, Major Medical (hospital and ancillary activities) uses are specifically permitted in the Pavilions PAD as designated in **Figure 29,** *Pavilions PAD Sub-Districts*.

E-2.b. Additional Permitted Uses:

A. Commercial Services User Group, Section 6.3.5

1. Animal Service, subject to Sec. 3.5.4.1.G
2. Automotive – Service and Repair (Major and Minor), subject to Sec. 3.5.4.2.C and D

3. Construction Service, subject to 3.5.4.21.B
4. Funeral Service, subject to 3.5.4.22.B
5. Motion Picture Industry
6. Research and Product Development subject to Sec. 3.5.4.14.A
7. Trade Service and Repair, Minor

B. Wholesaling Use Group, Sec. 6.3.13

1. Business Supply and Equipment Wholesaling subject to Sec. 3.5.5.1.D, .E, .F and .H
2. Food and Beverage Wholesaling subject to Sec. 3.5.5.1. D, .E, .F and .H

C. Industrial Use Group, Sec. 6.3.6

1. Craftwork, subject to Sec. 3.5.5.1.B, .D, .E, .F and .H
2. General Manufacturing, subject to 3.5.5.1.B, .D, .E, .F and .H
3. Precision Goods Manufacturing, subject to Sec. 3.5.5.2.A and .B and Sec. 3.5.5.1.B, .D, .E, .F and .H
4. Precision Manufacturing, subject to Sec. 3.5.5.1.B, .D, .E, .F and .H
5. Processing and Cleaning, subject to Sec. 3.5.5.1.B, .D, .E, .F and .H

E-2.c. Excluded Land Uses

A. Civic Use Group, Sec 6.3.4.1 Correctional Use, Supervision Facility
B. Commercial Use Group Sec. 6.3.5, Billboards

E-2.d. Secondary Land Uses

The following Land Use Classes are permitted within this zone as Secondary Land Uses, subject to the requirements of Sec. 3.2.4 and to any additional requirements listed with the use below.

A. Home Occupations are permitted as Secondary Land Uses to Family Dwelling.

1. Home Occupation: General Application, subject to Sec. 3.5.7.2.A and .B (except that (i) the occupation need be compatible with the general character of the neighborhood rather than strictly with the residential character of the neighborhood, and (ii) as long as the City of Tucson has a Civano Project Manager (as provided in the Development Agreement) any required administrative Zoning Compliance review shall be within the jurisdiction of the Civano Project Manager rather than the Development Services Director).

E-2.e Accessory Land Uses and Structures

Land uses accessory to the Permitted or Secondary Land Uses are allowed, subject to compliance with all provisions of Sec. 3.2.5 except 3.2.5.2H. In addition, Emergency Service Communications Facilities are allowed, but limited to fifteen feet above building height. Any such facilities shall be located on a building (i.e., no free-standing communications towers) and in a location on the building as far as technically feasible from adjacent residential uses. Best efforts will be made to cause the facilities to be architecturally and environmentally compatible.

E-3 LANDSCAPE THEME

In light of the location of the Pavilions PAD at the perimeter of (but at the Drexel Road gateway to) the Civano Master PAD, and in keeping with the landscape goals of conservation and sustainability through the application of xeriscape principles, several landscape themes are proposed within the Pavilions PAD.

1) Entry Corridor Zone
This area includes the Scenic Corridor Zone, and a required buffer area along Houghton Road where indigenous plant material will be preserved. Previously disturbed areas may be enhanced with indigenous material. Traveling east into the Pavilions PAD on Drexel Roads, in areas beyond the buffer zone, to unify the Drexel Road landscape theme, developers will endeavor to select a plant palette similar to (or which transitions into) the plant palette selected for the portion of Drexel Road immediately east of the Pavilions PAD in the Sierra Morado PAD.

2) Residential Areas (if any)
Residents will be required to use non-potable water for irrigation and will be encouraged to take advantage of rainwater harvesting for landscape irrigation and to use xeriscape principles in their landscaping.

3) Commercial Areas
Landscape themes for commercial areas, constituting most of the Pavilions PAD, will be developed as particular uses and configurations for the Pavilions PAD area are identified and implemented. In general, the landscaping will be based on xeriscape principles, but where possible will incorporate canopy trees for shade for pedestrian walkways and vegetation for screening. Within the central portions of the commercial area, Developers will endeavor, consistent with the neighborhood commercial areas in the Sierra Morado PAD, to create identity through plants of year-round interest, long blooming periods, and general aesthetic value.

4) Open Space Areas
Natural open space may be enhanced with indigenous vegetation. However, the majority of this open space will be left undisturbed.

E-4 GENRAL DEVELOPMENT STANDARDS

The Pavilions PAD shall recognize the development standards provided in **Table 8**, *Pavilions PAD Development Standards*. The Pavilions PAD development standards have been developed to regulate all development within the Pavilions PAD zoning district. The standards will supersede the standards in the LUC (including but not limited to Article 3, Division 2 Development Criteria and Article 3, Division 5 Performance Criteria) in accordance with Section 2.6.3 of the LUC except where specific references to such standards are contained in Section E of this document.

Table 8
Pavilions PAD Development Standards

Development Standard	Pavilions PAD*
Minimum Lot Area	0
Minimum Lot Width	0
Separation Between Buildings	0
Maximum Lot Coverage	None
Maximum Floor Area Ratio	None
Minimum Building Setback from Houghton Road and Drexel Road	0 from Houghton Road (subject to Scenic Route Buffer Area requirements as provided in Section E-5.a. of this document) and 0 from Drexel Road for any building whose front faces Drexel Road; 20 feet from Drexel Road for any building whose front does not face Drexel Road
Minimum Building Setback from any other Street	0
Minimum Building Setback (Side or Rear) from Property Lines along the Perimeter of the Pavilions PAD except along Houghton Road and Drexel Road	Greater of (i) 20 feet or (ii) 1 foot per 1 foot of building height
Minimum Building Setback (Side or Rear) from Property Lines within the Pavilions PAD Other than along the Perimeter of the Pavilions PAD	0 (subject to Scenic Route Buffer Area requirements as provided in Section E-5.a. of this document)
Maximum Building Height	Sub-District A: 90 feet Sub-District B: 48 feet Sub-District C: 48 feet
Minimum Street Landscape Area	0
Minimum Perimeter Landscape Area around the Perimeter of the Pavilions PAD (other than along Houghton Road)	25 feet**
Perimeter Wall Requirements (for the Pavilions PAD or any parcel therein)	None. Refer to Section E-4.c. of this document for provisions concerning screening.

*All setbacks and buffers may overlap, and shall not be cumulative.
**May be reduced to zero if NOS area (on-site or off-site) of 25 feet or more is adjacent to proposed landscape border; except that where the existing vegetation of the pertinent NOS area is poor, a 5 foot landscape enhancement area shall be required.

E-4.a. Motor Vehicle and Bicycle Parking

The Pavilions PAD will comply with the LUC, Division 3, Motor Vehicle and Bicycle Parking Requirements with the following exceptions:

1) To encourage transportation alternatives to motor vehicles consistent with the vision for Civano, motor vehicle parking requirements for each of the Land Use Group/Class categories may be reduced by 25 percent of the parking spaces otherwise required by the LUC, except that for the Residential Use Group and the Major Medical Use Group there shall be no reduction.

2) Parking spaces required for residential land uses may be located anywhere within the limits of the development parcel in which the residential development is located, including within the individual lots, in common parking areas, or on-street parking within or immediately adjacent to the development parcel.

3) Visitor parking spaces required for residential land uses may be located in common parking areas or on-street parking on one or both sides of the street within or immediately adjacent to the development. Visitor parking spaces on individual lots will not be allowed in order to meet the visitor parking space requirements as these spaces are located on private property and cannot be used by the guests of other residents.

4) Parking spaces required for non-residential land uses may be located on site or anywhere within the same Sub-District as long as at least 25 percent of the required spaces are provided on-site.

5) Above- and below-ground parking structures and drive-through lanes for motor vehicles, neighborhood electric vehicles or bicycles are permitted in the Pavilions PAD.

6) Class 2 bicycle parking spaces may be substituted for Class 1 bicycle spaces on a 2 for 1 basis up to a maximum of 50 percent of the required number of Class 1 spaces.

E-4.b. Off-Street Loading Requirements

The Pavilions PAD will comply with the LUC Division 4, Off Street Loading Requirements with the following exceptions:

1) Required loading spaces for businesses with more than 2,500 but less than 10,000 square feet of gross floor area can be provided at designated on-street parking spaces with hours posted for this use provided that the loading space is located within 250 feet of the use it serves and is not used by semi trucks. Dimensions of these spaces shall comply with the on-street parking criteria provided in Section 3-05.2.1.B.2. of the City's Development Standards. No designated loading spaces are required for businesses with less than 2,500 square feet of gross floor area.

2) Individual developers with two or more principal uses within the same site conducted as a single project may share designated loading spaces. In addition, users on different sites within a Sub-District may share designated off-street loading spaces as long as they are within 250 feet of each user. This approach could reduce the required total number of loading spaces for each principal use by up to 50 percent.

3) Access to and maneuvering for loading spaces can utilize streets and alleys regardless of the abutting zone or land use.

4) Off-street loading zones shall be screened in accordance with Section E-4.c.

E-4.c Landscaping and Screening Requirements

The Pavilions PAD will comply with the standards contained in Division 7: Landscaping and Screening Regulations of the LUC with the following exceptions:

1) In light of the extensive landscape buffer along Houghton Road, the interconnection among parcels contemplated by the vision for the Civano neighborhood, and the screening for residential areas provided for in this paragraph E-4.c.1., the screening

requirements of Section 3.7.3 of the LUC shall not apply to the Pavilions PAD. In addition, to encourage the connectivity between the parcels within the Pavilions PAD as well as between the Pavilions PAD and other land use zones, interior landscape borders between parcels and/or land use zones otherwise required by the LUC are not required for the Pavilions PAD. However, to enhance residential neighborhoods adjacent to the Pavilions PAD (or across adjacent open space) and residential uses within the Pavilions PAD, parking areas, loading docks, outdoor storage areas, garbage and recycling receptacles, and other similar exterior improvements facing such residential neighborhoods at the perimeter of the Pavilions PAD and residential uses within the Pavilions PAD will be screened (unless already substantially screened by buildings or other landscaping) by hedges or other vegetative screens or a combination of vegetative screens, topographical features and screen walls designed to prevent unreasonable light, noise and visual impact on such residential neighborhoods. Heights of screening shall be as provided in LUC Section 3.7.2.4 and Table 3.7.2-I accompanying that Section. In addition, loading docks, outdoor storage areas, garbage and recycling receptacles, and other similar exterior improvements facing residential neighborhoods at the perimeter of the Pavilions PAD and residential uses within the Pavilions PAD shall be set back at least 25 feet from the perimeter of the Pavilions PAD and at least 50 feet from the Sierra Morado PAD Frontage Area indicated on **Figure 29,** *Pavilions PAD Sub-Districts.*

2) Except as provided in paragraph E-4.c.1, parking area screening is not required. Canopy trees and planter islands in parking areas shall be in accordance with the LUC. Refer to Section 3.7.2.3.a.1 (a) through (d) of the LUC for standard details (excluding the portions of the details pertaining to screening).

3) Street landscape borders along Houghton Road, Drexel Road or interior streets within the Pavilions PAD are not required except as otherwise expressly set forth in this document.

4) Screen walls up to six feet in height are permitted. Screen walls in excess of six feet in height are permitted in accordance with the LUC.

E-4.d Native Plant Preservation

The general native plant preservation strategy for the Civano Master PAD is envisioned as one that provides for the preservation and protection of species in "Set-Aside" areas. The sole Set-Aside Area required for the Pavilions PAD is the 30 foot Scenic Routes Buffer Area along Houghton Road described in Section E-5.a. and referred to in **Table 5,** *Estimated Natural Open Space Area.* In accordance with LUC Section 3.8.6, the Set-Aside method will also include an inventory and analysis of all plants listed as Federal Endangered Species and Protected Native Plants (i.e., any saguaros and ironwoods), and preservation and mitigation for these species will conform to the LUC. Developers within the Pavilions PAD are also committed to preserve-in-place or salvage high quality, viable specimen plants not inventoried as part of the Set-Aside requirements; the salvaged specimen plants will be transplanted within the Civano Master PAD. Calculation of undisturbed open space shall include any natural surface earthen pedestrian or earthen multi-use trails within designated Set-Aside areas.

E-4.e. Roadway Design and Development Standards

The street development standards for the Pavilions PAD will comply with Section 3.01.0 of the City's Development Standards except as specifically provided in this Section E-4.e.

Houghton Road

The half street cross section for the east side of Houghton Road along the Pavilions PAD frontage will include a ten foot half median, two 12 foot lanes, a five foot bike lane, and a tapered deceleration lane. In addition, a 12 foot multi-use path and an eight foot pedestrian pathway are part of the half street section. Landscaping and drainage will be accommodated between the vehicular and the pedestrian areas. The City has designated Houghton Road as a Scenic Corridor, and standards pertaining to that designation are addressed in Section E-5.a. The Civano Master PAD satisfies the intent of the Houghton Road Scenic Corridor and, therefore, no further review will be required.

Drexel Road

Drexel Road provides the primary east/west spine through the Pavilions PAD. The cross section for Drexel Road adjacent to the Pavilions PAD will be compatible with the cross section of Drexel Road within the Sierra Morado PAD, and will be determined consistent with traffic studies to be prepared in connection with submission of developments plans for property within the Pavilions PAD.

E-4.f. Access from Houghton Road

Two driveways for right-in, right-out access from Houghton Road will be permitted for access to the Pavilions PAD (in addition to the existing driveway for Global Solar): one between Drexel Road and the southern boundary of the Pavilions PAD and one between Drexel Road and the northern boundary of the Pavilions PAD. The location of the driveways along those portions of Houghton Road may be changed from time to time as the Pavilions PAD is developed and internal circulation is established. Unless and until there is a median in Houghton Road, driveways will be designed to eliminate left turns onto Houghton Road.

E-4.g. Solid Waste (Refuse Collection)

Development within the Pavilions PAD will satisfy the requirements of Section 6 of the City's Development Standards except for Section 4.1.M.

E-4.h. Sierra Morado PAD Frontage Area

Most of the Pavilions PAD is buffered from adjacent residential uses by substantial natural open space. However, there is one portion of the boundary between the Pavilions PAD and the Sierra Morado PAD (indicated on **Figure 29**, *Pavilions PAD Sub-Districts* as the "Sierra Morado PAD Frontage Area") that lacks a natural open space buffer; accordingly, the following additional development standards are appropriate for that boundary:

1) Uses in the Automotive – Service and Repair (Major) classification shall be set back at least 250 feet from the Sierra Morado PAD Frontage Area.

2) Uses in the Construction Service classification shall be set back at least 100 feet from the Sierra Morado PAD Frontage Area.

3) Uses in Trade Service and Repair, Minor classification may not have openings within 30 feet of the Sierra Morado PAD Frontage Area.

4) No drive-through lanes are permitted within 100 feet of the Sierra Morado PAD Frontage Area, and any drive-through lanes within 400 feet of the Sierra Morado PAD Frontage Area shall be screened from the Sierra Morado PAD Frontage Area by either an intervening building or a solid, opaque screen wall that reasonably screens noise, lighting and vehicle headlights from adjacent residential lots.

E-5 Miscellaneous Provisions

E-5.a. Overlay Zones

1) Sections 2.8.2.9A and 2.8.2.10A of the LUC shall apply to the portions of the Pavilions PAD that are within the Scenic Corridor Zone. In addition, Section 2.8.2.4 shall apply to the portion of the Pavilions PAD along Houghton Road. Section 2.8.2.6.B shall apply to the Pavilions PAD, subject to subparagraph (4) of this Section E-5.a.

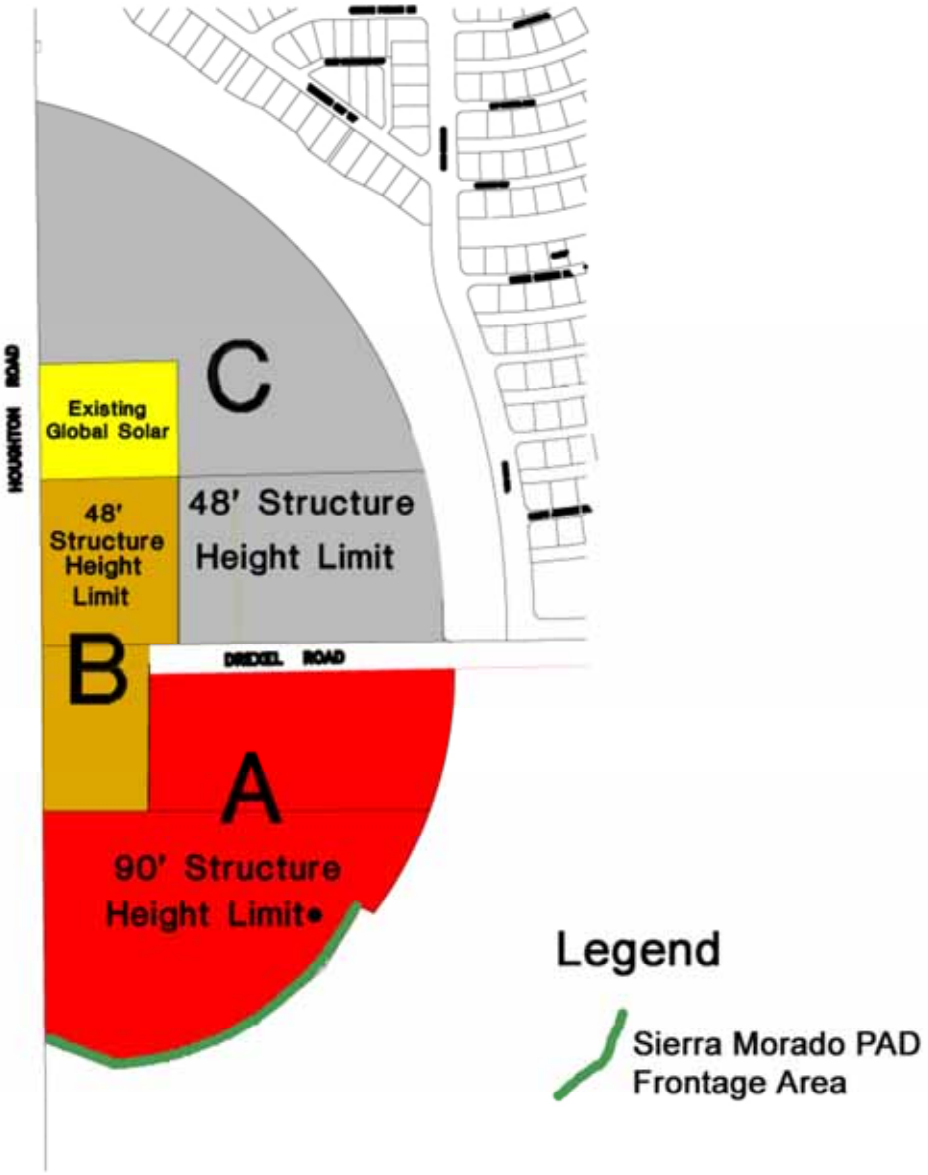
2) Building height within the Pavilions PAD (including portions of the Pavilions PAD that are in the Scenic Corridor Zone) shall be measured in accordance with the ordinary method described in Section 3.2.7.2 of the LUC and not as provided in Section 3.2.7.2.A.3.

3) Section 3.7.5.2 of the LUC shall apply to the Pavilions PAD, provided that the measurement of the Scenic Routes Buffer Area shall be from the future Houghton Road right-of-way line as indicated on the Major Streets and Routes Map. The Scenic Routes Buffer Area may used in the calculation of natural open space for purposes of Division 8: Native Plant Preservation requirements of the LUC. The Scenic Routes Buffer Area may be crossed by designated paths for access to Houghton Road as reasonably necessary.

4) Section 2.8.2.6B of the LUC shall apply to the Pavilions PAD except that (i) the requirements may be met for the Pavilions PAD as a whole and (ii) for the purpose of Section 2.8.2.6B, the Scenic Corridor Zone shall be 200 feet deep measured from the future Houghton Road right-of-way line as indicated on the Major Streets and Routes Map. The method of allocating view corridor areas across the Pavilions PAD and/or among different property owners shall be established and submitted to City staff for approval in connection with the approval of the first development plan within the Pavilions PAD.

E-5.b Allocation of Off-Site Improvement Costs

The cost of future off-site improvements required by the City with respect to the Pavilions PAD which are not already otherwise provided for shall be allocated among the owners and/or actual developers of property within the Pavilions PAD pro rata based on the gross acreage of their respective properties, with the intention that each actual developer bear its equitable share per gross acre.



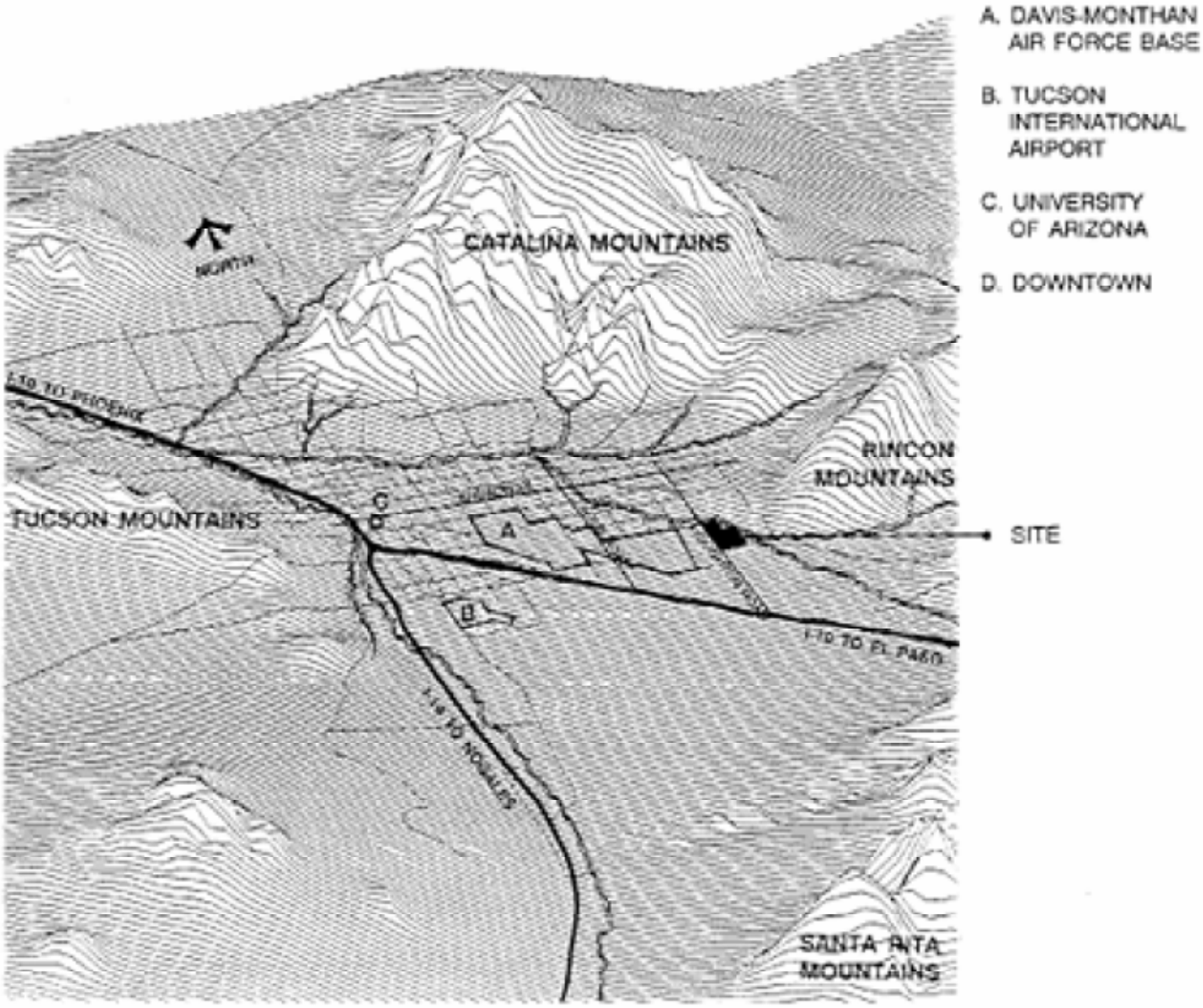
A- All Permitted Land Uses Allowed per E-2

B- All Permitted Land Uses per E-2 except Major Medical and those listed in E-2.b.C

C- All Permitted Land Uses per E-2 except Major Medical

•-Additional height allowance of 15 feet apply to emergency communication towers

F. NEIGHBORHOOD 1 PAD DISTRICT



Regional Setting

Exhibit 30

F-1.0 INTRODUCTION

1.1 Purpose, Scope, Main Concepts and Goals

The purpose of this Planned Area Development is to direct the development of Civano's first neighborhood and portions of the Town Center and to assure its consistency with the currently-adopted Civano Master Development Plan and other related city plans and policies.

The original Planned Area Development boundary is amended to include the southern portion of Block, 2, and lot 527 of Civano 1 Bk. 52, Pg. 34 of Maps and Plats as shown in Exhibit 1a. The southern portion of Block 2 and Lot 527 which was zoned SR shall now fall within the Neighborhood Center District as defined in Exhibit 11 and 12. The amended Planned Area Development covers approximately 237.54 acres of land within the 815.42 acre. This Civano project and includes a mixed-use neighborhood center, a variety of residential living environments, recreation and cultural facilities, and substantial open space preservation.

Main Concepts

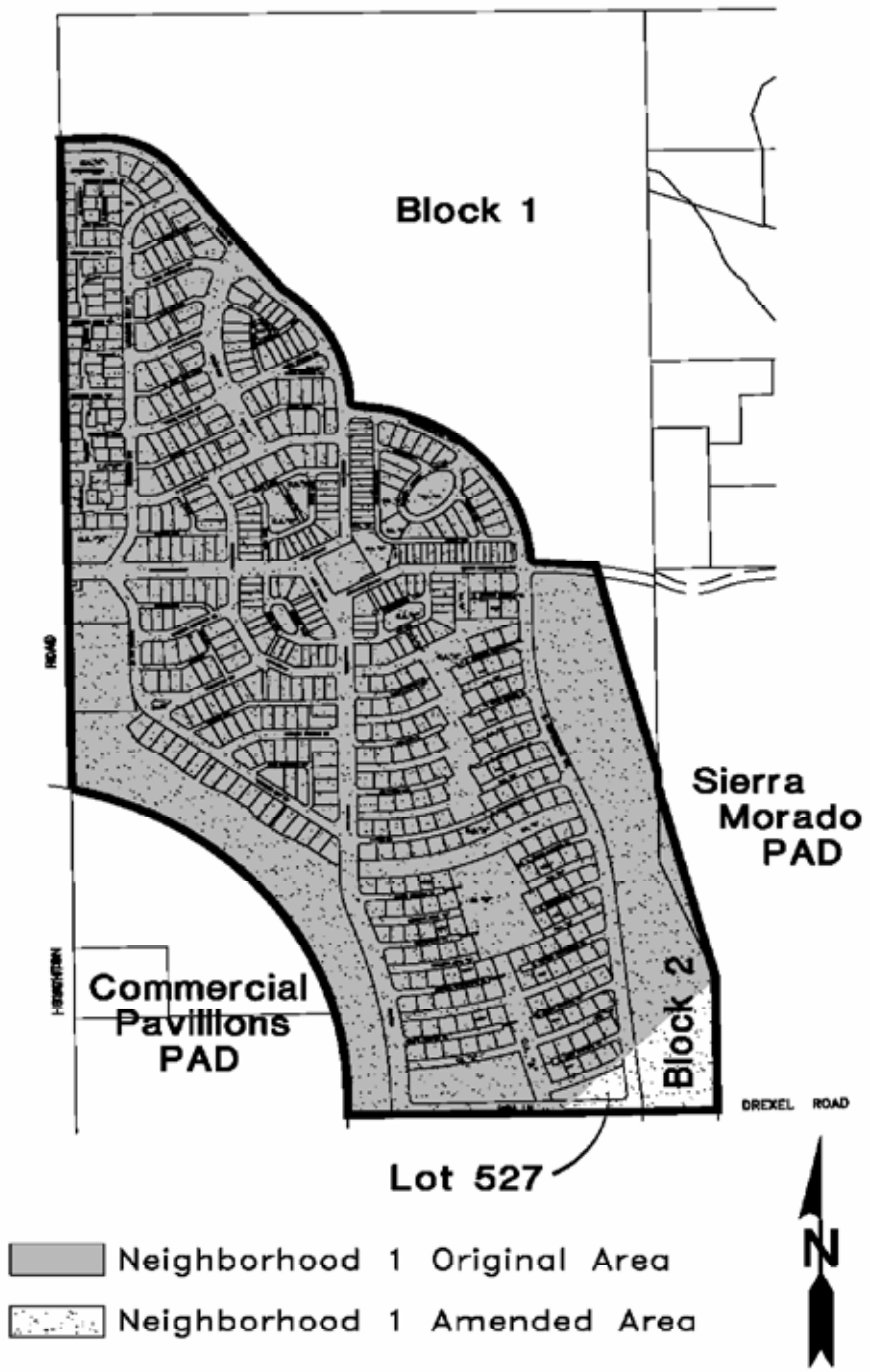
There are four main conceptual elements which are integrated into the proposed Phase 1 Planned Area Development: Building Community, Connection with the Land, Respect for Climate, and Regeneration. These factors are viewed as guiding principles in both conceptualizing and detailing the plan and should be used as first principles in any specific programming for spatial layout, design details, or zoning interpretations or decisions. These are briefly discussed below:

Building Community

> *That settlement is good which enhances the continuity of a culture and the survival of its people, increases the sense of connection in time and space, and permits or spurs individual growth: development, within continuity, via openness and connection.*
> *--Kevin Lynch*

Civano is about building community; about connecting with each other. The Civano plan is designed to encourage face-to-face meeting and interaction--gathering places, meeting areas, cafes, safe and livable streets where automobile traffic is encouraged to slow down, a fine-grain mix of uses, and the ability to reduce the time spent in an auto.

The plan is based upon principles of "New Urbanism" of which "Neo-Traditional Planning" is a part (see Development Agreement, Exhibit numbers 6 and 8). The plan is laid out to encourage connection with important gathering places: the neighborhood center, the Town Center, the Community School and similar spaces. A variety of social and cultural spaces for recreational activities are provided as public, semi-public, semi-private and private spaces. Streets are laid out in short segments which end in important views or deflect in direction so that the street environment is easily defined visually, avoiding the anonymity so prevalent in most suburban areas. The streets are designed almost as if the auto is an intruder, certainly to be tamed and to be slowed down to the speed of pedestrians and cyclists. As drivers enter into the territory of the Civano streets, they become aware of the human scale and the need for care and caution. The streets are to be lived in as well as the homes.



Civano Neighborhood 1

Amended Boundary

Exhibit 30a

The Planned Area Development is designed to encourage a human connection between the house, the street and the pedestrian spaces.

Pedestrian spaces are designed to be comfortable and to make the trip as pleasurable as possible, with shade and places to rest and meet with neighbors.

Connection with the Land

> *How do we return to the sacred? How do we acknowledge it? For me, it's being out in the land. You are simply in that presence--in the calmness of that moment of walking on redrock, of hand on stone, of hearing the sound of the raven, of feeling the wind across your face. It's not something that one has to search for. One is simply standing in the center of it.*
> *--Terry Tempest Williams*

The form of the land and the way it has weathered over time speaks to its potential for development. The drainage and erosion patterns, its visual setting, the way vegetation has grown upon it to support the animal kingdom--all form a pattern to either support or reject the built forms to be placed upon it.

The Civano plan seeks to respect these forms and patterns and further develop their connections with the built fabric. The richest parts of the land, in terms of drainage patterns, water resources and resulting vegetation patterns are preserved. As the built environment is superimposed upon these patterns, it is designed to enhance the pattern of the land--by directing the flow of water runoff into areas which support vegetation and wildlife, by making connections both visual and physical between the built environment and the prime natural areas, and by expanding the extent of heavily vegetated areas into the built environment.

Respect for Climate

> *...there is an inherent logic in the structure and nature of organisms that have grown on this planet. Any architecture, any urban design, and any social order that violates that structure and nature is destructive of itself and of us. Any architecture, urban design or social order that is based upon organic principles is valid and will prove its own validity.*
> *--Peter Blake*

The Civano plan seeks to acknowledge the natural patterns of the sun and the wind and the seasons: through attention to orientation of buildings relative to these factors; through the creation of public spaces which support human comfort through natural means--shade trees nurtured by natural runoff; and by minimizing the amount of heat absorbed--in buildings and in streets, resulting in minimizing the energy needed to reduce the impact of that heat, both for energy consumption and human comfort.

Regeneration

> *"A regenerative system provides for continuous replacement, through its own functional processes, of the energy and materials used in it operation. Regeneration has to with rebirth of life itself, thus with hope for the future."*
> *--John T. Lyle*

Principles of sustainability include strategies for conservation, regeneration, and stewardship of resources. Because of a general lack of responsible stewardship of our resources over the past several decades, conservation alone does not appear to be sufficient to restore the ecosystem to a natural balance. Therefore, strategies of regeneration need to be applied also.

Regeneration implies that each action and resource be viewed as an opportunity to actively create energy and balance, rather than "status quo," and each "improvement" can serve more than one purpose.

Examples of regenerative principles embodied in this plan include restoration of natural riparian habitats, planting of food-producing crops which serve not only for shade but also for community income and community ritual in planting, tending and harvesting crops.

1.2 Conformance with Existing Land Use Plans

In December of 1984, The City of Tucson adopted the *South Pantano Area Plan*, establishing planning and development policies for a several square mile area including and surrounding the Civano site. These policies were developed after substantial analysis of the general area (*South Pantano Inventory*, October, 1983), but prior to more recently adopted regional policy initiatives (transportation, parks, trails access). The City of Tucson's general planning* policies for this area are included within this adopted plan, most recently amended during the Civano planning process on May 6, 1991, by Ordinance No. 15655. This area plan incorporates the "village" concept in accordance with the concepts embodied in the Civano Master Development Plan.

Following is the general policy, as amended, for the specific subarea which includes the Civano site (Subarea Eight):

> "SUBAREA EIGHT PROFILE
>
> This is approximately a four square mile area between Irvington and Valencia Roads and between the Harrison Road alignment east to Pantano Wash. Approximately 85% of the land is State Trust land, 10% is owned by the City and about 5% is privately owned. Houghton Road is the main arterial through this subarea also and furnishes direct access to Interstate 10 to the south and the total metropolitan area to the north. Melpomene, Drexel, and Valencia Roads are major streets within the interior of this subarea."
>
> "PROPOSED USE
>
> Suburban to midurban densities integrated with job site Park Industrial development are appropriate in this area. Higher densities should be located along arterial and collector streets, while Park Industrial type development is best suited near Valencia and along Houghton Road. Main access to job site development should be limited to major streets.
>
> It is recommended that development transition to suburban densities toward the interior of this subarea and adjacent to Pantano Wash. Special care must be taken to ensure residential development is sensitive to the existing natural environment. During design stages of non-residential development special consideration must be given which emphasizes minimal impacts on properties either developed residentially or having potential to be developed residentially. Cut and fill, and grading of proposed development should be kept to a minimum.
>
> Davis-Monthan Air Force Base may expand its activities in the future. Since the land parcel west of Houghton Road is contiguous to the Air Base, it may be appropriate to use it for expansion of military operations.
>
> If this land parcel is not to be used for base operations, then it *should* be developed with land uses compatible to base activities with special consideration for building setbacks and open space/recreational uses between Davis-Monthan Air Force Base and proposed developments.

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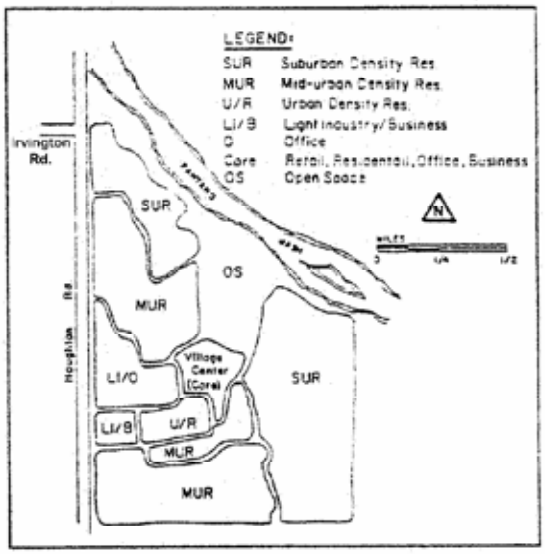
* *The General Plan* was originally adopted as the "*Comprehensive Plan*" pursuant to the Tucson *Zoning Code* and, subsequently, the Tucson *Land Use Code*. The term "Comprehensive Plan (CP)" was changed to the "General Plan" by Ordinance 9517, which was adopted by Mayor and Council on February 12, 2001. This change in title does not affect the content of the Plan.

Drexel and Valencia Roads extend east through this area from Houghton Road and currently serve as access to sand and gravel operations located adjacent to Pantano Wash. Houghton, Melpomene, Drexel and Valencia are major streets in the adopted *Pima County Major Streets and Routes Plan.* Their classification and any additional major streets will be reviewed and necessary rights-of-way determined at the time the area is annexed."

Over 800 acres of State Trust Land has been reserved to develop Civano, an energy efficient community. The "village" concept supports a core containing a mix of supportive uses. Generally, land uses between the core and Houghton Road should include employment uses. Radiating away from the core are decreasing residential densities toward the periphery. The area reaching north of the core and along the east and south sides of Civano should be developed as suburban to mid-urban density residential. The area between suburban residential development and the core is provided as a transition zone. In this zone it is appropriate to gradually increase the intensity of development through a mix of mid-urban and urban densities. Washes and other undevelopable areas will provide open space for the public. The illustrative insert...displays a conceptual range of land uses and their transition from the core to the perimeters.



EXISTING LAND USE PLANNING POLICIES

The area immediately to the south of this planning area is covered by the *Esmond Station Area Plan*, adopted by the City in March, 1986. It is anticipated by the City that this area will receive substantial new development over the next couple of decades. This plan covers the area south of the Poorman Gunnery Range of Davis-Monthan Air Force Base and north of Interstate 10 between Kolb Road and Pantano Wash. It includes Rita Ranch, the Air Force Base Airport Approach Zone, the Southern Pacific Railway line, and several square miles of primarily vacant State Trust lands east of Houghton Road. The Rita Ranch planned development consists of a combination of medium density residential, light industrial, and commercial business. School sites have been designated and substantial infrastructure has been installed. To date, development has been slow, partially due to the general economic conditions in Arizona.

Recently adopted regional open space, trails and circulation plans proposed increased access by all modes of transportation to this area. Pantano Wash is proposed to become part of the regional linear park system with pedestrian, bicycle, and horse trails linking other parts of the region. Two additional trail access points to Saguaro National Monument are proposed from the Pantano Wash at the north edge of the Solar Village site. Houghton Road is adopted as a "Gateway Route", defined as a major urban transportation gateway from Interstate 10 to the urbanizing Tucson basin, designed as two-way divided 200-foot rights-of-way with native-

landscaped medians and side areas and limited automobile access. In addition, Houghton Road is proposed to contain a regional bikeway route adjacent to the site.

1.3 Rationale and Benefits for Using Planned Area Development District

There are several reasons for using the Planned Area Development District for this project, rather than other existing zoning districts. One of the primary reasons is to mix uses in the Neighborhood Center to create a place of social interaction. The Planned Area Development District also creates an equivalent to overlay zones which set forth design characteristics for a variety of urban and rural environments and to allow more specificity and control over the general design of the built environment.

1.4 Suitability of Planned Area Development District

This proposed district is generally consistent with the existing zoning on the property. It is sufficiently large to adequately guide planned area development for the next 2-3 years. It is designed to allow and encourage a relatively-balanced mix of uses to be developed concurrently. These include a variety of residential densities and environments, some commercial services, and both office and manufacturing jobs.

1.5 Compatibility with Adjoining Land Uses

Immediately adjoining land uses are primarily single-family residential, although most of the land is vacant. There are some remaining sand and gravel extraction operations along the Pantano Wash directly east of the property, although these are slowly being phased out in preparation for construction of the regional park and trails system along the major washes. There are two operating horse stables immediately to the north of the property, on both sides of Houghton Road at the Pantano Wash. There should be no interference to these uses as a result of community development on the Civano property, although added residents may wish to use the stabling and riding services available.

1.6 Physical and Economic Suitability and Feasibility with Existing Infrastructure and Services

When the Civano site was originally selected through a community-oriented State Land selection process, it was determined that one of the primary advantages of this site was that infrastructure already existed and could be extended with relatively little added expense and with minimal impact upon the existing infrastructure system.

As noted elsewhere, all significant infrastructure necessary to support this development is in very close proximity and can be effectively extended into the property for the proposed development. In concert with community understanding and Mayor-Council decisions in supporting this project, impacts on infrastructure and public services are being planned and designed to be as minimal as feasible, using best-known and available technologies, and to be a demonstration of these impacts can be minimized for future projects.

F-2.0 PLAN OBJECTIVES

2.1 Conservation and Development of Natural Resources

2.1.1 Solar Energy Resources

All building in Civano is intended to meet the "Civano Standards" relative to energy conservation and the use of solar energy resources as delineated in the Development Agreement between the City of Tucson and Community of Civano, LLC, and specifically delineated in the Mayor and Council Memorandum re Civano Performance Targets dated October 2, 1995.

Celebration of Solar Orientation

Seasonal events such as the summer and winter solstices and the vernal and autumnal equinoxes are opportunities for community and individual celebration which enhance the awareness of our connection with, and reliance upon, the sun as a primary source of energy. In public gathering places, opportunities to acknowledge significant seasonal solar patterns should be observed. This can be done by aligning buildings with solar positioning, by creating public art which interacts with significant solar positions, and by maintaining views of sunrise and sunset at these times of year.

Because of the direction of the natural site topography, the plan layout acknowledges the summer solstice sunrise and winter solstice sunset in many of the street angles (63 degrees west of north; 63 degrees east of south) and in the orientation of the buildings within the neighborhood center plaza. View corridors are maintained between the neighborhood center plaza in both directions so that visual and shadow alignments can be made on those days.

2.1.2 Wind Resources

While normal wind velocities are not sufficient to maintain efficient energy generation from wind power, wind and natural site breezes can be an effective tool for cooling, both for interior and exterior comfort. The wind patterns generally run in a southeast-northwest direction, parallel with the direction of the Pantano Wash. In the mornings, cooling breezes from the Santa Rita Mountains flow in a northwesterly direction and can be used for refreshing the air and pre-cooling interior spaces in preparation for the daily warming pattern. In the evening, the flow is the opposite, but the breezes are also warmer and also carry airborne pollutants from more densely populated areas of the region. These afternoon breezes can be used, with proper building design and management, to create a negative pressure within buildings which can be used to "pull" warm air from the buildings. Those buildings and public spaces along the rises adjacent to the Pantano Wash are particularly suitable for taking advantage of these wind patterns. This can be accomplished by locating public walkways along this area and by designing those homes to be oriented so that wind can be a more effective cooling technique in their design. In addition, wind catchers should be designed into the homes to catch the morning breezes and bring them into the interior and exterior spaces. These devices should be exceptions to building height limitations.

The plan carefully positions single-family homes on the bluffs and palisades adjacent to the Pantano Wash to take advantage of these wind patterns. Community orchards are also located

in this area, with a public pathway winding through it, for the same reason. Because of the additional moisture inherent in the cultivating of trees in this area, it can act as an additional evaporative cooling technique.

2.1.3 Water Resources

Potable Water Usage

The Development Agreement between the City and the developer includes a water use goal to "reduce potable water consumption significantly below metropolitan Tucson baseline levels; and use non-potable water, such as reclaimed water, graywater, or rainwater harvesting for landscape irrigation."

In accordance with the Civano IMPACT system, individual houses will be designed to provide an interior use of 53 gallons per person per day (a 54% reduction from 1991 residential baseline) and 28 gallons per person per day for exterior uses. Commercial uses are planned for 15 gallons per employee per day, subject to a case-by-case review of businesses, such as restaurants, with above-average water requirements.

Community swimming pools will be built with the first development phase to discourage the need for private swimming pools. If private pools are installed, it will reduce the allowable water allotment for landscape irrigation.

Each building will be designed with a dual water supply system, one for potable water and one for reclaimed water which will be used for all outdoor irrigation. There remains some question relative to the use of reclaimed water for all outdoor uses, including the cultivation of edible crops and the need to control bodily contact. In any case, all landscape irrigation will be accomplished with non-potable water, graywater, and/or rainwater harvesting. The City's reclaimed water service, rainwater harvesting or graywater equipment will be provided at all Civano properties.

Xeriscape Principles

The basic concept of xeriscape design is establishing hydrozones in the landscape. The three hydrozones are the mini-oasis, transition, and arid zones. The mini-oasis is located in areas of high use and where higher water-use plants are planted. The transition area radiates outward from the oasis area and includes plants that require irrigation but are not water-greedy. The arid zone usually is the perimeter areas in which selected plant materials are drought tolerant or low water use.

Established xeriscape principles shall be used for all outdoor landscape design. There are seven horticultural principles of xeriscape landscaping: (1) good landscape planning and design, (2) appropriate turf areas, (3) efficient irrigation, (4) use of soil amendments, (5) use of mulches, (6) incorporation of low water use plants into the landscape and (7) appropriate maintenance of plants and irrigation systems.

Natural and Surface Drainage Systems

All on-site drainage shall be conducted as surface drainage, except as necessary to pass across and under roads and pathways. The surface drainage system shall be designed to maximize on-site water detention in sufficient volume to irrigate landscaping within it, supplemented as required by reclaimed water. This landscaping shall be designed so as to create substantial shading along streets and public pathways.

The sections dealing with General Landscape Program and Drainage Plan, following, discuss this in more detail.

Use of water for public enjoyment

Water features such as fountains and small ponds can be used effectively for both general enjoyment as well as cooling features when properly designed. These should be used carefully in public spaces.

Cool towers (devices which use evaporative cooling techniques without the use of fans) can also be effective tools for cooling in both public and private spaces. Misting devices which use large amounts of potable water for evaporative cooling should be discouraged.

2.1.4 Soils Resources

The soils on the developable portions of the site are not especially good for plant growth. In order to encourage more lush landscaping, soils resources should be improved. On-site water retention will help over time to improve the soils. On-site composting of yard wastes through the Civano Community Association will provide a source for soil supplements.

Community orchards are planned on a community-wide basis. In addition, areas are planned to be set aside, both on private property and adjacent to natural washes for small individual gardening plots.

Studies will be ongoing throughout the development process which focus on the following objectives:

- Develop a regenerative agricultural model that focuses on the nutritional needs of Civano residents. This model may be manifested as community gardens, organic home gardens using native plant species, access to locally grown organic food, or other such examples.
- Develop a comprehensive waste treatment facility that addresses recycling and organic waste treatment through composting or vermiculture (use of worms in composting).
- Responsible use of reclaimed water for food production systems.
- Establishment of a permaculture-type model for residential development that integrates food systems into the overall land use plan.
- Develop regional food resources (stores/food cooperatives) for the community that serves to support local farmers and to integrate food systems into the overall Civano development model.
- Develop organic (synthetic-free) landscape management.
- Reclaim lands damaged by overgrazing and roadway filling in natural drainage ways.
- Provide local employment opportunities in regenerative agriculture.

2.1.5 Native Vegetation and Wildlife Habitats

Primary natural vegetation and wildlife habitats are to be preserved as delineated in the site analysis (see Exhibit 2, Native Plant Preservation Map and Section 2.7.2, General Landscape Program). Enhancement of these areas through water detention and retention should be a priority. However, City flood control policies which prohibit "in-line detention" currently prevent this strategy. Supplemental native landscape enhancement will be made in those areas which have been disturbed. In addition, a public landscaped open space corridor will be developed to link two significant natural washes on the east and west sides of the area.

2.2 Preservation of Scenic Natural Features

There are few scenic natural features on the site itself. Those considered scenic, however, are the steep bluffs along the Pantano Wash boundary, the natural washes, and the gentle slopes dividing the upper and lower terraces. The bluffs and major washes are preserved in their natural states through the delineation of land uses. At the base of the bluffs along the Pantano Wash, community orchards are planned to meet the base of the bluffs and provide a landscaped foreground to better delineate the landform from the public viewpoint. This orchard is planned to extend into the developed area along the natural slopes which separate the upper and lower terraces. This will further accentuate this landform.

Offsite are significant views of the Catalina and Rincon Mountains. These views are most prominent from the bluff areas and at the top of the slope which separates the upper and lower terraces. Public areas and house siting design is planned to maximize these views. A constraint to these views exists in the form of overhead electrical utility towers and lines. Studies are underway to relocate these to be less obtrusive. However, should these not be feasible to move, siting for specific buildings can be such that these will be a minimal intrusion.

At the first neighborhood center, the "borrow pit" provides an unnatural change in elevation which allows a more open view of the Catalinas, Rincons, and Reddington Pass. The siting and orientation of buildings in the neighborhood center is designed to keep this view open and frame it to be more significant.

2.3 Drainage Plan

As noted in other sections of this Planned Area Development, it is the intent to utilize natural drainage for the benefit of the landscape within the project and to keep as much of the rainwater runoff on the site. Any excess runoff during unusually heavy storm events will be directed into the natural arroyos which drain directly into the Pantano Wash.

Existing and newly-created sheetflow problems will be relieved by directing the flow into newly-created swales and channels, landscaped to become natural-looking arroyos. Civano Boulevard is designed to be used as water harvesting area with a swaled median. Additional runoff is designed to flow through the unpaved sections of alleyways in order to foster plant growth and to end up in existing natural drainageways which lead to the Pantano Wash.

One existing wash (between the residential area and the Town Center) is currently overtaxed. The plan is designed to remove existing drainage from this area and allow it to flow into a newly-created pedestrian path and recreational system traversing the area of the plan to follow

the natural drainage direction. This solution places more water within the area which is designed to foster plant growth and create shaded areas for pathways and outdoor recreation areas.

Exhibit 3, following, generally details the drainage plan.

2.4 Impacts on Existing Structures and Roads

There should be no impacts on existing structures. While traffic generation off site should be less than normal subdivision development due to the mixture of residences, jobs and commercial services, there will be traffic added to the public road system over time. This impact is well within the impacts anticipated for normal urban growth and planned within the normal metropolitan transportation planning processes.

2.5 Impacts on Existing Infrastructure and Public Services

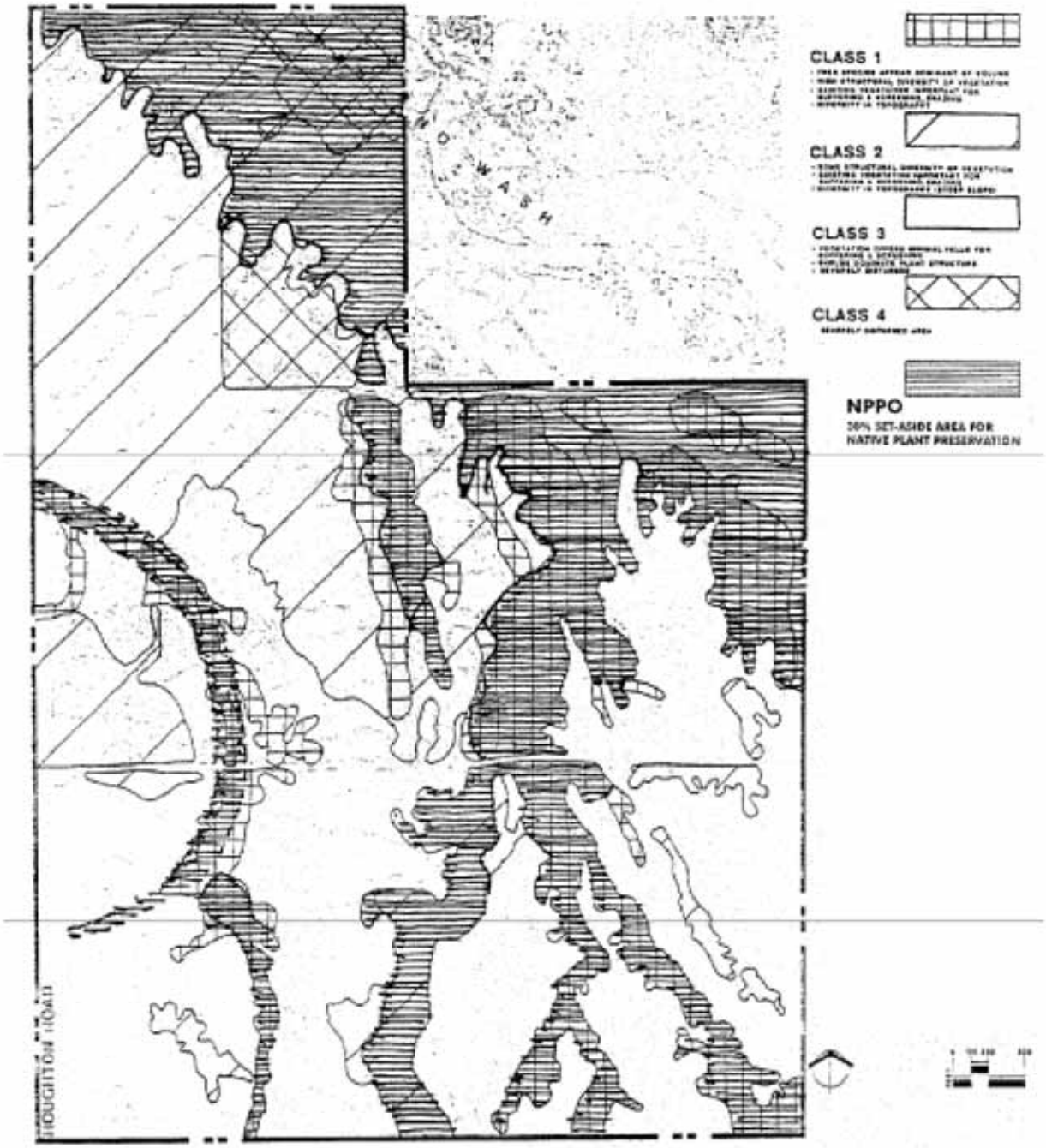
Due to the nature of the development in reducing water usage, energy usage, and automobile usage, it is anticipated that the impacts on existing infrastructure will be substantially less than with normal residential and commercial development of this scale.

2.6 Location and Extent of Provisions for Sewage Disposal, Effluent Use, Stormwater Drainage, and Utilities

Stormwater, drainage and utility plans are being submitted with Tentative and Final Tract Maps and will be more specifically designed as part of a Municipal Improvement District upon approval of the Tentative Map.

The off-site sewage disposal line has been designed to meet Pima County Wastewater plans for future expansion of the basin.

Extension of the treated effluent line for outdoor irrigation is being designed by Tucson Water Department as per the Development Agreement between the developer and the City of Tucson.



Native Plant Preservation

Showing Area of 30% Plant Preservation Set-Aside (Approximate Area)
Overlain on Landscape Character

North

Exhibit 31

Drainage Patterns

Exhibit 32

2.7 Development Design Guidelines

Additional design and development guidelines will be contained within the Conditions, Covenants and Restrictions (CC&Rs) to be administered by the Civano Community Association (Master Association). The Civano Community Association Design Review Committee will review all new development plans for conformance to the Design Guidelines, CC&Rs and Civano IMPACT Guidelines.

2.7.1 Building and Site Design

The first and primary strategy for effectively utilizing solar energy resources is through "passive solar" techniques in the initial design of buildings and outdoor spaces.

The relationship of the building to the site will be designed to be integrated as a single living-working/interior-exterior functional space. As such, site development plans for any site shall include not only building plans but also landscaping plans to delineate all interior and exterior space and to show the relationship between landscaping and energy conservation through shading.

Building and spatial orientation shall be such that summer heat gain shall be minimized to the greatest extent possible through the following "passive solar" techniques:

1. Minimizing door and window openings on the easterly and westerly building facades;
2. Shading roof surfaces and easterly and westerly facades with landscaping and other shading devices;
3. Shading southerly-facing window and door openings with roof overhangs, landscaping, or other shading devices during the mid-Spring to mid-Autumn seasons;
4. Providing thermal mass building surfaces on the westerly, southerly, and easterly faces, sufficient to delay daytime heat gain into interior spaces;
5. Providing sufficient building insulation and air-tight building envelopes to minimize heat gain;
6. Providing well-sealed cooling supply (ductwork) system within insulated space to minimize any mechanically-supplied cooling loss;
7. Providing light-colored, non-absorptive building colors on solar-exposed building surfaces;
8. Providing shady summer outdoor living spaces as extensions of interior spaces;
9. Providing sunny winter outdoor living spaces as extensions of interior spaces; and
10. Allowing Winter sun to reach building surfaces by selecting appropriate landscaping materials (deciduous trees) and through appropriate building setbacks and height restrictions.

For buildings that need to be air-conditioned, other important passive energy-conservation strategies are to:

- prevent unnecessary air leakage by making sure that window and door openings are tightly sealed; and
- contain all ductwork within conditioned and insulated space, making sure that all joints are thoroughly and permanently sealed with mastic rather than tape.

2.7.2 General Landscape Program

The general landscape program for the development is conceived as both a conservation and a regenerative approach. The landscape program will also be designed to satisfy the requirements of the City's Native Plant and Preservation Ordinance. Following are the specific methods by which the developer is complying:

1. The 30% set-aside method is being selected as the basic compliance strategy. This 30% area is intended to generally conform with the Native Plant Preservation Map, Exhibit 2. Combined, it contains approximately 250 acres, exceeding 30% of the 818-acre Master Plan Area. This area contains the floodplains, most of the diverse vegetation habitats and biomass, as it conforms to the washes, natural arroyos, minor canyons and tributaries, and wildlife corridors. It is intended that these areas will gradually increase in biomass by the construction of several small check dams or gabions which will be designed to detain water and nourish existing habitat. Some areas in primary arroyos which have been disturbed over the years through road building and grazing will be restored through removal of impediments and replanting. Within some of this area, it is intended that native vegetation will eventually be supplemented with additional native and drought-tolerant planting for watershed enhancement, runoff control, native crop production, and botanical education. The methods for achieving this goal and the precise crops have not yet been delineated and will require extensive additional study before these decisions are made. Areas to be set aside will be fenced to protect against construction intrusion when construction activities are anticipated to be within fifty feet of the protected area. Each phase of development of the Civano Project will track and submit their acres of set-aside areas during CDRC review to assure the 30% requirement is met overall.
2. In addition to the set-aside method, the developer is committed to preserve as much of the native plant community which falls within the areas to be developed as is humanly and economically possible. The following methods are in place and are underway to achieve this goal. It is estimated that approximately 60% of the native tree and saguaro and other cactus population within the areas to be developed will be salvaged, moved and reused within the development areas as a result of these methods:
   a. All trees of 4" caliper or greater, saguaros and other cacti will be surveyed by a Certified Arborist for general health and susceptibility for salvage and successful transplantation.
   b. Those trees deemed healthy will be tagged and pruned to encourage additional growth.
   c. Trenches will be hand-dug of sufficient distance around trees and saguaros to avoid cutting tap roots and to allow sufficient area for boxing.
   d. When boxed in place, trees will be watered to encourage the growth of a thick root ball.
   e. When a sufficient root ball has been stimulated, the trees will be cut from the tap root and moved to a storage location where they will continued to be watered as required until moved to the new permanent location.
   f. As the first phase of development is completed, the second phase area will have been cleared and made ready for development, such that the plant salvage operation will be able to avoid the interim storage steps and salvaged plants may be immediately transplanted into the new development.

The landscape created at Civano will be designed to be aesthetic as well as reflect the desert environment we live in — and it can also be useful as the built environment in providing a quality of life that meets the needs of the residents and helps meet the community's

performance standards. For example, vegetation can be used to reduce building temperatures. Trees and shrubs can shade pedestrian paths and otherwise make them attractive, encouraging greater use. Plantings can utilize locally-made compost, removing material from the solid waste stream. Some of the landscape could produce an economic harvest of food and medicines for potential income to the community association.

For residential lots, landscaping will be designed to maximize livable outdoor space by providing shade and screening, while ensuring appropriate winter solar access, to establish comfortable outdoor micro-environments.

In order to accomplish the significant plant reclamation, an on-site nursery will be established as part of the first phase of development. This nursery will be responsible for salvaging, holding, hardening and replanting the salvaged materials and will also develop a plant propagation program for compatible plant materials. In addition, the nursery will serve as an information and demonstration center for desert landscaping design and maintenance.

2.8 Phasing Plan

It is anticipated that the first increment of Neighborhood 1 will contain approximately 250 dwelling units surrounding the neighborhood center and will include the neighborhood center and plaza (see following Phasing Plan). In addition, the Civano Nursery will begin during the first increment, first as a native plant reclamation area and then phasing into a series of demonstration gardens, plant propagation area, landscape materials sales, and cafe/gift shop. Subsequent increments will follow outward from the neighborhood center to the north, south and west, until Neighborhood 1 is completed. The Town Center employment and manufacturing area (outside the Phase 1 Planned Area Development area) will begin along Houghton Road and expand toward the residential areas.

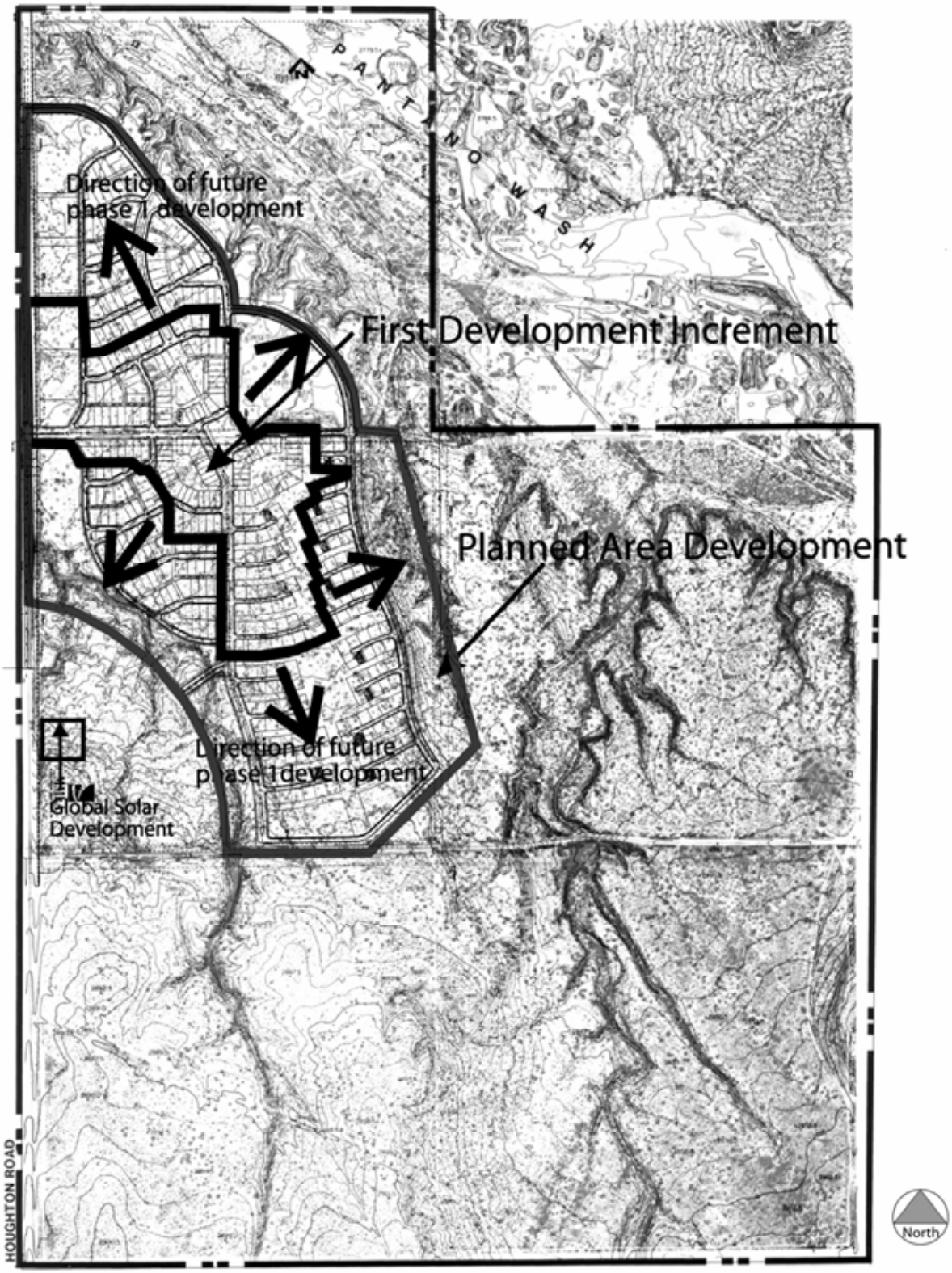
Prior to the completion of Neighborhood 1, Neighborhoods 2, 3 and 4 (City property west of Houghton Road, including the Town Center, will be designed and it is anticipated that additional planned area developments will be prepared for these phases).

2.8.1 Phasing and Construction of Streets

City standards will be met for the design of public streets. Where phased, temporary turn-arounds meeting City standards will be constructed until street continuity according to the overall plan is achieved.

2.8.2 Phasing and Construction of Sewage Disposal

It is anticipated that the sewage disposal system will be designed in accordance with County standards and be publicly-maintained. The Development Agreement between the City of Tucson and the developer and the State Land Department conditions of patent outline the specific phasing requirements.



Phasing Plan

Exhibit 33

2.9 Circulation Plan

The Civano Planned Area Development views automobile traffic as secondary to creating a safe environment for pedestrians and bicyclists. Therefore, several measures have been taken to slow traffic down to the greatest extent feasible and to give cues to the motorist that caution should be used. These methods include narrower streets, changes in pavement textures to denote pedestrian areas and crossings, side parking bays (sometimes perpendicular or at an angle to the travel way), sharp turning radii, limitations on the length of straight segments, and locating landscaping very close to the edges of the streets. While these measures may conflict with the current "norm" for most developments, it is deemed to be essential to the creation of a strong sense of community.

Because Civano will become a mixed use community with a high percentage of jobs located within it, the traffic analysis in the adopted Master Development Plan considered each type of trip and assumed differing mode splits (non-auto) for each. For example, the modal split for home-based work trips is 20% for internal trips and 7% for external trips and it is assumed that 30% of the home-based work trips will be internal (these assumptions are conservative, as there is sufficient land set aside within Civano to accommodate over 60% of the jobs generated). Ultimate transit service, both internal and external, is planned so that this mode split can be reasonably achieved. The following table shows the various assumptions used for percentage of trip types, percentage split between internal and external trips, and mode splits for each. The total percent split between types of trips in the above table is taken from the Master Development Plan adopted by the Mayor and City Council and the Arizona State Land Commissioner.

TABLE 1: TRIP GENERATION ASSUMPTIONS

Type of Trip Generated	Split	Total % Split	Internal % Split	Internal Mode Split	External % Split	External Mode
Home-based Work Trips		23.2%	30.0%	20.0%	70.0%	7.0%
Home-based School Trips		10.4%	67.0%	70.0%	33.0%	40.0%
Home-based Shopping Trips		10.3%	40.0%	35.0%	60.0%	2.0%
Home-based Other Trips		28.4%	10.0%	20.0%	90.0%	4.0%
Non Home-based Trips		27.7%	10.0%	5.0%	90.0%	2.0%

Source: Community Design Associates

For the purposes of this study for Phase 1, it was assumed that internal trips would be an average of 33%. It is assumed that the modal split and the split between internal and external trips are on the conservative side. A "worst case scenario" is therefore portrayed. This has been done in order not to underestimate the magnitude of automobile trips and because, even though we believe that automobile travel will be significantly less (up to 40% less than in conventional developments), this is impossible to prove because of a lack of comparable developments.

The following table calculates auto traffic impacts at the main intersections with Houghton Road due to two phasing scenarios:

- Phase 1 shows the impact of only main neighborhood development for approximately 600 units of the first phase, all of which will use either the Nebraska alignment (new Civano Boulevard) or a secondary alignment between Nebraska and Irvington;

- It is recognized that there will be future development beyond the first residential phase which will travel through the first neighborhood and, likewise, that traffic generated by the first neighborhood will ultimately travel into other phases for access and egress. Therefore, Phase 1A shows the impact of the full first neighborhood and the projected entire Town Center development north of the Drexel Road alignment. It is anticipated that this full development will not be achieved for several years and are based upon assumptions of substantial commercial development. Even if there is substantially more development than currently anticipated, the number of lanes proposed will not be impacted.

1) TABLE 2: TRAFFIC ANALYSIS, PHASE 1 AND FUTURE DEVELOPMENT

Phase 1 Development

Land Use	Units		Rate	Trip Total	Daily Trips	Percent External	External Trips	Entrance #[1] 1	2	3
Residential		600	homes	8.000[2]	4800	67%	3216	482	2734	N/A
Retail-Market		2,000	sq. ft.	0.155[3]	310	10%	31	5	26	N/A
Office		11,000	sq. ft.	0.025[4]	271	67%	181	27	154	N/A
Totals					**5381**		**3428**	**514**	**2914**	N/A

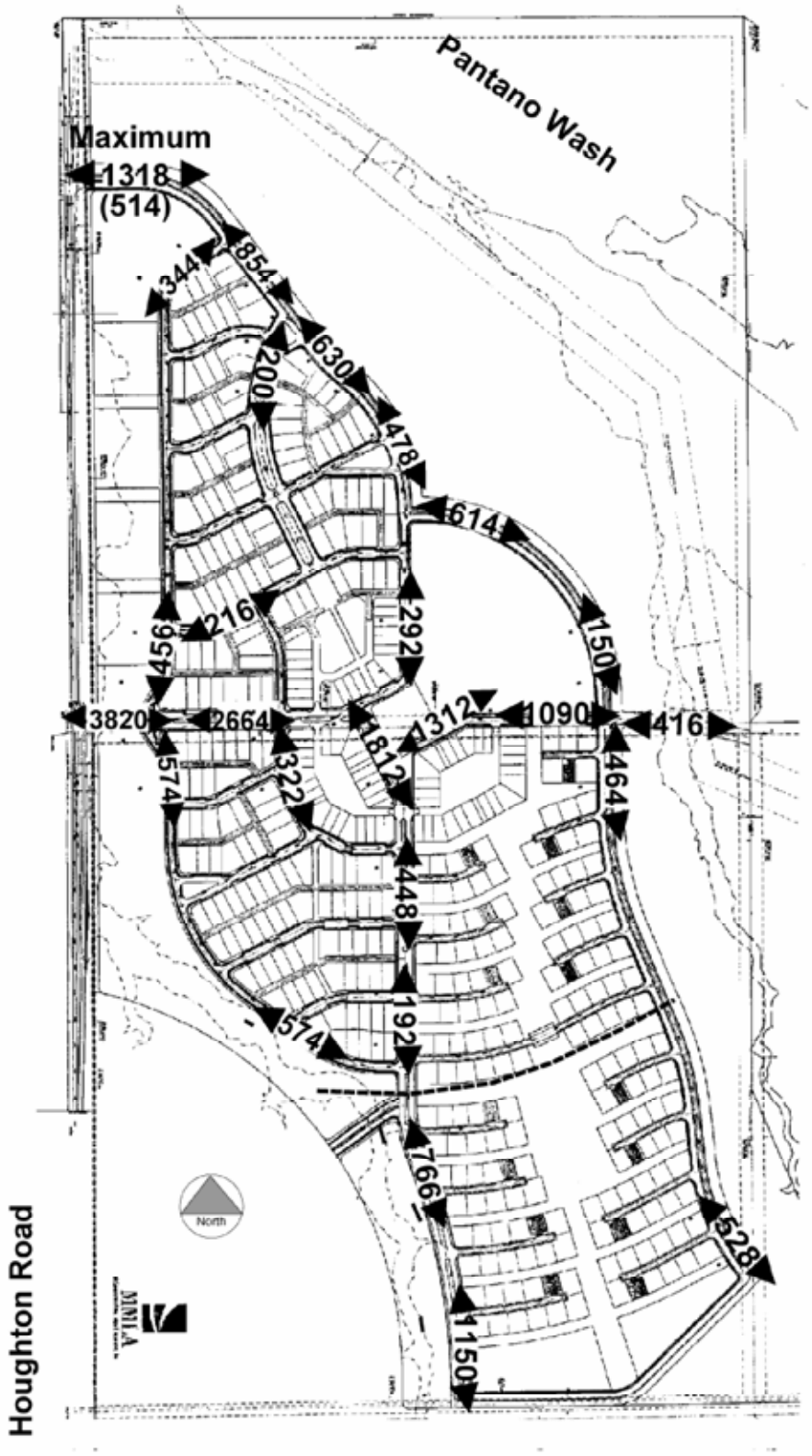
Notes:
1. Entrances are: (1) Northerly entrance just south of Irvington; (2) Nebraska alignment (new Civano Boulevard); (3) Drexel Road alignment.
2. Residential is combined attached, detached and apartment units, reduced due to pedestrian and bicycle orientation.
3. Retail-Market is based on ITE Category 852, Convenience Market, assuming half of the trips are by auto, due to being primarily pedestrian oriented.
4. Office is based on ITE Category 710, General Office.

Phase 1 and Partial Town Center Development

Land Use	Units		Rate	Trip Total	Daily Trips	Percent External	External Trips	Entrance #[1] 1	2	3
Residential, Phase 1		600	homes	8.000[2]	4800	67%	3216[5]	482	2412	322
Retail-Market		2,000	sq. ft.	0.155[3]	310	10%	31[5]	5	23	3
Office, Phase 1		11,000	sq. ft.	0.025[4]	271	67%	181[5]	27	136	18
Retail-Office		150,000	sq. ft.	0.033[7]	4895	67%	3280[6]	0	656	2624
Office-Manufacturing		315,000	sq. ft.	0.008[8]	2426	67%	1625[6]	0	325	1300
Residential, Phase 1A		250	homes	8.000[2]	2000	67%	1340[6]	0	268	1072
Totals					**14701**		**9673**	**514**	**3820**	**5339**

Notes:
5. Trips generated by Phase 1 uses are split 15%, 75%, and 10% between entrances 1, 2, and 3 respectively.
6. Trips generated by Phase 1A uses are split 0%, 20%, and 80% between entrances 1, 3, and 3, respectively.
7. Retail-Office is based on average rates for ITE Category 760, Specialty Retail Center and ITE Category 710, General Office.
8. Office-Manufacturing is based on ITE Category 760, Research and Development Center.

Source: Curtis Lueck & Associates; Community Design Associates



Traffic Analysis

Exhibit 34

The following traffic mitigation design elements are built into the Civano Development Plan:

- 50% of the population and 70% of the jobs within Civano are located within ¼ mile of the Town Center. This results in a very close physical proximity between home-job-shopping. Studies have shown that if this distance is within ¼ mile, significant reductions in automobile travel will occur.

- Sufficient land is set aside on site, within easy walking distance from homes, to provide jobs for 60% of the demand needed by residents. This is significantly higher than conventional housing developments by a factor of 2 to 4. In addition, specific housing product is allocated to provide for an integrated home and office space, accommodating a well-documented trend for the 90's.

- The pedestrian path system is designed as closely as possible in a straight line relationship between home, work and shopping. Pedestrian paths are located and designed as pleasant, tree-lined and landscaped ways in close proximity to destinations

- Pedestrian and bicycle systems are designed to be separate facilities, in order to minimize the conflicts inherent in these different speeds of travel. Where bicyclists and pedestrians share the same right-of-way, the paths are specifically designed to be separate. This increases safety and mobility. Many bicycle paths use road rights-of-way where traffic is designed to be slow.

- The road circulation system is designed to accommodate linkage at the future Town Center and the first neighborhood center for metropolitan Tucson's public transportation system. Although the street sections have been designed to accommodate existing 40' buses to use the major access streets and have stops at the neighborhood center, community school, and town center as those are developed, alternative, smaller and quieter vans or other form of jitney services should be investigated. The major public bus stops are located within ¼ mile of 50% of the population and 90% of the jobs on site. The study and future provision of transit service to Civano will be coordinated through the Department of Transportation Planning Division. Transit service, as recommended through the study, will be planned and programmed in the Metropolitan Area Short Range Transit Plan, prepared annually by the Planning Division.

- The employment, institutional and commercial uses within the future Town Center are linked with a continuous pedestrian and bicycle system.

- The open space system, pedestrian system, and bicycle system are designed as interrelated systems. This encourages the use of and access to the open space system by pedestrian and bicycle modes, rather than automobile modes.

F-3.0 PLANNED AREA DEVELOPMENT DISTRICT PROPOSAL FOR CIVANO PHASE 1

3.1 Proposed Land Uses

This Planned Area Development covers approximately 170 acres of land within the 820-acre Civano project and includes a mixed use neighborhood center, a variety of residential living environments, recreation and cultural facilities, and substantial open space preservation. It is based upon principles of long-term sustainability and "new urbanism" concepts which include a healthy respect for, and integration with, the natural environment and the creation of a pedestrian-friendly community which fosters interaction with each other as well as with the natural environment. It is the first of three planned residential neighborhoods and a Town Center which are part of the original Civano Master Development Plan, and a fourth neighborhood which is planned to be added on the west side of Houghton Road.

The Phase 1 Plan area will be implemented through the development regulations established for the three zoning districts of Neighborhood Edge (NE), Neighborhood General (NG) and Neighborhood Center (NC).

The following Planned Area Development Land Use Districts Exhibit identifies the land uses within the Phase 1 development that will be regulated by these three Districts. The Districts are summarized as follows:

District Designation	Acres	Max. Permitted Density.
Neighborhood Edge (NE)	72.4	15 du/ac
Neighborhood General (NG)	59.0	25 du/ac
Neighborhood Center (NC)	39.4*	44 du/ac
TOTAL ACRES	170.8	

* limited to 5 acres of office and commercial uses

The Neighborhood Edge District is a residential district with limited low intensity non-residential uses allowed as accessory land uses (neighborhood recreation, food production, religious uses, etc.). This district is intended to be more "rural" in character relative to the other Districts, with wider lots and integration with gardens, orchards, and landscaped pedestrian frontages.

The Neighborhood General District is primarily a higher density residential District, but allows commercial uses as accessory land uses. An example is a corner cafe or office use on the ground level with a residential dwelling on the second floor above.

The Neighborhood Center District is the most intensive area of the Phase 1 development. At the heart of the District is a one acre "Neighborhood Center" activity area. The Neighborhood Center will consist of office, commercial, and entertainment uses surrounding a pedestrian

plaza for the Phase 1 community. It will later serve in support of, and secondary to, the future Civano Town Center. The Neighborhood Center District will be integrated with a mix of higher density residential uses surrounding this one acre activity node. Non-residential uses within the residential areas, such as retail, commercial, and office uses, will be secondary to these residential uses.

3.2 Proposed Major Streets

There are several classifications of streets proposed for Phase 1. The major neighborhood access street links Houghton Road with the first Neighborhood Center and the future Town Center. Street classifications are shown on Exhibit 6. Bikeways, pedestrian paths, and bus routes are shown on Exhibit 7. Detailed cross sections of streets are shown on Exhibit 8, Thoroughfare Standards. Improvements shown in conjunction with the streets and paths will be constructed as part of each development phase. Bus service will be implemented as demand warrants, in cooperation with the City's bus service needs.

Bus Service

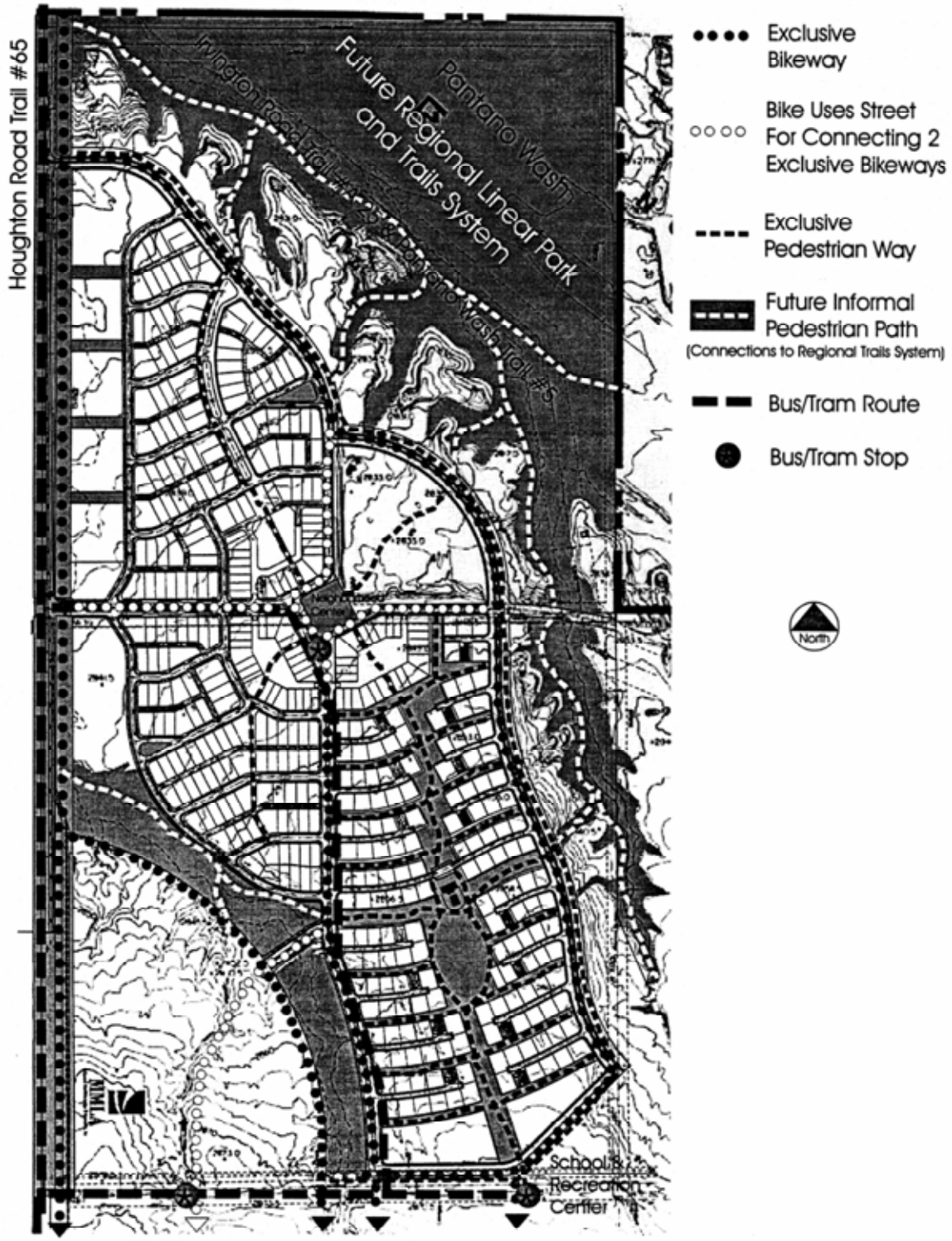
The major Neighborhood Access Street (east from Houghton into the Neighborhood Center and south from the Neighborhood Center to the future Town Center) has been designed to accommodate future bus service, including the existing 40' buses now being used. Alternative, smaller-vehicle systems will continue to be investigated for short-term solutions as residents begin to occupy the neighborhood.

Bicycle Paths

An exclusive 2-way bikeway is shown along the north and east side of the main edge road which links Houghton Road with the future school and recreation area to the southeast of the Planned Area Development area. This will also link with the future Town Center and the future neighborhoods to the south and east. This is envisioned primarily as a recreation amenity. It is envisioned that the "commuter" cyclists will use the same roadway lanes as automobiles, as traffic will be relatively light and the road is designed for slow-moving traffic. Connections to the neighborhood center from this exclusive bikeway and from Houghton Road will also use the same lanes as automobiles because the speed will be very similar, the traffic will be relatively light, there will be parallel parking along the sides, and this will allow for more maneuvering area and safety for cyclists. The neighborhood center and the immediately-surrounding residential/mixed use area is designed as a *destination* for bicyclists and pedestrians as well as automobiles. It is designed as a relatively small-scale, intimate place within which automobile and bicycle traffic is slowed down through the use of narrower lanes, curbside parking, abrupt changes in direction, special paving, mature landscaping from the beginning, tight turning radii, etc. As traffic is slowed, it becomes substantially safer for both pedestrians and bicyclists. As streets are narrowed, it becomes substantially easier for pedestrians to cross them safely. These efforts are designed to improve pedestrian and bicycle safety as well as create a stronger sense of place and personal connection.

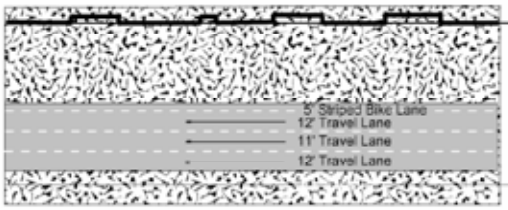
Street Classifications

Exhibit 35

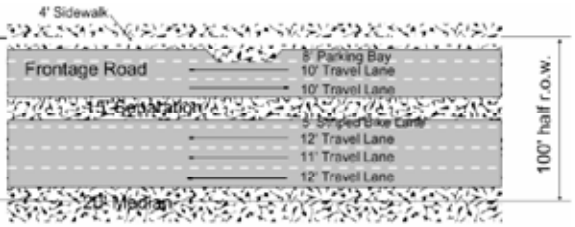


Pedestrian, Bikeways & Bus Routes

Exhibit 36

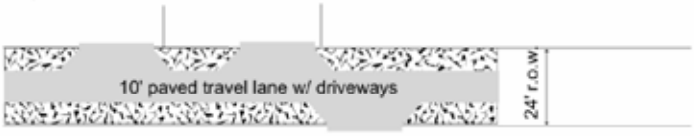


Future Houghton Road
Urban Gateway
at Residential Areas



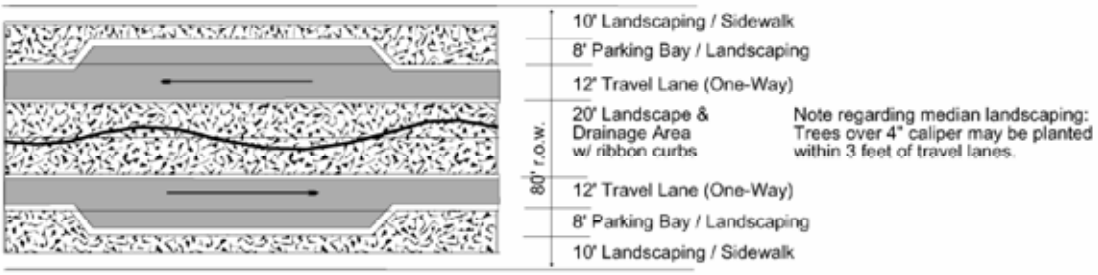
Future Houghton Road
Urban Gateway
at Town Center

Building setbacks: 10 ft. excluding fences, walls, overhangs for roofs and porches and shade structure overhangs and supports; which can extend up to the Houghton Road property line.



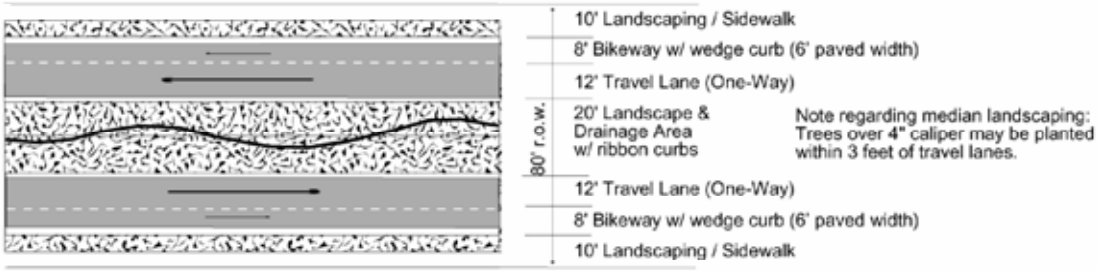
Rear Alley

Note that 27 feet of width is provided for landscaping, sidewalks and bikeways between Houghton Road travel lanes and building fronts.



Neighborhood Access Street
(Houghton to N'hd Center) w/ Parking

Note: Median narrows w/ 2 lanes each way between Houghton Rd. & first street east.



Neighborhood Access Street
(North-South Direction) w/ Bikeway

Thoroughfare Standards

Exhibit 37

3.3 Planned Area Development Districts

The following districts are proposed for the residential area: Neighborhood Center, Neighborhood General, and Neighborhood Edge. Exhibits 9 through 12, following, describe these districts in more detail. Applicability of the land use regulations shall be in accordance with the Development Agreement adopted on July 1, 1996, by Resolution #17345 and as subsequently amended.

3.3.1 Neighborhood Center District

Purpose: *To provide an area for attached and detached dwellings at densities up to 44 units per gross acre; to provide places for public assembly, recreational and educational purposes; and to provide basic neighborhood professional and commercial services.*

Permitted Uses: *The following permitted Land Use Classes are clustered, compact and at a neighbor-hood scale and are to be in accordance with the Tucson Land Use Code with exceptions noted. Regional activities and uses, such as large hotels or outdoor performances, are to be accommodated at the Town Center.*

Civic Use Group

Civic Assembly
Cultural Use
Educational Use (as per 6.3.4.6. A and C)
Membership Organization (Limited to a total of 1200 s.f. for the entire district)
Postal Service
Religious Use

a. Commercial Services Use Group

Administrative and Professional Office
Alcoholic Beverage Service subject to 3.5.4.19.A.
Communications subject to 3.5.4.20.C,D,F,&G
Day Care
Entertainment, subject to 3.5.4.4.A. and C.
Financial Service
Food Service, subject to 3.5.4.6.D.
Medical Service - Extended Health Care
- Outpatient
Parking
Personal Service
Technical Service
Trade Service and Repair, Minor
Travelers' Accommodations, Lodging

Industrial Use Group

Craftwork

Recreation Use Group

Neighborhood Recreation
Recreation

Residential Use Group

Family Dwelling, minimum lot size, 1800 sq. ft.; no maximum number of units on each lot, except as required to meet density caps.
Group Dwelling
Home Occupation: General Application, as a secondary use, according to Sec. 3.5.7.2, and allowing up to two (2) nonresidents to be employed on the premises.
Home Occupation: Day Care, as a secondary use, according to Sec. 3.5.7.3
Home Occupation: Group Dwelling, as a secondary use, according to Sec. 3.5.7.9, A., C., and D.
Home Occupation: Travelers' Accommodations, Lodging, as a secondary use, subject to Sec. 3.5.7.4.A and .F through .L.
Residential Care Services

Retail Trade Use Group

Food and Beverage Sales
General Merchandise Sales subject to 3.5.9.2.A.
Swap Meets and Auctions

Max. Residential Density: 44 du per acre. As per the Development Agreement, low rise apartments (1 and 2-story) shall not exceed 22 units per acre and mid-rise apartments (3 and 4-story) shall not exceed 44 units per acre. Should there be a conflict between the stated density in this district and Exhibit 12, the density in this district shall apply.

Building Heights: 40 feet, excluding cool towers, wind catchers, chimneys and other vertical extensions with similar purposes under 250 sq. feet in section and limited to 60 feet in height.

Perimeter Yard Requirements:

Front: 0'. Continuous walls and/or building facades are required on frontages facing Neighborhood
Square within 4' of front property line (see diagram, Exhibit 9).
Rear: 0'
Side: 0'

Building Coverage: Maximum lot coverage as per L.U.C. Section 3.2.9 shall not exceed 75%.

3.3.2 Neighborhood General District

***Purpose**: to provide an area for attached and detached dwellings at densities up to 25 units per gross acre and to provide places for limited in-home professional offices, in-home workshops and craft areas, limited neighborhood commercial uses, public assembly, recreational and educational purposes.*

Permitted Uses:
The following Land Use Classes are permitted land uses within this district in accordance with the Tucson Land Use Code with exceptions noted:

Civic Use Group
Membership Organization (limited to a total of 1200 s.f. for the entire district)
Religious Use
Educational Use as per 6.3.4.6.A

Commercial Services Use Group, as an accessory land use.
Administrative and Professional Office
Day Care
Food Service
Personal Service
Technical Service
Trade Service and Repair, Minor
Travelers' Accommodations, Lodging

Industrial Use Group, as an accessory land use.
Craftwork

Recreation Use Group
Neighborhood Recreation

Residential Use Group
Family Dwelling, minimum lot size, 3,000 sq. ft., except as noted on Exhibit 9. Two or more dwellings are permitted on one lot subject to 1740 sq. ft. of lot area per unit. The lot area is measured to the centerline of abutting public rights-of-way.
Group Dwelling
Home Occupation: General Application, as a secondary use, according to Sec. 3.5.7.2, and allowing up to two (2) nonresidents to be employed on the premises.
Home Occupation: Day Care, as a secondary use, according to Sec. 3.5.7.3
Home Occupation: Group Dwelling, as a secondary use, according to Sec. 3.5.7.9, A., C., and D.
Home Occupation: Travelers' Accommodations, Lodging, as a secondary use, subject to Sec. 3.5.7.4.A and .F through .L.
Residential Care Services

Max. Residential Density: 25 du per acre. As per the Development Agreement, low rise apartments shall not exceed 22 units per acre. Should there be a conflict between the stated density in this district and Exhibit 12, the density in this district shall apply.

Building Height: 35' max., excluding cool towers, wind catchers, chimneys and other vertical extensions with similar purposes under 250 sq. ft. in section and limited to 50 feet in height.

Perimeter Yard Requirements:
Front: 12' min. to porch; 16' to main structure and second floor.
Rear: 3' min. at ground floor, 7' min. to garage doors. 12' min. for second floor.
Side: Total of side yards, 20% of average lot width with 4' minimum if not on lot line. Minimum 8' between houses if not attached. Side yards fronting on a street must be 6' minimum. Garages are not subject to side yard requirements.
See Exhibit 9 for "Villas" lot yard requirements.

Building Coverage: Maximum lot coverage as per L.U.C. Section 3.2.9. shall not exceed 70%.

Perimeter Walls: Not required but if constructed, max. 42" height when facing pedestrian way. This Planned Area Development supercedes the LUC landscape and screening requirements of the Land Use Code. Walls will not exceed 30" within traffic sight visibility requirements.

Civano Nursery

***Purpose**: to provide an area for on-site plant salvage and reclamation, propagation of native and other drought-tolerant plant species, demonstration and exhibition of water-efficient gardens, plant and related landscape material sales, and education oriented toward water- and energy-efficient landscape patterns.*
This is intended as an overlay zone for a specific area within the NG district.

Agricultural Use Group
Crop Production

Civic Use Group, as a secondary use:
Cultural Use
Educational Use

Commercial Services Use Group, as a secondary use:
Alcoholic Beverage Service
Construction Service
Food Service

Industrial Use Group, as a secondary use:
Craftwork

Retail Use Group, as a secondary use:
Construction Material Sales (landscape materials)
Food and Beverage Sales
General Merchandise Sales (landscaping and yard maintenance materials and supplies)

Wholesaling Use Group, as a secondary use:
Business Supply and Equipment Wholesaling (plants, landscape materials & supply)

3.3.3 Neighborhood Edge District

Purpose: *to provide an area for attached and detached dwellings at densities up to 15 units per gross acre; to provide places for neighborhood recreation; and to provide areas for community gardening and food production.*

Permitted Uses:
The following Land Use Classes are permitted land uses within this district in accordance with the City of Tucson Land Use Code with exceptions noted:

Section 1.02 **Agricultural Use Group**

Crop Production

Section 1.03 **Civic Use Group**

Membership Organization (limited to a total of 1200 s.f. for the entire district)
Religious Use
Educational Use as per 6.3.4.6.A

Section 1.04 **Recreation Use Group**

Neighborhood Recreation

Residential Use Group

Family Dwelling, minimum lot size, 3,600 sq. ft., except as noted on Exhibit 9. Two or more dwellings are permitted on one lot subject to 2,900 sq. ft. of lot area per unit. The lot area is measured to the centerline of abutting public rights-of-way.

Group Dwelling
Home Occupation: General Application, as a secondary use, according to Sec. 3.5.7.2, and allowing up to two (2) nonresidents to be employed on the premises.
Home Occupation: Day Care, as a secondary use, according to Sec. 3.5.7.3
Home Occupation: Group Dwelling, as a secondary use, according to Sec. 3.5.7.9.A, .C, and .D
Home Occupation: Travelers' Accommodations, Lodging, as a secondary use, subject to Sec. 3.5.7.4.A and .F through .L
Residential Care Services: Section 3.5.7.8."G", subject to

Sec. 3.5.7.8.C.1 and .D

Article II.

Article III. Retail Use Group

Food and Beverage Sales when accessory to Neighborhood Recreation use

Maximum Residential Density: 15 du per acre. As per the Development Agreement, low-rise apartments shall not

Building Height: 30 foot maximum (20 foot max. if within the "Community Orchard area"), excluding cool towers, wind catchers, chimneys, and other vertical extensions with similar purposes under 250 square feet in section and 40 feet in height

Perimeter Yard Requirements:

Front (Pedestrian Way): At least 50 percent of the building frontage must be set back a minimum of 12 feet. 12 feet minimum setback for second floor.

Rear (Street): Minimum setback to main structure may be "0" feet but at least 50 percent of the building along this rear property line must be set back a minimum of 12 feet. Minimum setback of 18 feet to garage door except "0" feet if garage door is perpendicular to the street or unit is on the last lot at the end of the street. 12 foot minimum to second floor.

Side: If a sideyard(s) is not 0 feet, it requires a minimum 4 feet. Side yards fronting on a street can be "0" feet but at least 50 percent of building wall must be set back a minimum of 6 feet. In any side yard, "0" foot setback for trellis patio covers that are at least seven feet above the ground. Structural support (walls, columns) for trellis patio covers may also have a "0" foot setback. Trellises under seven feet above the ground will be set back at least six feet.

See Exhibit 9 for "Villas" lot yard requirements.

Building Coverage: Maximum lot coverage as per L.U.C. Section 3.2.9 shall not exceed 60 percent, except as noted on Exhibit 9 for "Compound" lots.

Perimeter Walls: Not required but if constructed, maximum 42 inch height for solid walls when facing pedestrian way. Any part of a wall within six feet of the property line facing pedestrian ways, above 42 inches must be 50 percent open for visibility. Total wall height not to exceed six feet in any yard unless wall is required as a firewall. Walls may exceed 30 inches in height within traffic sight visibility requirements on streets that do not exceed 140 ADT.

This *Planned Area Development* supercedes the landscape and screening requirements in the Land Use Code.

exceed 22 units per acre.
Should there be a conflict between the stated density in this district and Exhibit 12, the density in this district shall apply.

3.3.3.1 Villas Lot Layout

Front Yard: Minimum setback varies (same as provisions for Rear Yard Auto Access Street) in Neighborhood Edge District.

Perimeter Walls: Maximum height 42 inches for solid walls within six feet of pedestrian way property line. Any part of a wall above 42 inches must be 50 percent open for visibility. Total wall height not to exceed six feet in any yard unless wall is required as a firewall.

Interior Yard and Access Provision:
"0" foot setbacks on Private Parking/Access Court.

Private Parking/Access Court does not require separate sidewalks but shall be designed as A.D.A. accessible.
Pedestrian refuge areas to be provided at each house pedestrian entry.
28 foot minimum cross-section, including landscaping, for Court access per Exhibit 9b.

Walls in Front 12 foot Setback Area:
Maximum height is 42 inches for solid walls within six feet of a Pedestrianway property line.

Any part of a wall above 42 inches must

be 50 percent open for visibility. Total

wall height may not exceed six feet

unless wall is required as a firewall.

Minimum Setback to Garage Door from Public Street Property Line:

18 feet. May be "0" feet if garage door is perpendicular to the street.

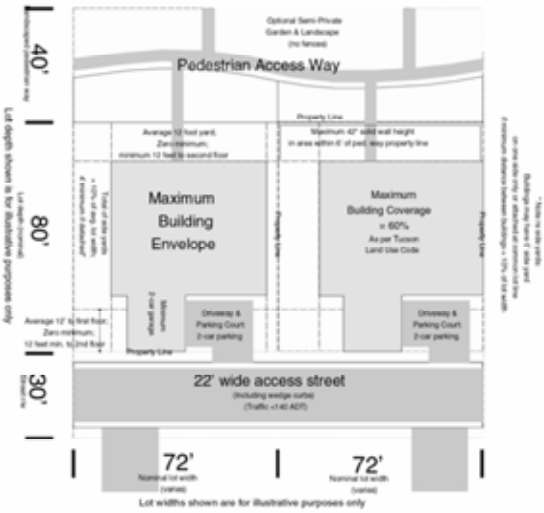
Private Parking/Access Court Provisions:

A continuous access court with a smooth stabilized earth with no separate curbs and sidewalks, as supported by the advocates for persons with disabilities.
20-foot minimum two-way travel lanes required.
Maximum number of garage access points is 17.
Parking may be contiguous with travel lanes, perpendicular, angular, or parallel.
Private garages may open directly onto court and access way.

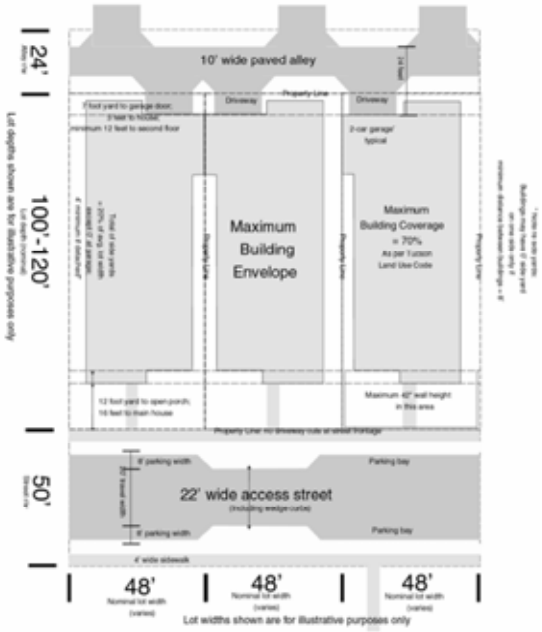
Rear Yards: Perimeter walls and trellis roofs may extend into rear yard.

3.3.4 Guidelines for Apartment Development

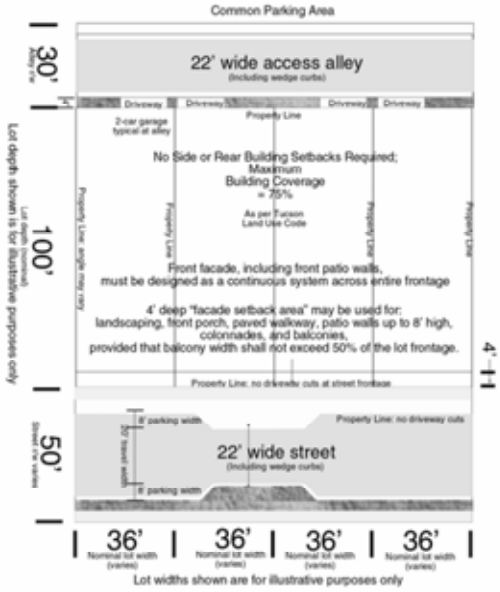
Within the Planned Area Development Area, the number of apartment units shall be consistent with the Development Agreement (currently not more than 20 percent of the residential units shall be apartments). Development review guidelines should allow relatively few apartments within the Neighborhood General and Neighborhood Edge Districts, and a much higher percentage should be within the Neighborhood Center District. This is designed to encourage a higher density of people to live within a short walk to and from the neighborhood center.



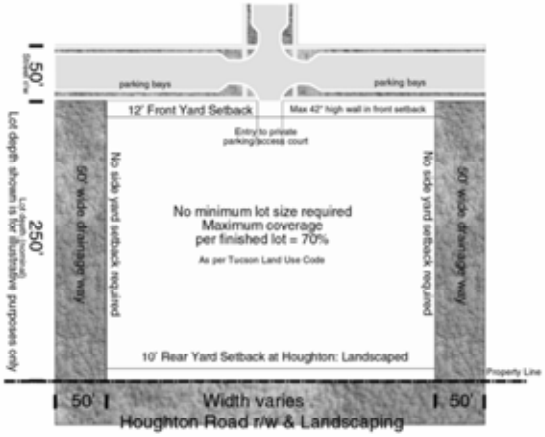
"Desert Home" Lot Layout
(Neighborhood Edge District)



"University" Lot Layout
(Neighborhood General District)



"Courtyard" Lot Layout
(Neighborhood Center Zone)



"Villas" Lot Layout

(Neighborhood General or Edge Zone)

Perimeter Walls: Maximum height 42 inches for solid walls within 6 feet of pedestrian way property line. Any part of a wall above 42 inches must be 50% open for visibility. Total wall height not to exceed 6 feet in any yard unless wall is required as a fire-wall.

Interior Yard and Access Provision:
"0" foot setbacks on Private Parking/Access Court.
Private Parking/Access Court does not require separate sidewalks but shall be designed as A.D.A. accessible.
Pedestrian refuge areas to be provided at each house pedestrian entry.
28 foot minimum cross-section, including landscaping, for Court access per Exhibit 9b.

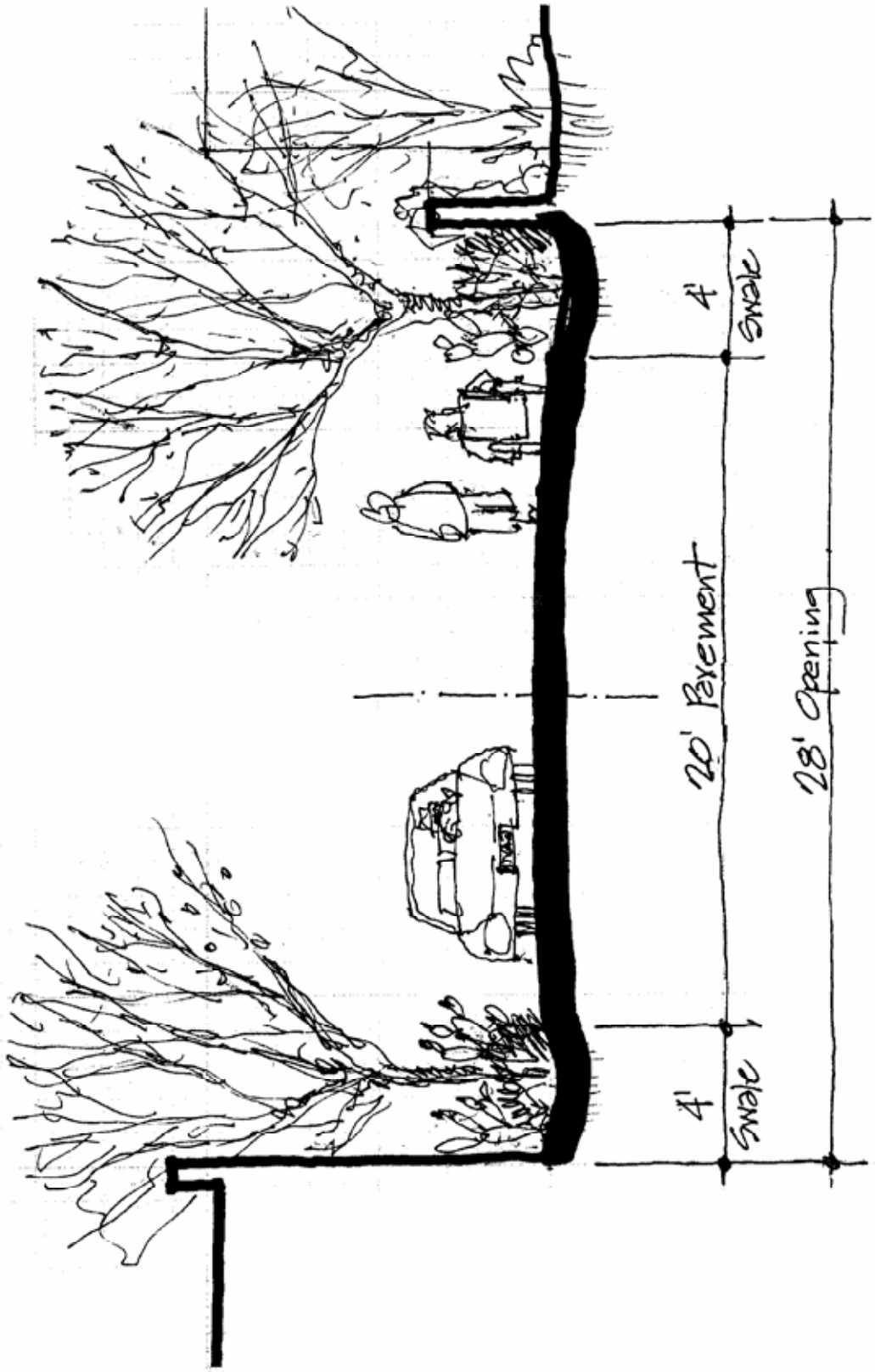
Walls in Front 12 foot Setback Area: Maximum height is 42 inches for solid walls within 6 feet of a pedestrianway property line. Any part of a wall above 42 inches must be 50% open for visibility. Total wall height may not exceed 6 feet unless wall is required as a fire-wall.

Minimum Setback to Garage Door from Public Street Property Line: 18 feet. May be "0" feet if garage door is perpendicular to the street.

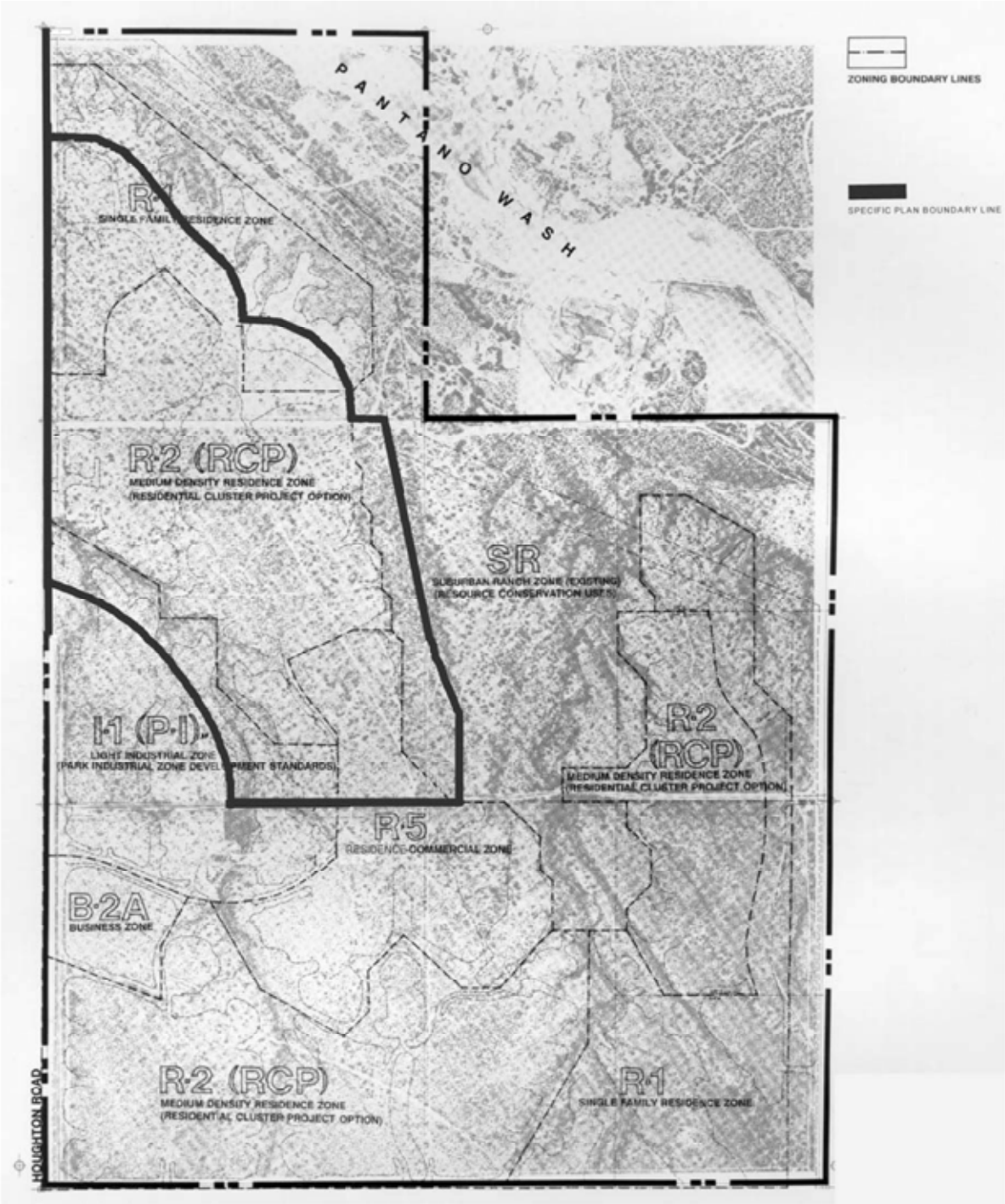
Private Parking/Access Court Provisions:
A continuous access court with a smooth stabilized earth with no separate curbs and sidewalks, as supported by the advocates for persons with disabilities.
20 foot minimum two-way travel lanes required.
Maximum number of garage access points is 17:
Parking may be contiguous with travel lanes, perpendicular, angular, or parallel.
Private garages may open directly onto court and access way.

Typical Lot Layouts

Exhibit 38



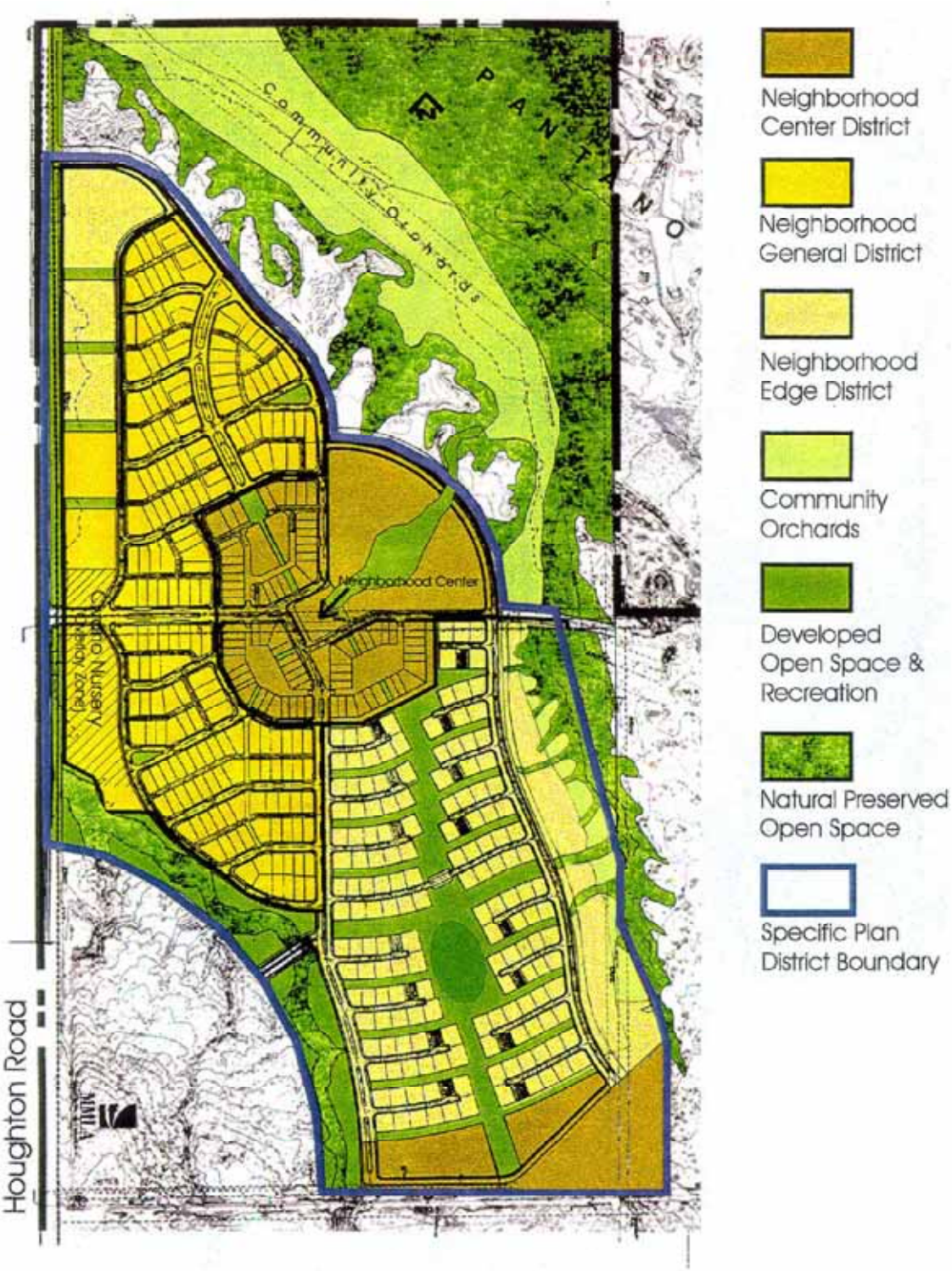
Villas Lot Courtyard Access Cross Section Exhibit 38a



Planned Area Development Area

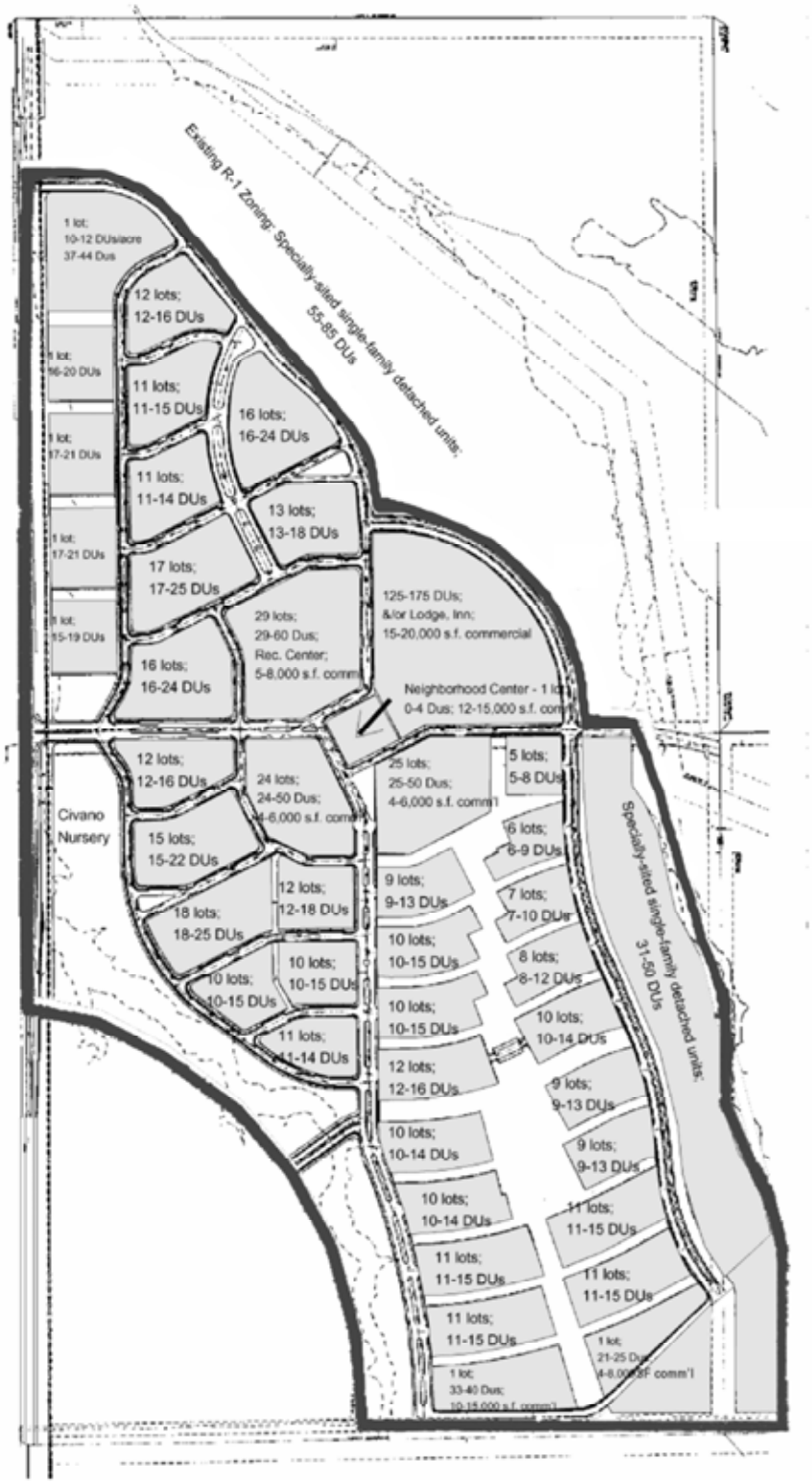
Overlaying Existing Zoning

Exhibit 39



Planned Area Development Land Use Districts

Exhibit 40



Projected Land Use Intensities

Exhibit 41

3.4 Motor Vehicle and Bicycle Parking Requirements

Due to the integrated land use mix and pedestrian orientation of the Civano Community, such that neighborhood retail services, recreation, civic, employment centers and transit services are provided within walking distance of residential uses, motor vehicle parking requirements are deemed to be below the parking space requirements of the Land Use Code. The reduction of these requirements, though, will be offset by an increase in the bicycle parking and landscaping regulations. Spatial dimensions of a parking space and accessibility will be in conformance with the Land Use Code, Development Standards, and ADA requirements.

In order to demonstrate that parking is available each development plan submitted will include a Parking Inventory and Monitoring Program. This Parking Inventory and Monitoring Program will define the parking requirements for the particular use and identify the on-site and off-site parking spaces it is utilizing to meet the requirement. The Inventory will identify and monitor the available existing spaces that have been utilized to meet previous development approvals so that existing spaces that are already credited towards meeting a previous approval are not utilized.

Neighborhood Center District

Motor Vehicle parking requirements for each Land Use Group/Class permitted within this District may be reduced by 50% of the parking spaces as required by the Land Use Code. Each parking space and parking area will still comply with performance criteria related to size, surfacing, striping, etc. The following provisions may also apply in meeting the parking calculation:

a. Parking spaces required for Non-residential Land Uses may be located off-site and/or on-street provided it is within this District's boundaries.
b. Parking spaces required for Residential Land Uses can be located up to 100' from the residence it serves.
c. Residential visitor parking requirements can be satisfied on-street and by utilizing required non-residential parking spaces located within 600' of the residence it serves, provided the minimum number of non-residential parking spaces are still met.
d. A street or alley may be used for maneuvering directly into or from any parking space located wholly or partially outside the public right-of-way. This is not applicable on MS&R designated streets as provided in the City of Tucson Land Use Code Sec. 3.2.14.3.

Bicycle Parking requirements for each Land Use Group will be increased over the normal requirements of the Land Use Code. The bicycle parking spaces will be determined by calculating the standard number of bicycle spaces (based on normally-required Land Use Code vehicle parking spaces) and adding 40% to determine the number of bicycle spaces required. Bicycle parking will consist only of Class II bicycle parking spaces.

Neighborhood General District

Motor Vehicle parking requirements for each Land Use Group/Class permitted within this District may be reduced by 40% of the parking spaces as calculated by the Land Use Code. Each parking space and parking area will still comply with performance criteria related to size, surfacing, striping, etc.. For single family residential development, the Land Use Code requirement of 2 1/4 parking spaces (including visitor parking) per unit will apply, unless the unit is less than 800 sq. feet, in which case the requirement is 1 1/8 spaces per unit (including visitor parking). The following provisions may also apply in meeting the parking calculation:

a. Parking spaces required for Non-residential Land Uses may be located off-site and/or on-street provided it is within this District's boundaries.
b. At least one (1) of the required parking spaces for each residential unit must be located on-site. Others may be located up to 100' from the residence it serves.
c. All additional Residential-parking requirements (including visitor requirements) can be satisfied on street and up to 600' from the residence it serves.
d. A street or alley may be used for maneuvering directly into or from any parking space located wholly or partially outside the public right-of-way. This is not applicable on MS&R designated streets as provided in the City of Tucson Land Use Code Sec. 3.2.14.3.

Bicycle Parking requirements for each Land Use Group will be increased over the requirements of the Land Use Code. The bicycle parking spaces will be determined by calculating the standard number of bicycle spaces (based on normally-required Land Use Code vehicle parking spaces) and adding 40% to determine the number of bicycle spaces required. Bicycle parking will consist only of Class II bicycle parking spaces.

Neighborhood Edge District

Motor Vehicle parking requirements for each Non-residential Land Use Group/Class permitted within this District may be reduced by 40% of the parking spaces as calculated by the Land Use Code. Each parking space and parking area will still comply with performance criteria related to size, surfacing, striping, etc. For single family residential development, the Land Use Code requirement of 2 1/4 parking spaces (including visitor parking) per unit will apply, unless the unit is less than 800 sq. feet, in which case the requirement is 1 1/8 spaces per unit (including visitor parking). The following provisions may also apply in meeting the reduced parking calculation.

a. Parking spaces required for Non-residential Land Uses may be located off-site and/or on-street provided it is within this District's boundaries.
b. At least one (1) of the required parking spaces for each residential unit must be located on-site. Others may be located up to 100' from the residence it serves.

c. All additional Residential parking requirements (including visitor requirements) can be satisfied on-street and up to 300' from the residence it serves.

Bicycle Parking requirements for each Land Use Group will be increased over the requirements of the Land Use Code. The bicycle parking spaces will be determined by calculating the standard number of bicycle spaces (based on normally-required vehicle parking spaces provided) and adding 40% to determine the number of bicycle spaces required. Bicycle parking will consist only of Class II bicycle parking spaces.

3.5 Off-Street Loading Requirements

The City's Land Use Code on Off-Street Loading will provide development regulations for Civano's future Planned Area Development Districts. As a result of Civano's integrated mix of land uses and the lesser emphasis and use on the motor vehicle, the following additional provisions apply to the Neighborhood Center within the Neighborhood Center District:

Required Loading Spaces can be provided at designated on-street parking spaces with hours
posted for this use and provided the Loading Space is located within 100 feet of the use it
serves.

a. Individual developments with two to more principle uses within the same site conducted as a single project which integrates elements of the various uses may share designated loading spaces. These projects will reduce by 50% the total number of required loading spaces for each principal use.
c. Access and maneuvering to Loading spaces can utilize streets or alleys regardless of the abutting zone or land use.

In the Neighborhood Center District, the one-acre neighborhood center is to be designed as one unified development and shall be designed to contain one loading space, which may be located on street. In the Neighborhood General and the Neighborhood Edge Districts, and for other commercial uses in the Neighborhood Center District, the Off-Street Loading requirements apply only when the gross floor area of the use requiring such spaces is greater than 2,500 sq. ft.

3.6 Landscaping and Screening Requirements

The Landscaping and Screening requirements for Civano will follow the requirements of the City's Land Use Code with the following exceptions:

a. Interior landscape borders are not required between adjacent land uses and zones.
b. Parking area screening is not required, but the requirement for landscaping of canopy trees within parking areas will be increased above the Code's requirements such that one (1) canopy tree is required for each eight (8) parking spaces.
c. The Native Plant and Preservation Ordinance requirements will be met or exceeded in the overall Civano project. Civano will utilize the 30% Set Aside

provision of the ordinance through preserving areas of the overall development as natural undisturbed open space. These areas are generally located outside the Phase 1 Planned Area Development boundaries along the washes, steep slopes, and high vegetative density areas as identified in the Civano Site Analysis (Appendix). The Preservation Ordinance requirements will be supplemented through an extensive plant salvage and propagation program. This program will be implemented and managed on-site at the Civano Nursery. See Section 2.7.2, General Landscape Program for additional details.

d. Street Landscape Borders are not required.

3.7 Development Standards and Policies

The standards and policies related to water conservation, drainages, landscaping and solid waste are contained in the Civano Development Agreement, Resolution #17345, dated July 1, 1996.

3.8 General Provisions and Administration

3.8.1 Draft Financial Assurances

Financial assurances for the development of Civano are contained within the Development Agreement between the City of Tucson and the developer. Further assurances will be included in the final subdivision tract maps to be submitted in concert with this Planned Area Development.

3.8.2 Extent of Planned Area Development Superceding and Supplementing Existing Zoning

The Planned Area Development District supercedes existing zoning on the property for the area covered. Areas of the property not currently covered by this Planned Area Development will remain as zoned unless later rezoned or included within a subsequent Planned Area Development District. Street widths and standards supercede existing development standards for those types of streets listed.

3.8.3 Guidelines for Interpretation of PAD Regulations

The following are guidelines for interpretations of, and variations from, the Planned Area Development regulations. Interpretations and variations should be based primarily upon the degree to which any decision meets the following criteria (refer to Section: Purpose, Scope, Main Concepts, and Goals, pages 2-4 of this document):

- whether it helps to create a strong sense of community, particularly in terms of fostering interpersonal contact (refer to Exhibit 6 of the Development Agreement for guidance in determining Traditional Neighborhood Design Principles and Exhibit 8 of the Development Agreement for interpreting Traffic Engineering principles for Traditional Neighborhood Design);

- whether it serves to make a strong connection with the land, particularly in relation to accentuating natural land forms, respecting natural drainage patterns, providing for dramatic views, or fostering native plant growth;
- whether it respects the climate, particularly in terms of utilizing the energy of the sun, natural breezes and natural rainfall to foster human comfort; and
- whether it serves to regenerate the natural (including human) environment and to integrate natural systems with human productive endeavors.

Secondarily, interpretations of these planned area development district regulations pertaining to land use and performance criteria shall be made in accordance with the Development Agreement in existence between the City of Tucson and the developer.

3.8.4 Procedures for Interpretation of PAD Regulations

This Planned Area Development implements the Development Agreement adopted by Mayor and Council on July 1, 1996, by Resolution #17345 and as subsequently amended. Interpretations of these planned area development district regulations shall be made in accordance with City Planning administrative procedures as contained in the Tucson Land Use Code.

G IMPLEMENTATION AND ADMINISTRATION

G-1 PURPOSE AND INTENT

This section is intended to provide the regulatory procedures designed to guide the implementation for the PAD Districts through the implementation and administration of the project. The provisions below shall apply to all property intended for development under the Civano Master PAD.

G-2 EXTENT OF THE PAD DISTRICT TO SUPPLEMENT OR SUPERSEDE ADOPTED CITY ZONING REGULATIONS

The Civano PAD Districts supplement and supersede existing zoning on the property as defined within this document. Where there is a conflict between the Civano Master PAD and the LUC, the Development Compliance Code, the Development Standards or individual Civano PAD Districts, the Civano Master PAD shall govern. The Civano Master PAD shall not govern in any conflict with the Revised IMPACT System Standards, the Revised Memorandum of Understanding or the Article III of the Development Compliance Code, applicable building codes or other applicable regulations.

The regulatory development standards defined within each individual PAD District define all regulatory standards that will supersede existing regulations within the LUC. If an issue, condition or situation arises that is not specifically covered within the PAD District, the LUC, Development Standards, or other City regulations shall apply, with the exception of Section 2-10.5 of the Tucson Development Standards, which with the adoption of this PAD, shall be retroactively eliminated and no longer utilized for any area included within the PAD District.

G-3 FINANCIAL ASSURANCES

Financial assurances for the development of the Master PAD will be in compliance with the procedures set forth in Section 1-04, Subdivision Assurance Procedures of the Development Standards.

G-4 AMENDMENT PROCEDURES

The following provisions are intended to provide criteria for the determination of non-substantial changes and substantial changes to the PAD Districts. In addition, this section is intended to define amendment procedures applicable to non-substantial and substantial changes proposed to the PAD Districts.

G-4.a. PAD Amendments

Amendments to the PAD Districts as represented within this document may become necessary from time to time for various reasons to respond to changing market or financial conditions, to update the PAD's to reflect new development conditions, and/or to respond to the requirements of potential users or builders on the property. Amendments to the approved PAD

Districts may be requested by the Master Developer, other developers, a property owner, or property owner's agent. Unless otherwise requested within the application, any proposed change will not affect development units or parcels not included in the proposed amendment. Only the contents of the specific amendment request may be considered and acted upon by the City's Civano Project Manager, Development Services Director, Zoning Examiner or Mayor and Council.

When changes or modifications to the PAD Districts are necessary or appropriate, proposed amendments or modifications shall conform to the following requirements:

Insubstantial Change

The Civano Project Manager may allow insubstantial changes to the PAD Districts administratively, provided that such changes are not in conflict with the overall intent as expressed in the Master PAD or individual PAD District documents. The following items shall be considered as insubstantial changes:

- Changes in configuration of individual development units or development parcels to include modifications to boundaries, division of larger parcels, or combinations of parcels by a maximum of 20%, as long as there is not net loss of open space and no net increase in the total number of units allowable within the Development Unit;
- Changes to the community infrastructure, such as drainage, water and sewer systems which do not have the effect of increasing or decreasing development capacity in the Master PAD, nor change the overall intent of the Master PAD;
- Any analogous interpretations of the list of permitted, exception, secondary and accessory uses of the property set forth in the PAD, as determined by the Development Services Director;
- Changes in residential densities not to exceed and increase of 10% of the maximum allowable in each Development Unit, provided the increase does not cause in increase in the total allowable unit count within the PAD;
- Minor modifications or adjustments to intrusions, encroachments, easements, roadway alignments or open space areas, so long as the modifications fall within the general range of target densities for the PAD and there is not net reduction in open space areas;
- Minor modifications to the location and size of trails and pedestrian paths, so long as the modifications meet the general intent of the Plan;
- Minor adjustments and/or substitutions to the development standards within the PAD that do not impact the general health, safety and welfare of the residents of the City;
- Combination of sub-districts within the Pavilions PAD for purposes of parking calculations.
- Any other items not expressly defined as Substantial Changes in LUC Section 2.6.3.11.B.3.

Substantial Changes
Substantial changes are changes to the PAD's as defined in LUC Section 2.6.3.11.B.3.

Amendment Procedures
The PAD's may be amended through the process set forth in LUC Section 2.6.3.11.B.4 for substantial changes or LUC Section 3.6.3.11.B.5 for insubstantial changes, as determined by the standards set forth above.

G.4.b. Interpretations
On occasion, it may be necessary to request formal and informal interpretations from the Zoning Administrator related to the implementation and/or interpretation of the PAD Districts. These circumstances may relate to interpretation of project intent, uses, development standards related to provisions of the LUC or to interpretations of intent of narrative contained in the PAD Districts. It is anticipated that interpretations to these provisions may be made in oral or written form to the Civano Project Manager upon request of the Master Developer or property owner.

H APPENDICES

Appendix 1: Revised Memorandum of Understanding

Appendix 2: Revised IMPACT System Standards

Appendix 3: Environmental Resource Report Exhibit

CIVANO IMPACT SYSTEM
REVISED MEMORANDUM OF UNDERSTANDING
ON IMPLEMENTATION AND MONITORING PROCESS

December 8, 2003

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CIVANO IMPACT SYSTEM
REVISED MEMORANDUM OF UNDERSTANDING ON IMPLEMENTATION AND MONITORING PROCESS

December 8, 2003

The parties to this Revised Memorandum of Understanding (the "Revised MOU") are the City of Tucson (the "City") and The Community of Civano, LLC (the "Developer"), Case Enterprises Development Corporation, a Connecticut Corporation (Case), and Pulte Homes, Inc., a Michigan corporation (Pulte Homes)(collectively the "Developer" or "Developers"). The Community of Civano, LLC was the master developer for the intial development of Civano. The City and the Developers entered into the Revised Civano Development Agreement on December 8, 2003, which established Pulte Homes as the Master Developer. The terms and definitions in the Revised Civano Development Agreement apply to this Revised Memorandum of Understanding (the "Revised MOU").

1.0 GOAL

The goal of the Civano project is to create a mixed-use community that attains the highest feasible standards of sustainability, resource conservation and development of Arizona's most abundant energy resource – solar – so that it becomes an international model for sustainable growth. The State of Arizona through the Department of Commerce, Energy Office provided significant financial support for the early planning and design of Civano. This funding was provided at Civano's inception explicitly in support of the demonstration of the use of solar energy as a guiding, organizing principle of community development.

Another major goal of Civano is to foster creativity and innovation in the construction of Civano. Establishing clear performance achievement levels and then allowing the Developer, designers and builders flexibility in the method of achieving the standards best advances this goal.

The sustainable growth objectives of Civano have been amplified and expanded in the Civano Neighborhood 1 Planned Area Development, adopted by City Ordinance No. 8970 dated October 20, 1997, as revised on October 12, 1998, and subsequently renewed (the "Neighborhood 1 PAD"), to include the goals of Building Community, Connection with the Land, Respect for Climate and Regeneration.

The goal of the this Revised MOU is to confirm the strategies for sustainable development, energy conservation, and economic feasibility of the design and technologies used to implement and monitor the resource conservation and other project goals set forth in the Civano IMPACT System adopted on October 2, 1995 (the "IMPACT System"), as refined in the Revised and Restated Civano IMPACT System adopted on December 8, 2003 (the "Revised IMPACT System"), all of which contribute to the basis of the Civano Project. The IMPACT System and Revised

IMPACT System establish baseline standards, "Performance Targets" and "Specific Requirements" to achieve the resource conservation and other project goals.

2.0 BACKGROUND

The City, in cooperation with the Arizona State Land Department ("ASLD"), the Metropolitan Energy Commission, and with significant input from the public, established the general development guidelines for Civano in 1991. These were implemented through a planning process, the adoption of conditions upon the sale of the state trust land (the "State Land Patent Conditions"), and conditions adopted as part of the rezoning of the property by the City under Ordinance No. 7697, dated October 7, 1991, amended by Ordinance No. 8971 dated October 20, 1997 (the "Rezoning Conditions"), and as further amended by the adopted of the Neighborhood 1 PAD. These conditions included resource and energy conservation targets as well as community planning targets such as preservation of open space, and encouraging a greater mix of uses.

The City adopted the IMPACT System to define and administer the resource conservation goals and to maintain Civano's position on the leading edge of sustainable development. The IMPACT System and Revised IMPACT System as adopted (and as may be subsequently amended) clarify the City's policies and requirements for the Civano Project:

> CITY OF TUCSON GUIDELINES FOR DEVELOPERS AND BUILDERS: THE IMPACT SYSTEM (Integrated Method of Performance and Cost Tracking)
>
> The IMPACT System is a means of organizing resource efficiency goals and stakeholder cooperation for sustainable community development and for measuring progress toward those goals over time. It is intended to be a cyclical process that:
>
> - Is grounded on metropolitan Tucson baseline conditions that are normally documented and periodically updated by community organizations.
> - Is responsive to community policy priorities that will change over time.
> - Uses performance targets and specific requirements that exceed baseline conditions without detrimental cost penalties.

- Uses collaboration among stakeholders to reach common goals.
- Measures development performance and costs to evaluate target achievement.
- Enables revisions as baseline conditions improve, and as new targets become technically and economically feasible.

* * * * *

While the initial responsibility for meeting the Revised IMPACT System Standards will lie with the Developer and the builders, responsibility for administering the Revised IMPACT System over time will lie principally with CCA. The CCA is the non-profit corporation created pursuant to the Amended Covenants, Conditions, and Restrictions for Civano: The Tucson Solar Village, recorded November 21, 1998, at Docket 10915, Page 639 of the Pima County Records (the "Civano CC&Rs") for the purpose of administering the CC&Rs, as described in the Civano Master Plan, adopted by ASLD on March 5, 1992, as amended by City Ordinance No. 8971, dated October 20, 1997 (the "Master Plan"). The CCA membership will include all owners of property within Civano.

* * * * *

The IMPACT System clarifies the Rezoning Conditions and will guide the City's review of subdivision and development plans and initial building permit applications.

* * * * *

The City of Tucson is committed to achieving the original performance targets for Civano over time and does not intend to accept lower performance levels in the initial Memoranda of Understanding.

* * * * *

The IMPACT System established baseline standards and "Performance Targets" and "Specific Requirements" to achieve the conservation and sustainability goals. These Performance Targets and Specific Requirements are collectively referred to as the "IMPACT System Standards."

The City subsequently entered into the Civano Development Agreement (the "Development Agreement") in July 1996 to reaffirm the goals and principles of Civano to provide the framework for cooperation between the City and the Developer in the development of Civano. The Development Agreement required the parties to negotiate a Memorandum of Understanding to address the implementation and

monitoring aspects of the IMPACT System Standards that underpin the Development Agreement.

The City and the Developer have subsequently entered into the Revised Development Agreement to reflect the initial goals, proposals and agreements for Civano, the progress made over time, and the modifications, clarifications and revisions to the initial goals, proposals and agreements as the parties have deemed necessary and appropriate. The implementation and monitoring responsibilities described in this Revised MOU update, clarify and supplement those in the original MOU and IMPACT System and parallel the changes in the Revised Development Agreement.

The Neighborhood 1 PAD was adopted by the Mayor and Council to further guide the initial development. The Neighborhood 1 PAD, along with the original and Revised Development Agreement, the Rezoning Conditions and State Land Patent Conditions, provide the framework for developing Civano as a leading sustainable development.

The parties recognize that implementation of the IMPACT System Standards and achievement of the Civano Performance Targets will require a multifaceted approach. While some of the Performance Targets are appropriately addressed by compliance with Specific Requirements for planning, development and construction phases. Other Performance Targets are necessarily dependent upon the actions and conduct of future residents of Civano and must be assessed over time. Initially implementation of the Specific Requirements will involve the review and certification of compliance by the City and by the Developer.

As Civano develops it is anticipated that the parties will have additional information from advances in technology, and the monitoring of the implementation of the Revised IMPACT System may affect future implementation strategies, requirements and methodologies. It is also anticipated that as Civano develops, the residents will begin to actively participate in the shaping and implementation of the Performance Targets and Revised IMPACT System through their actions and through the CCA.

3.0 OUTLINE OF PROCESS

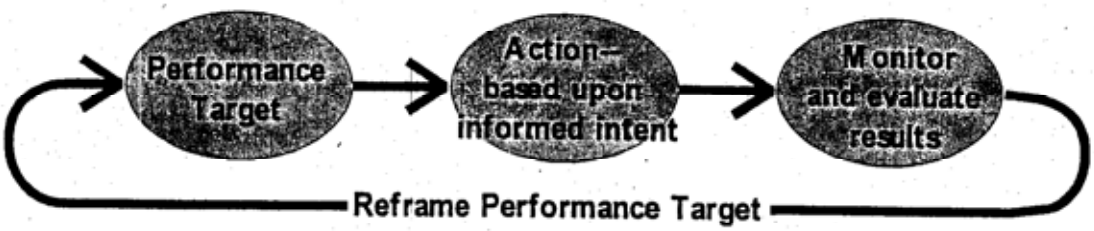
3.1. Sustainable Development as a Process

The term "sustainable development" has been defined as "a process of change in which the use of resources, the direction of investment, the orientation of technological development, and institutional change all enhance potential to meet human needs both today and tomorrow."[1]

Conceptually, the IMPACT System Standards are the measuring sticks on which all actions are based and by which performance will be measured. In addition to meeting Specific Requirements and moving toward achievement of all the established

[1] Sustainable Development: A Guide to Our Common Future, United Nations World Commission on Environment and Development. 1987.

Performance Targets, performance must include success in the marketplace. It is understood that the success of Civano will require the good faith commitment and diligent actions by all parties concerned. This approach requires an integrated, flexible response to meet the mandated targets and requirements. This process will be supported and documented by continued monitoring and evaluation of its effectiveness.



3.2. Relationship of Plan Review to Monitoring and Evaluation

The underlying principle, as outlined above, is that compliance with the performance targets as described herein will be demonstrated by the construction and subsequent use of site improvements and the development of related programs. Buildings, site improvements, and related programs will be designed to meet or exceed the IMPACT Systems Standards. The Developers and individual builders cannot be sanctioned, however, if actual performance does not meet standards where the personal behavior of occupants affects how buildings function. Plan review will insure that, in accordance with Section 7, initial development and construction meets Specific Requirements applicable at that stage. Subsequent monitoring of performance in accordance with this Revised MOU will provide the basis for determining the success in meeting the Revised IMPACT System Standards as well as the basis for improving future conservation and sustainability strategies and standards.

3.3. Impact System Evaluation Committee Established

An IMPACT System Evaluation Committee (the "Civano IMPACT Committee") is hereby established to include a minimum of one representative of the Master Developer, one representative designated by the City Manager who will serve as the Project Manager and one CCA representative selected by the CCA. Commencing January 1, 1999, the Civano IMPACT Committee will meet at least every six months to review the Revised IMPACT System Monitoring Reports to track progress and compliance with the Revised IMPACT System Standards, identify issues of concern, and seek solutions to problems encountered, all in a manner consistent with the success of the Civano Project.

The parties shall further seek the cooperation of the University of Arizona, the State of Arizona Department of Commerce, Energy Office, Tucson Electric Power, other utility companies, energy providers, environmental experts, environmental engineers and similar independent agencies for the monitoring, evaluation and proposed

revisions of the baselines and Revised IMPACT System Standards, status of Civano compliance to date and strategies for improved implementation of the Revised IMPACT System.

3.4. The IMPACT System Monitoring Report

The IMPACT System Monitoring Report ("Monitoring Report") shall be a public status report prepared by the Master Developer to document the success of Civano in achieving the Revised IMPACT System Standards, supplemented with related information from the City and publicly available information concerning the resource conservation baselines and Performance Targets. The Monitoring Reports shall be submitted as described in the Revised Development Agreement.

Following is a format for the Monitoring Report which includes not only progress toward meeting the Performance Targets, but also is designed to provide information for public policy changes which would support greater resource conservation and sustainable development. The Monitoring Report will also provide general public information relative to the Civano community development process and progress. It shall include the following information with supporting data submitted by the Developer:

3.4.1. Overall goals, objectives and strategies, including builder and buyer education for resource conservation practices consistent with the IMPACT System Standards.

3.4.2. Site layout, showing the built development to date, in relation to the overall plans for development.

3.4.3. Description of anticipated near-term projects.

3.4.4. Projected timetables and milestones for completion of anticipated projects.

3.4.5. Status of building and occupancy relative to parking (Parking Inventory and Monitoring Program), pedestrian ways, and landscaping (conceptual planning framework).

3.4.6. Progress to date, and recommended strategies, toward meeting baseline IMPACT System Standards in the following areas:

- reducing fossil-fuel energy use from gas, electricity and gasoline;
- developing solar energy resources;
- reducing potable water usage;
- reducing building wastes;

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- reducing solid wastes;
- reducing auto travel and resultant air pollution;
- creating a balance of jobs and housing;
- creating affordable housing, meeting needs of on-site working population; and
- demonstrating the economic feasibility of resource conservation and sustainable development as a model for growth in Civano.

3.4.7. Resulting linkages to central and inner city redevelopment.

The City will provide supplemental information to be attached to the Monitoring Report which includes a status report on progress toward meeting the City's strategies and responsibilities enumerated in this Revised MOU.

The form of the Monitoring Report will be written, with appropriate graphics, for wide distribution.

3.5. Periodic Review

Commencing two (2) months after the initial Monitoring Report and continuing thereafter as described in the Revised Development Agreement, the City and the Civano IMPACT Committee shall consider whether any amendments to this Revised MOU are necessary to achieve the maximum practical compliance with the Revised IMPACT System Standards. This shall include review of the baselines established in the Revised IMPACT System, the methods of monitoring and establishing compliance, the strategies and Specific Requirements which are appropriate to achieve compliance, the integration of new technology and other matters which are appropriate to maintaining the role of Civano as a leading demonstration of resource conservation and sustainability. Where it is determined that an amendment to this Revised MOU is appropriate, the parties shall proceed in accordance with Section 8 herein.

4.0 JOINT CITY AND COMMUNITY OF CIVANO STRATEGIES AND RESPONSIBILITIES

4.1. Description of Joint Strategies and Responsibilities

In recognition of the need for cooperation in achieving the goals described in the Revised IMPACT System, as may be revised from time to time, and this Revised MOU, the City and the Developer understand that the following strategies and responsibilities are important to the success of Civano as a sustainable community:

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4.1.1. Building plans, development plans, specific plans and similar requests will be prepared, submitted and reviewed in a timely and complete manner.

4.1.2. The Civano Model Energy Code/Tucson Sustainable Energy Standard will be reviewed and considered by the City and the Developer for periodic updating as new or improved technologies become available.

4.1.3. The parties will explore with the Arizona Department of Commerce, Energy Office and other appropriate agencies, the initiation of programs to further encourage, develop, use, and monitor the beneficial applications of solar energy.

4.1.4. Grant funding should be pursued to undertake studies and analysis of the role of landscaping and coloration in building and paving cooling strategies.

4.1.5. Street standards will be reviewed to determine the appropriate methods to significantly reduce the "urban heat island" effect, including the effect of reducing paved surfaces, integrating landscaping for shading of pedestrian, bicycle and automobile parking areas, and allowing alternative, less heat-absorbing paved surfaces in a manner consistent with public safety and handicapped accessibility requirements.

4.1.6. The parties will cooperate on demonstration projects involving the private and public uses of developing technology; e.g., solar photovoltaic powering of residential homes and of on-site municipal streetlights or pumps, including pursuing grants and other funding for renewable technology demonstration projects.

4.1.7. The parties will explore the installation of filtration systems for reclaimed water to meet ADEQ standards for full body contact and to permit use of reclaimed water for vegetables to be consumed raw. The parties shall further explore obtaining the adoption of any necessary revisions to existing standards to permit these uses.

4.1.8. The parties will cooperate to designate and provide garbage and recycling pick-up to all uses, including multifamily and commercial, in conformance with City plans and designs incorporated in the Neighborhood 1 PAD and development plans.

4.1.9. The City will consider the designation of the proposed Civano recycling center as a "neighborhood recycling center" within the City's overall program.

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4.1.10. The parties will explore the use of Civano as a pilot site for demonstrating new programs and advanced recycling and composting techniques.

4.1.11. The parties will cooperate to formulate an overall solid waste plan for Civano particularly as it relates to waste reduction and diversion goals.

4.1.12. The parties will cooperate to develop a transit plan for Civano and the surrounding area, including exploring with the State of Arizona Department of Transportation, the City's Department of Transportation and other affected property owners, a transportation corridor plan for Houghton Road.

4.1.13. The parties will cooperate with the Greater Tucson Economic Council and other agencies to actively recruit employers for location in Civano.

4.1.14. The City will consider land-use designations in the vicinity of Civano that incorporate mixed uses, complement Civano, and encourage sustainable development.

4.1.15. The parties will explore programs to provide assistance to developers/builders who participate in low and moderate-income housing programs.

4.1.16. The parties will explore the application of the landscape and xeriscape requirements set forth in the City's Land Use Code, Section 3.7.2 to all uses in Civano and to all lot areas consistent with the goals of the Master Plan and will further explore the integration of personal and community gardens, orchards and food producing landscaping into these requirements.

4.1.17. The parties will cooperate to develop a plan for the Pantano Riverpark which integrates adjacent planned open space and recreation areas in Civano.

4.1.18. The parties will cooperate to develop standards which more effectively utilize natural drainage areas and private open space areas for water harvesting and retention, in order to encourage native plant growth, recharge aquifers and reduce the magnitude of flood flows and erosion hazards.

4.1.19. The parties will cooperate in a manner consistent with the Revised IMPACT System and the Revised Development Agreement to achieve the goals of this Revised MOU.

5.0 SPECIFIC PROCEDURES FOR IMPLEMENTATION

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5.1. Master Developer Requirements Prior to Issuance of Residential Building Permits

The Master Developer shall:.

5.1.1. Maintain Development Design Guidelines (the "Design Guidelines") (as they may be amended) to assure that provisions are made to meet the Revised IMPACT System Standards. The CCA may, in coordination with the Master Developer, amend the Design Guidelines in accordance with the CCA governing documents.

5.1.2. Maintain the Certification Committee as a part of the Design Review Committee ("DRC") (as provided in the Civano CC&Rs). The Certification Committee shall include a DRC representative, a licensed architect, or a licensed engineer, and a CCA representative.

5.1.3. Establish exterior water budgets, monitor water consumption, and develop a contingency program to achieve compliance with the budgets if water conservation targets are not met. Utilize City-provided reclaimed water in landscaping for common areas and non-residential uses, and provide rainwater harvesting, graywater systems, or other alternative irrigation systems not dependent on potable water in residential uses.

5.1.4. Establish provisions for utilizing non-potable water for all outdoor irrigation systems and for utilizing efficient and effective, non-pooling drip irrigation systems for all landscaping. This provision shall not require the use of reclaimed water in gardens for the production of raw vegetables for human consumption unless such use is approved by the State of Arizona.

5.1.5. Establish interior water budgets, monitor water consumption and develop a contingency program to advance compliance with the budgets if water consumption targets are not met for each building, and design the plumbing systems accordingly that will reduce the interior use of water in residential structures to 53 gallons per person per day and to 15 gallons per person per day in non-residential structures. The guidelines shall specify the manner in which water use has been calculated and the principal measures to be taken to meet these budgets.

5.2. Area Planning, Subdivision and Planned Area Development Review

Certain requirements apply to development in a broader context than the specifications for a single structure or lot or a specific point in time. These must be reviewed with consideration for the progress in existing development as well as the

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prospective development as set forth in the Master Plan. City development decisions on the Civano project, which will be viewed in this broader context, are rezonings, planned area developments ("PADs"), specific plans, subdivision plats, development plans and amendments thereto, not including plans applicable to a single family lot. Interpretation of compliance with these requirements shall be analyzed in the same manner in which the Tucson General Plan, existing area plans and neighborhood plans are applied to prospective development. Any dispute regarding these interpretations may be resolved pursuant to Section 5.4.

General planning areas, not including plans applicable to a single family residential lot, such as development plans, subdivision plats, rezonings and PADs shall be designed to meet the following Revised IMPACT System Standards, as applicable for the scale of the project, in addition to all other applicable code requirements. The City shall review all such plans in accordance with Section 7. Compliance shall be consistent with the Master Plan and may take into account future development as provided for in the Master Plan.

Monitoring Reports that document compliance with the Revised IMPACT System shall be prima facie evidence of prior compliance. Any dispute regarding these interpretations may be resolved pursuant to Section 5.4.

5.2.1. Land may be designated and set aside by the Developer for the design and construction of demonstration projects, as more fully described in Section 6.0, which are compatible with the technologies being offered by Civano.

5.2.2. Site design and grading plans shall limit site clearance on residential lots to preserve existing desert vegetation and maximize natural drainage in a manner consistent with the grading plans approved with the Master Plan and any approved PAD or specific plan. The exact requirement for preservation of existing desert vegetation shall be determined after completion of drainage and engineering studies.

5.2.3. Location of a community pool to be constructed early in the development of each phase or neighborhood (as those terms are used in the Master Plan) by the Developer and/or individual builders in an attempt to discourage construction of private pools.

5.2.4. Inclusion of commercial services and other mixed uses with residential developments, consistent with the adopted Master Plan and subsequently-adopted PADs or specific plans, to provide access from residences to commercial or employment areas by walking, bicycling or similar alternatives to automobile use.

5.2.5. Provision of a central location for access to city bus routes or alternative transit shuttle services, consistent with the adopted Master

Plan and subsequently adopted PADs or specific plans. Consideration by the City and SunTran of the extension of bus routes to Civano during the development of each Phase or Neighborhood or, as one of several possible alternatives, a shuttle service to the nearest Sun Tran express route and/or park and ride lot.

5.2.6. Provision of a pedestrian and bicycle-built environment, which is consistent with the requirements to provide access to disabled persons. Each development phase will provide for a majority of through streets (versus cul-de-sacs), construction of a system of sidewalks or bike or multi-purpose paths and nonresidential uses which have orientation access and emphasis on pedestrian /bicycle linkages rather than auto linkages.

5.2.7. Provision for recyclable materials pick-up areas consistent with requirements of the City Solid Waste Department.

5.2.8. Provision of a minimum ratio of 300 square feet of non-residential floor area for every two dwelling units constructed. This requirement may be determined based upon the full development of Civano in accordance with the Revised Development Agreement and Revised IMPACT System standards.

5.2.9. Design of telecommunications capacity to enable the expansion of fiber optics or similar infrastructure to all commercial and home office locations. This may be met by providing conduit capability during construction.

5.2.10. Identification of the provision for 20% of the dwellings to meet the goal for affordable housing as defined in the IMPACT System Standards to the extent that assistance is available from public agencies, foundations, and other sources to finance and construct affordable housing. The construction of affordable housing shall be reasonably uniform throughout the development of Civano. The Civano development as a whole shall approximately conform with the 20% requirement at the time 500 residential dwelling units have been constructed, at the time 1,000 dwelling units have been constructed, at the time 1,250 dwelling units have been constructed, and at full buildout of Civano.

5.2.11. Extension of reclaimed water lines to all common areas and nonresidential uses. Builders of residential units will provide reclaimed water, or rainwater harvesting, or graywater, or other alternative irrigation system to unit buyers. Exposed hose bibs for reclaimed water shall be discouraged and if used shall be clearly identified prior to sale of the property.

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5.2.12. Functioning systems using reclaimed water, graywater or rainwater harvesting or other alternative irrigation system not dependent on potable water shall be provided for all landscape irrigation except that:

5.2.13.1 the limited use of potable water for personal and community gardens producing vegetables to be consumed raw will be allowed within the overall landscape design until it is determined that such use of non-potable water is safe.

5.2.13.2 potable water may be used for temporary and periodic flushing of the reclaimed system if necessary to assure efficient operation of irrigation systems, upon notification to and consent by the City, which consent shall not be unreasonably withheld.

5.2.13. All landscaping which is required for public streets adjacent to residential properties shall be limited to drought tolerant plants as established by City Development Services.

5.3. Building Plan Requirements and Review

All plan submittals for building permits shall be determined in accordance with Section 7 to meet the following requirements in addition to all other applicable codes.

5.3.1. All building permit applications shall be certified in accordance with Section 7.0 as complying with the following:

5.3.1.1 Residential building plans shall provide a certification that the plans as submitted provide for a total energy use through the building shell, heating and cooling systems ("building energy use") of at least a 65% reduction for each dwelling from the 1990 Model Energy Code annual energy use baseline, equivalent to a 50% reduction from the 1995 Model Energy Code annual energy use baseline, commencing at the time of initial residential occupancy. The certification shall be in the form attached hereto as Exhibit 2.

5.3.1.2 Non-residential building permits shall provide a certification that the plans as submitted provide for a total energy use through the building shell, heating and cooling systems ("building energy use") of at least a 55% reduction for each structure from the annual energy use by a comparable non-residential structure in 1990 as established by the Model Energy Code. The certification shall identify the 1990 level used, the method of determining that level and the source material documenting that level. The energy conservation

shall commence at the time of initial occupancy. The certification shall be in the form attached hereto as Exhibit 2.

5.3.1.3 Building plans shall identify the manner in which the proposed structures will be designed for the use of solar energy through the orientation for passive heating and cooling purposes, consistent with Civano's goals.

5.3.1.4 Plans shall incorporate some beneficial use of solar energy to reduce the energy demands from heating, cooling and interior water heating. Solar devices such as currently found in A.R.S. § 44-1761 shall qualify as beneficial uses of solar energy will satisfy this requirement.

5.3.1.5 Landscape and hardscape coloration and/or vegetation shall be used to reduce the microclimate temperature adjacent to the structures. The average reflectivity of all major landscape and hardscape surfaces must be 0.5 or greater on the albedo scale or result in equivalent energy savings.

5.3.1.6 Describe a program that identifies procedures for preserving construction materials for recycling during construction and for the use of recycled construction materials in construction.

5.3.2. Structural calculations demonstrating that the roof will support solar photovoltaic, solar thermal power generation and solar water heating systems of sufficient size for the potential uses of the building.

5.3.3. Location and installation of plumbing stubouts for solar hot water heaters shall be required and shown on all residential and commercial buildings.

5.3.4. All structures shall be constructed so that there is minimal obstruction of solar light for adjacent properties at the level of a roof of a single story building (fifteen (15) feet) constructed at the legally permitted set back from the property line.

5.3.5. Where reclaimed water, graywater, or other alternative irrigation systems are to be installed, two water supply systems shall be shown: one for potable water and one for reclaimed or other non-potable water for landscaping or similar external uses. Provisions may be made for rainwater harvesting and/or graywater use for landscaping in conformance with existing codes.

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5.3.6. Non-residential space conditioning system cooling towers rated at one hundred tons or more of cooling capacity shall comply with ADWR water conservation requirements.

5.3.7. Solar thermal water heaters or other devices or technologies which achieve equivalent energy savings in the heating of hot water shall be included on all model homes for demonstration purposes and as options on all other homes.

5.3.8. Plans shall provide for built-in recyclable separation features and storage of hazardous materials.

5.3.9 plans for each structure shall identify some recycled material used in the construction of the structure.

5.3.10 All structures shall minimally comply with the Civano Model Energy Code/Sustainable Energy Standard as adopted and as it may be amended.

5.4. Expedited Review of Interpretations

The City will establish a review committee for the resolution of all interpretive or technical disputes in accordance with Section 6.2.1 of the Revised Development Agreement (the "Interpretive Review Committee"). The Developer or the City may submit any matter to this Interpretive Review Committee for a determination as to whether the matter is one of interpretation or whether there exists an established requirement which is subject to an established administrative appeal procedure. Where the matter is one of interpretation, the Interpretive Review Committee shall determine the interpretation to be applied. The Interpretive Review Committee shall consist of a designee of the City Manager, a designee of the City Attorney's office and a designee of the director of the department or departments which is/are responsible for the review and/or enforcement of the matter being submitted. The Interpretive Review Committee shall reach a decision on the matter or shall state the reason why a decision cannot be made within five working days of the submission. The Developer may appeal (a) any such decision or (b) the Interpretive Review Committee's failure to reach a decision within five working days to the City Manager pursuant to Section 6.2 of the Revised Development Agreement. The Developer agrees to comply with any decision that is not appealed to the City Manager within five working days of the decision.

6.0 DEMONSTRATION PROJECTS

The parties recognize that development of innovative designs and technologies for resource conservation and use of solar energy are important goals of Civano. In order to encourage such innovation, the Developer may set aside a limited number of residential or commercial lots for construction of demonstration buildings. Such

buildings shall not be subject to the requirements of Sections 5.2 and 5.3 at the time of initial planning or permit review but shall provide descriptions of the manner in which these requirements will be met. Such designated structures shall be reviewed after one year for compliance with the resource conservation requirements of the Revised IMPACT System. The buildings shall not be sold or otherwise conveyed to private parties other than the Developer, unless such buildings are certified as set forth in Section 7 to comply with the resource conservation requirements of the Revised IMPACT System Standards and the requirements of Section 5.3. Such demonstration buildings may be leased or otherwise occupied without certification of compliance. If in compliance with the requirements of Section 5.3, the demonstration projects may be marketed to private parties. The Developer shall provide a notice that a building was constructed pursuant to this section to any prospective user or purchaser prior to the use, lease or sale of the structure to the public.

7.0 CERTIFICATION OF COMPLIANCE

The parties recognize that the Revised IMPACT System includes both Performance Targets to be reached over time, as provided in Sections 3 and 4, and specific resource conservation requirements, as provided in Section 5, which establish minimum thresholds for performance and which are to be met commencing with the initial development of Civano in order to establish progress toward achieving the Performance Targets. The Developer agrees to establish this compliance through the Monitoring Report and compliance with Specific Requirements as set forth below.

7.1. During the initial development of Neighborhood 1 of Civano, and thereafter during the development of Civano until changed by mutual agreement of the parties, the Developer shall provide to the City a certification based upon information provided to it by a professional chosen by the Developer that the plans subject to the certification are in compliance with the conservation requirements set forth in Section 5.3.1. The form of the certification is attached as Exhibit 2.

7.1.1. The City may audit any such certification and may request in writing supporting documentation from the Developer. The Developer shall provide such documentation within fifteen (15) days of receipt of the notice. If it is determined by the City based upon such an audit that the conservation requirements of Section 5.3.1 have not been met for one or more buildings, the City shall notify the Developer and the applicant submitting the building plan(s) in writing of the specific matters which are not in compliance (the "Noncompliance Notice").

7.1.2. The Developer shall have thirty (30) days from the date of the Non-Compliance Notice, unless the time is extended in writing by the City, to either cure the non-compliance or to submit a plan to correct the noncompliance (the "Cure Statement"), which is acceptable to the City. The City shall have fifteen (15) days from receipt of the Cure

Statement to either accept or reject the Cure Statement as submitted or to request further information or actions. The parties may thereafter continue to seek a mutual resolution of the problem.

7.1.3. If the City rejects the cure as proposed by the Developer pursuant to Section 7.1.2, the Developer may submit to the City a supplemental plan for curing the non-compliance (the "Supplemental Compliance Plan"). If a Supplemental Compliance Plan is submitted, no further action shall be taken regarding the non-compliance for at least forty-five (45) days. By submitting the Supplemental Compliance Plan, the Developer agrees that all requests for permits which contain a substantially similar non-compliance problem will be put on hold pending final resolution of the issue.

7.1.4. If the City and the Developer are unable to resolve differences regarding the Noncompliance Notice and the Cure Statement within sixty (60) days of the date of the Noncompliance Notice, or differences regarding the Supplemental Compliance Plan within forty-five (45) days of the submittal of the Plan, the matter may be submitted by the City or by the Developer to the City Manager for final resolution as provided in Section 6 of the Revised Development Agreement.

7.1.5. A City audit of a plan shall not delay the processing or approval of the plan.

7.1.6. Upon issuance of the Noncompliance Notice, the City may delay issuance of permits for the plan subject to the notice and all other plans which contain the same potential noncompliance problem until the question of compliance with the requirements of Section 5.3.1 is resolved. The City shall include notice that issuance of permits will be delayed in the Noncompliance Notice.

7.1.7. If the parties agree that a plan is not in compliance pursuant to Sections 7.1.1 and 7.1.2 or the City Manager determines that the plan is not in compliance pursuant to Section 7.1.3, the City may deny the issuance of permits to the proposed structure and any other structures which would not be in compliance for the same reason. In determining whether to deny the issuance of permits the City shall consider the materiality of the noncompliance, the Developer's ability to correct the problem with respect to future buildings, the number of building which would not be in compliance if permits were issued, the cost of curing the noncompliance in the proposed plan and the financial cost to the builder or developer which would result from any denial of permits.

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7.1.8. If the City determines that the certification pursuant to Section 7.1 has resulted in a material noncompliance with the requirements of Section 5.3.1, the City may require that future review and approval of compliance with one or more of the requirements in Section 5.3.1 shall be determined by the City Development Services Department rather than by the Developer.

7.2. During the initial development of a Phase or Neighborhood of Civano, and thereafter during the development of Civano until changed by mutual agreement of the parties, the City Development Services Department shall, pursuant to its standard procedures including the availability of independent third party review as provided in the 1994 Uniform Administrative Code, Section 103, where appropriate, determine compliance with all Specific Requirements set forth in Sections 5.2 and 5.3 other than the requirements of Section 5.3.1, subject to review by the Interpretive Review Committee and appeal to the City Manager as provided in Section 5.4 of this Revised MOU and Section 6 of the Revised Development Agreement.

7.3. The parties recognize that the goal of Civano is to integrate energy and resource conservation principles, standards and technologies into the standard practices and procedures of the City. Thus the parties anticipate that as experience is gained over time with the implementation of the Revised IMPACT System, the parties will be able to develop less burdensome compliance review procedures without any reduction in the progress toward achieving the Performance Targets.

8.0 AMENDMENT

The parties may periodically review this Revised MOU to ensure that it continues to promote the energy and resource conservation and sustainable development goals of Civano and may amend this Revised MOU by mutual agreement or as set forth herein to achieve the Performance Targets and Specific Requirements of the Revised IMPACT System Standards and to meet changing circumstances as Civano development proceeds.

If, on the basis of the Monitoring Reports, the analysis and recommendations of the Civano IMPACT Committee, or independent information which has been reviewed by the Civano IMPACT Committee, either party determines that development is not progressing toward full compliance with the Revised IMPACT System Standards in a satisfactory manner, it may notify the other party in writing of its intent to amend this Revised MOU and/or the Revised IMPACT System. The City shall provide a copy of the notice to the Arizona State Department of Commerce, Energy Office. The parties shall then negotiate in good faith to establish appropriate amendments to ensure compliance with the goals and requirements of the Revised IMPACT System. Any amendment shall consider the economic impact of the proposed requirement upon the development of Civano and the investment of public funds and grants in this development. If the parties are unable to mutually agree upon amendments within

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sixty (60) days, they shall discuss any issues with the City Manager, and the City Manager may, as provided in Section 6 of the Revised Development Agreement, resolve such issues and impose amendments which he deems reasonably necessary to achieve the goals of the Revised IMPACT System.

Any amendment to this Revised MOU shall not apply to any application for development approval, including PADs and rezonings, subdivision plats, development plans and building permits, that has already been submitted for review to the City prior to the notice of the intent to amend this Revised MOU, unless such development approval expires pursuant to existing code provisions. The parties shall provide notice of any amendment to the Arizona Department of Commerce, Energy Office. Any such amendment shall be in writing. Amendments to the Revised IMPACT System Standards shall be approved by the Mayor and Council.

Any application by Civano for a change of the Master Plan, the Rezoning Conditions or the conditions of any PAD which are adopted by the Mayor and Council subsequent to the signing of this Revised MOU shall supercede any requirement herein.

9.0 REMEDIES

The Monitoring Report, Periodic Evaluation and Specific Procedures for Implementation set forth in Sections 3.2, 3.3 and 5 above shall be the only portion of the Revised MOU which shall be subject to the remedies provided in Section 8.8 of the Revised Development Agreement. In addition to these remedies, the City shall not be required to issue any building permit which does not conform to City codes, existing and future specific plans and zoning and the requirements which are included in Section 5, Specific Procedures for Implementation, as set forth herein or as amended or revised pursuant to Section 8.0.

10.0 NON-WAIVER OF COMPLIANCE

Except as may be expressly agreed in writing, any decision by the City approving further development without complete compliance with all requirements and targets shall not constitute a waiver of any future application of requirements or Performance Targets as set forth in this Revised MOU or in the Revised IMPACT System Standards.

Signed this 8th day of December, 2003.

THE COMMUNITY OF CIVANO, LLC	CITY OF TUCSON
By: Judith L. Kilroy	By: James R. Keene
Judith L. Kilroy Its Authorized Representative	James R. Keene City Manager

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PULTE HOME CORPORATION, a
Michigan corporation,

By: _____
Its: Attorney-in-fact
Date: December 8, 2003

STATE OF ARIZONA)
) ss.
County of Pima)

The foregoing instrument was acknowledged before me this 8th day of December, 2003, by Bruce Stokes, the authorized representative of Pulte Home Corporation, a Michigan corporation.

_____
Notary Public

My Commission Expires:
7-9-04

OFFICIAL SEAL
GERARDINA M. CASTRO
PIMA COUNTY, ARIZONA
NOTARY PUBLIC-STATE OF AZ
My Commission Expires 07-09-04

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CITY OF TUCSON GUIDELINES FOR DEVELOPERS AND BUILDERS

THE REVISED IMPACT System

(Integrated Method of Performance and Cost Tracking)

December 8, 2003

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CITY OF TUCSON GUIDELINES FOR DEVELOPERS AND BUILDERS

THE REVISED IMPACT SYSTEM

(Integrated Method of Performance and Cost Tracking)

The IMPACT System (as revised herein and subsequently referred to as the "Revised IMPACT System") establishes a process and standards for organizing resource efficiency goals and stakeholder cooperation for sustainable community development and for measuring progress toward those goals over time. The original IMPACT System was adopted by the Mayor and Council of the City of Tucson (the "City") on October 2, 1995. It was intended to create a cyclical process that:

* Is grounded on metropolitan Tucson baseline conditions that are normally documented and periodically updated by community organizations.
* Is responsive to community policy priorities that will change over time.
* Uses performance targets and specific requirements that exceed baseline conditions without detrimental cost penalties.
* Uses collaboration among stakeholders to reach common goals.
* Measures development performance and costs to evaluate target achievement.
* Enables revisions as baseline conditions improve, and as new targets become technically and economically feasible.

Since the adoption of the original IMPACT System Standards, the development of Civano began with construction of dwellings and the Neighborhood Center in Neighborhood 1 and certain commercial properties. Development of Civano has been under the overall guidance of the Master Developer which has included several entities. While all Developers under the Development Agreement and all developers of Civano remain subject to the Revised IMPACT System Standards and the Revised Memorandum of Understanding, it is necessary to have a single entity that is responsible for coordinating compliance with requirements and the periodic monitoring and reporting functions. The Master Developer fulfills this roll.

Responsibility for administering the Revised IMPACT System, particularly those that may be implemented as construction requirements, will lie principally with the Developers of Civano during the construction and build out of the project. Achievement of the long range goals however will rest primarily with the residents as implemented by the Civano Community Association ("CCA"). The CCA is the non-profit corporation created pursuant to the Amended Covenants, Conditions and Restrictions for Civano: The Tucson Solar Village, recorded November 21, 1998, at Docket 10915, Page 639 of the Pima County Records (the "Civano CC&Rs"), for the purpose of administering the CC&Rs, as described in the Civano Master Plan, adopted by ASLD on March 5, 1992, as amended by City Ordinance No. 8971, dated October

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20, 1997 (the "Master Plan"). The CCA membership will include all owners of property within Civano.

A key component of the original IMPACT System was a Memorandum of Understanding ("MOU") addressing implementation and monitoring that was executed on June 26, 1998, pursuant to the Civano Development Agreement adopted on July 1, 1996. A Revised Civano Development Agreement and Revised MOU (the "Revised MOU") were subsequently prepared, the primary signatories of which will be The Community of Civano, LLC, an Arizona limited liability company, Case Enterprises Inc., a Connecticut corporation, and Pulte Home Corporation, a Michigan corporation (the "Developers") and the City. The definitions in the Revised Civano Development Agreement shall apply herein. Entities or organizations that may assist in the implementation of the Revised IMPACT System include:

* Arizona Department of Commerce Energy Office
* Pima County Wastewater Management Department
* Tucson Electric Power Company ("TEP")
* Southwest Gas Corporation ("SWG")
* Pima Association of Governments ("PAG") Transportation Planning Division.

The Revised MOU provides for annual or biannual review of goals and accomplishment, to ensure that both the standards and the review process remain current and feasible. The stated policy of the City is that Civano maintain high standards for resource efficiency, and serve as a model for other developments in the United States and worldwide.

The Revised IMPACT System and the Revised MOU clarify and implement the "1991 Rezoning Conditions" established by City Zoning Ordinance 7697, adopted October 7, 1991, (as subsequently amended) and will guide the City's review of subdivision and development plans and initial building permit applications. These guidelines have been developed through participation of the organizations listed above, along with many other interested parties.

The City is committed to achieving the original performance targets over time and does not intend to accept lower performance levels in the initial Memoranda of Understanding. Subsequent amendments to the original MOU and IMPACT System (including this Revised IMPACT System) will reflect the performance targets and goals that are shown by experience to be technically and economically feasible.

One of the results of the initial development of Neighborhood 1 in Civano is the City's adoption of the Sustainable Energy Standard. This standard has been developed from the Civano Model Energy Code (as defined herein) which has been implemented to achieve compliance with the IMPACT System Standards in Neighborhood 1. The Sustainable Energy Standard provides a higher standard for energy conservation for all development in Tucson and is applied to all City projects. The Civano Model Energy Code and Sustainable Energy Standard, as adopted and as amended in the future, will continue to be implemented as a baseline for development in Civano. Where there is a conflict between these two standards, the standard that provides the greater energy conservation shall apply.

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The monitoring of performance and updating of baseline data and performance requirements is important to the future build out of the remaining portions of Civano. The Master Developer shall be responsible for collecting, preparing and disseminating monitoring reports and updating data during the construction phase of Civano. All developers of Civano are required to cooperate with the Master Developer by providing the information and documentation necessary to complete timely monitoring reports. Periodic monitoring reports shall be prepared through the completion of 75% of the residential properties, and a final report shall be prepared upon the completion of 95% of the residential property. Subsequent monitoring shall be conducted by the CCA in its discretion.

In conclusion, the Revised IMPACT System balances the risks of advanced building methods with the rewards of market support for cooperating designers and builders. The City will provide broad and continuing assistance to the Developer and builders who make Civano a successful model of sustainable development. The following sections summarize performance standards for each resource area. The City will continue to develop information and resource materials to describe these standards in greater detail. The City will implement these standards on a performance basis, so that any reasonable means of achieving the minimum threshold will generally be acceptable. This will foster innovation, variety, and competition among those involved in this dynamic undertaking.

Goal

Reduce building energy demand significantly beneath metropolitan Tucson baseline levels with passive and active solar thermal use, and efficient design and construction techniques and equipment. The original Civano target called for 75% savings of all types of energy use.

The Civano Advisory Committee has determined that is not feasible for City agencies, developers, and builders to affect individual consumption of energy through equipment like lamps, computers, and other household appliances. Therefore, the goals described below have been reformulated to address energy use through the building shell, and heating and cooling systems only. These create the largest energy demands in a building, and are the least susceptible to correction after construction; they can also be evaluated in advance through the building permit process. The initial standards will thus reduce residential energy demand by 65% and commercial energy demand by 55%, through improvements to the shell, heating and cooling systems. Individual energy conservation will be promoted throughout Civano, but is not included in these calculations.

Metropolitan Baseline

Analysis of 1990 baseline conditions (when the Civano performance targets were established) reveals that single-family residential use was approximately 64,000 BTUs per square foot per year. A Civano Model Energy Code (the "Model Energy Code") was prepared in 1990 and revised in 1995 to provide developers and builders with energy demand standards in shell, heating and cooling systems that will reduce residential consumption to 20,000 BTUs per square foot per year. Figures for commercial use vary widely, and are thus not listed here. However, commercial energy demand will be reduced by 55% through the 1990 Model Energy Code.

Performance Targets and Specific Requirements

Based on computer modeling of potential efficiency measures, the following maximum total "energy budgets" are proposed for the indicated Civano building types. The Model Energy Code describes methods of reducing energy demand by the following percentages:

	Reduction	
	1990	1995
Single-family residential	65%	50%
Multi-family residential	65%	50%
Commercial	55%	--

These performance targets have been expressed as "energy budgets" to give builders maximum flexibility in using different approaches to reach the targets. The attached Table A shows how one method, Prescriptive Standards, will achieve that goal. Builders can also use computer models or analysis of building components to effect the same level of savings.

Additionally, there are several specific requirements for all Civano development:

All structures shall be designed and constructed to comply with the Civano Model Energy Code/Sustainable Energy Standard as adopted and as it may be amended.

All structures shall be designed and constructed so that there is minimal obstruction of solar light for adjacent properties at the level of a roof of a single story building constructed at the established set back.

All structures must incorporate some beneficial solar application. While solar devices are encouraged, passive solar design which is demonstrated to reduce energy demand will also meet this requirement.

Landscape and hardscape coloration and/or vegetation is to be used to reduce microclimate temperatures adjacent to buildings. The average reflectivity of all major exterior surfaces must be 0.5 or greater on the albedo scale.

Implementation Responsibilities

The Implementation MOU will provide for the following roles:

Developers/builders. Layout of streets and lots, and design and construction of exterior spaces and buildings, to achieve the performance targets and specific requirements. Energy analyses will have to be prepared with development and building plans to document predicted target compliance. These analyses can be hand calculated or prepared with computer models, such as those used in the Arizona Home Energy Rating System, or comparable software.

Civano Community Association Design Review Committee ("DRC"). Review and approval of building plans and energy analyses. The CCA DRC will want to specify the form in which it receives energy analyses, and the specific calculation procedures and computer models it considers appropriate for use. The CCA DRC will also promote energy conservation in the use of household appliances and other consumer equipment, to create an ethic of resource conservation in personal behavior.

City Development Services Department. Review and approval of development and building plans (per the 1991 Rezoning Conditions and the Civano Model Energy Code/Sustainable Energy Standard).

TEP and SWG. Provision of technical guidance to developers/builders. Both utilities are considering the type and extent of guidance that may be offered in the future.

Monitoring

The Monitoring MOU will provide for the following:

Baseline Updating. Updating responsibility legally lies with the City Development Services Department through future amendments to the building code and the Civano

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Model Energy Code/Sustainable Energy Standard. Conversion of code and standard construction practice to an updated baseline in the future will be done in coordination with the CCA DRC and the University of Arizona.

Civano Performance. TEP and SWG analyses of building energy use and costs; University of Arizona detailed monitoring of specific buildings; and database maintenance by the Master Developer.

TABLE A

Comparison of Selected Prescriptive Code Specifications

Data for MEC92, aZhers, and Good Cents supplied by Tucson Electric Power Company

COMPONENT	MEC'92	AzHERS	TEP Good Cents	CIVANO
Ceiling insulation	R-25	R-30	R-30	R-38
Sidewall insulation	R-11	R-19	R-19	R-19
Slab perimeter insulation	None	R-5, 2' deep	None	R-5, to bottom of footing, or 1' below grade
Glazing area limit; U-value		15%, U-0.58	15%, U-0.64	Sliding scale: no limit on area, but larger areas require lower U-values. For example, if glazing = 15% of floor area U≤0.52
Exterior doors		U-0.5	U-0.385	U-0.6 (but varies by type)
Heating system efficiency	80%	78% AFUE	80% AFUE	Building must be oriented for optimum solar contribution; remainder supplied at 80% efficiency. Woodstoves and fireplaces must meet EPA pollution standards.
Cooling systems – split	9.4 EER	10.0 SEER	12.0 SEER	12.0 SEER
- single package	9.5 EER	9.7 SEER	12.0 SEER	12.0 SEER. Refrigerative systems only in combination with evaporative. Sizing limits specified. Alternative technologies must achieve efficiency equal to conventional technology based on energy use per square foot of conditioned space.
Exterior duct insulation	R-6.2	R-5	R-5, ducts must be sealed	R-6.5, ducts must be sealed
Water heating – gas fired		0.55 EF	0.56 EF	Mandatory solar water heating component for primary source of heat. Conventional technology backup permitted. R-10 minimum insulation for tank. Swimming pools solar heated only.
- electric		0.89 EF	0.90 EF	
- heat pump		2.88 EF	2.88 EF	

Goal

Use on-site solar photovoltaic (PV) and/or solar thermal power generation, and comparable natural gas innovations to provide needed electric and thermal supplies.

Metropolitan Baseline

At the time of the original IMPACT System, there were no grid-connected solar power installations currently operating in the Tucson area or advanced natural gas technology installations such as fuel cells. There were, however, about 50 non-grid connected solar PV units (approximately 100-500 watts each) installed on individual homes and infrastructure throughout Tucson.

As of 2001, Tucson Electric Power ("TEP") estimates that there may be between 10 and 30 grid-connected solar power installations in the Tucson area. TEP has no statistics for the current number of non-grid connected units.

Performance Targets

Because of the high costs projected by TEP for solar PV to the year 2000, initial PV use in Civano will likely be limited to a small demonstration installation. A timetable for phasing-in wider use of PVs as economics improve over time will be established between TEP and CCA within the terms of the Revised MOU and consistent with TEP's state-approved "Integrated Resource Plan." Solar thermal power facilities will be treated in the same manner.

In addition to solar electricity, consideration will be given to demonstrating advanced natural gas technologies such as fuel cells, which can produce both electricity and thermal energy. Consideration will also be given to district heating and cooling ("DHC") of the Village's high-density core areas. DHC can be produced with solar energy, natural gas and/or electricity, and can be significantly more efficient than individual single-building heating/cooling systems.

Implementation Responsibilities

The Implementation MOU will provide for the following roles:

Developers/builders. Land set aside, design and construction of buildings that are compatible with supply technologies being offered in Civano. In particular, roofs must be constructed to accommodate solar equipment.

CCA DRC. Review and approval of development and building plans to ensure compatibility with energy supply technologies.

City. Cooperation with technology demonstration projects, e.g., solar PV powering of on-site municipal streetlights or pumps.

TEP and SWG. Construction and operation of technology demonstrations, and specifically for TEP, a long-range goal to install grid-connected PV and/or comparable renewable technologies when determined to be cost-effective under its "Integrated

Resource Plan" (an exception would be grant funding that could reduce PV costs in advance of market economics). TEP, SWG and/or another party should also consider operation of a DHC system in Civano's core area.

Monitoring

The Monitoring MOU will provide for the following:

Baseline Updating. Responsibility for updating the baseline will lie with the City's Development Services Department in consultation with the Master Developer, TEP and SWG.

Civano Performance. TEP and SWG documentation of supply technology performance and costs, possibly with University of Arizona monitoring assistance. The Master Developer will be responsible for database maintenance.

Goal

Reduce potable water consumption significantly below metropolitan Tucson baseline levels; and use non-potable water, such as reclaimed water, graywater, or rainwater harvesting for landscape irrigation.

Metropolitan Baseline

In 1991, the average annual residential potable water use in metropolitan Tucson was approximately 114 gallons per person per day. Of that amount, the average interior potable water use was approximately 80 gallons per person per day, and the balance was consumed by exterior uses such as landscape irrigation and evaporative cooling. During summer months, the exterior landscape water usage generally equals or exceeds interior use. Nonresidential use was approximately 40 gallons per person per day.

In 2000 (based on a population of 623,017 for metropolitan Tucson), the average annual residential potable water use was approximately 113 gallons per person per day. Of that amount, the average interior potable water use was 68 gallons per person per day. Nonresidential use was estimated at 36 gallons per person per day.

Performance Targets and Specific Requirements

The following performance targets will apply to Civano development:

> Residential potable water interior use of 53 gallons per person per day, and a nonresidential potable water interior use of 15 gallons per employee per day (subject to case-by-case review of businesses with above average water requirements, e.g., restaurants). See attached Table B for water use by fixture, including coolers. This results in a 54% reduction of residential interior potable water use, and a substantial reduction for commercial use of potable water. (Exact commercial reductions cannot be estimated due to lack of current data on commercial usage by employees.)
>
> Water budgets will be established for each household, according to Arizona Department of Water Resources guidelines for a maximum of 28 gallons of water per person per day for exterior uses. Private swimming pools will be discouraged, but if installed shall be required to have pool covers installed and may be heated only by solar devices.

The following specific requirements will also apply to Civano development:

> Site clearance for residential lots will be limited in order to preserve desert vegetation and maximize natural drainage. A significant portion of each building site must remain as existing natural desert vegetation, with any significant plant species specifically protected. The exact requirement will be negotiated after drainage and other engineering studies have been completed.
>
> City xeriscape landscape standards set forth in LUC Section 3.7.2 shall apply to all new development, including all single-family residences and duplexes, and to all yards and landscapable areas.

All landscape irrigation will be accomplished with non-potable water, including reclaimed water, graywater systems, water harvesting systems or other alternative irrigation systems not dependent on potable water. The City's reclaimed water service or rainwater harvesting/graywater equipment or other alternative irrigation strategies not dependent on potable water will be provided at all Civano properties.

All nonresidential space conditioning system cooling towers rated at one hundred tons or more of cooling capacity will comply with State water conservation standards.

Implementation Responsibilities

The Implementation MOU will provide for the following roles:

Developers. Construction of community pools early in each phase of development, to discourage construction of private pools. Compliance with site clearance standards described under Specific Requirements.

Reclaimed water will be utilized in common areas and for nonresidential uses. Residential uses will utilize reclaimed water, rainwater harvesting systems or graywater systems or other alternative irrigation system not dependent on potable water, as permitted by applicable state and City regulations. Plans shall identify the non-potable water source for irrigation.

Builders. Design and construction of buildings in compliance with the performance targets and specific requirements.

DRC. Review and approval of developer/builder plans.

City Development Services Department. Review and approval of building plans (per Ordinance 7697 special conditions). Landscape and grading plan reviews will also be coordinated at this stage.

City Water Department. Continued implementation of water conservation programs, and use of Civano to demonstrate advanced conservation techniques.

Monitoring

The Monitoring MOU will provide for the following:

Baseline Updating. Responsibility for updating the baseline will lie with the City Water Department.

Civano Performance. City Water Department analysis of Civano water consumption; University of Arizona detailed monitoring of specific buildings; and CCA database maintenance.

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TABLE B

Interior Residential Water Use Model

		Gallons Per Capita Per Day (GPCPD)
Toilets	5 Flushes X 1.6 gal/flush	8.0
Shower/Bath	7 min/shower X 2.5 gpm X 0.86 showers pcpd	15.0
	25 gal/bath X 0.14 baths pcpd	3.5
Faucets	Kitchen 3.0 gpcpd + Bathroom 2.4 gpcpd	5.4
Dishwasher	12 gal/load X 0.2 loads pcpd	2.4
Clothes Washer	42 gal/load X 0.3 loads pcpd	12.6
Garbage Disposal	None: Composting encouraged	0
Evaporative Cooler	6,000 gal/house/year / 365 days /2.8 persons	5.9
TOTAL POTABLE WATER USE PER PERSON PER DAY		52.8

Source: Arizona Department of Water Resources

Goal

Reduce landfill-destined solid waste beneath metropolitan Tucson baseline levels, establish an on-site recycling/composting center, recycle construction waste, and use recycled construction materials.

Metropolitan Baseline

In 1993, solid waste was generated by Tucson area residences at the rate of approximately 3.1 pounds per day per person, and by commercial uses at the rate of about 6.5 pounds per day per employee. Of these gross generation rates, approximately 0.2 pounds per day per resident and 0.9 pounds per day per employee were recycled. This equates to recycling rates of 6% of residential wastes and 14.6% of nonresidential wastes.

As of 2001, Tucson area residences generated solid waste of approximately 2.93 pounds per day per person, of which approximately 0.26 pounds per day per resident or 9% of residential waste is recycled. The City estimates that 3% of nonresidential waste is recycled.

In 2002, the City introduced curbside recycling for residential dwellings and a commercial recycling service that have substantially increased recycling and resource conservation. These programs which operate on a citywide basis have superceded some of the original goals for creation of recycling programs within Civano.

Performance Targets

At the outset of development, a recycling target of 30% of wastes will apply to residences and businesses, increasing to 60% by the date at which 1,250 residential units have been constructed. The developer will coordinate recycling programs with the City's Solid Waste Management Department and work with the CCA to establish the on-site recycling/composting center. Consideration should also be given to development of composting demonstration programs, either on a community-wide basis or for individual residences.

The use of recycled materials in building construction should also be promoted in the Civano development, as should a demonstration of recycling building waste materials from the construction process.

Implementation Responsibilities

The Implementation MOU will provide for the following roles:

Developer/Builders. Design and construction of buildings with built-in recyclables separation features (and hazardous materials storage), and curbside recyclables storage/pick-up areas. Some recycled construction materials shall be used in each structure, and programs shall be established for construction waste to be recycled, to the greatest extent feasible.

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CCA DRC. Review and approval of developer/builder plans. Develop, construct, and operate the on-site recycling/composting center, in cooperation with the City.

City Solid Waste Management Department. Provision of curbside pick-up to all uses, including single family, multifamily and commercial, where appropriate; designation of the proposed Civano recycling center as a "Neighborhood Drop-Off Center" within the City's overall program; and use of Civano as a pilot site for demonstrating new programs and advanced recycling and composting techniques.

Monitoring

The Monitoring MOU will provide for:

Baseline Updating. The recycling baseline will be updated by the City Solid Waste Management Department.

Civano Performance. Cooperative compilation and analysis of Civano solid waste collection records by the Solid Waste Management Department, University of Arizona Garbage Project, and Master Developer.

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Goal

Improve air quality by reducing auto dependence through: 1) internal Civano circulation via walking, biking, electric cart and other alternative energy-saving transportation methods; and 2) by reducing external vehicle miles traveled (VMT) below metropolitan Tucson baseline levels.

Metropolitan Baseline

Metropolitan Tucson 1993 baseline transportation demands are summarized in the following Table C.

Specific Requirements

Significant reductions in auto dependence will be problematic at the outset of Civano development because of the project's distance from major employment and activity centers; and the likelihood that proximate commercial services will be very limited at start-up. Moreover, SunTran's transit plan through 2003 does not contain a bus route serving Civano. Therefore, instead of establishing auto mode shift or VMT reduction targets it is recommended that the following specific requirements be set:

> Inclusion of commercial services within walking/bicycling distance of Neighborhood One homes.
>
> Extension of one or more bus routes to Civano as soon as practical.
>
> Ensure that a pedestrian and bicycle-friendly built environment will be essential at the outset of development. Therefore, each development phase will provide for a majority of through streets (versus cul-de-sacs); and construction of a system of sidewalks or bike or multi-purpose paths; and nonresidential uses will have orientation and access emphasis on pedestrian /bicycle linkages rather than auto linkages.

Implementation Responsibilities

The Implementation MOU will provide for the following roles:

> *Developers.* Develop land-use mix and density, and internal circulation system, to minimize internal auto travel. The Neighborhood One developer(s) will have to include a nonresidential component; and all developers, regardless of phase, will have to construct a pedestrian/bicycle circulation system.
>
> *Builders.* Design and construct buildings and sites with emphasis on pedestrian, bicycle, and transit access; also provide electric cart charging facilities.
>
> *CCA DRC.* Review and approve developer/builder plans.
>
> *SunTran.* One or more bus routes (preferably express lines) should be extended to the Village as soon as practical. Also, consideration should be given to siting the proposed

Eastside Transit Center at or adjacent to Civano in coordination with the following land-use recommendation.

City Planning and State Lands Departments. Consideration will be given to land-use designations that create a pattern of high-density, mixed-uses in the area of Houghton Road and the Drexel Road alignment, with the existing access to Neighborhood 1. Achievement of Civano's transportation demand goal will be substantially strengthened if the general vicinity becomes a larger node of concentrated urban activities. This is already occurring to a certain extent with development of the nearby Rita Ranch project and the University of Arizona's Science and Technology Park and associated development.

Monitoring

The Monitoring MOU will provide for:

Baseline Updating. City of Tucson Transportation Planning Division responsibility for baseline updating.

Civano Performance. City of Tucson Transportation Planning Division and University of Arizona analyses of Civano travel demand, with CCA database maintenance.

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Table C
METROPOLITAN TUCSON TRAVEL DEMAND CHARACTERISTICS
(1993 PAG Transportation. Planning Division)
Daily VMT Per Capital
18 miles (all trip types)

Autos Per Dwelling Unit

Owner-occupied 1.8 Renter-occupied 1.2

Trip Purpose

Trip Purpose	% of Weekday Trips	% of Saturday Trips
Home	36	37
Work	13	4
School	6	<1
Shopping	11	20
Medical	2	1
Social/Recreational	12	23
Other Personal Business	7	7
Work Related	3	1
Pick Up/Drop Off Passenger	8	5
Change Mode of Travel	2	2
Other	<1	<1
	100	100

Trip Mode

Mode	% Weekday Trips	% Saturday Trips
Driver	64	58
Passenger (includes carpool and vanpool)	21	33
SunTran	2	<1
School Bus	2	<1
Bicycle	2	<1
Walk/Jog	8	2
Taxi/Soc.Svc/Special Bus	<1	7
Other	<1	<1
	100	100

Percentages may add up to more than 100% due to rounding.

Goal

Create one job within Civano for every two dwelling units.

Metropolitan Baseline

The City Planning Department indicates that very few development projects in metropolitan Tucson have had a mix of housing and employment located on the same site. Rita Ranch is an example of the very limited type of mixed-use development to date in the community.

Specific Requirement

A minimum ratio of 300 sq. ft. of nonresidential floor area (equivalent to work space for a typical office employee) will be constructed for every two dwelling units built. This ratio may be achieved through the total planned development of Civano in the Civano Master Plan and as it may be amended. Credits will be allowed for homes constructed with built-in dedicated office space. This requirement is also consistent with the transportation objective of planning for commercial and other employment uses at the outset of Civano development.

Implementation Responsibilities

The Implementation MOU will provide for the following roles:

Developers/builders. Planning, development and/or construction of residential and nonresidential uses in ratios that achieve the specific requirement. Design of telecommunications capacity to enable expansion of fiber optics or similar infrastructure to all commercial and home office locations. Initially, this may consist of placing conduit to allow expansion of telecommunications capabilities as the population at Civano grows and demands such services.

CCA DRC. Review and approval of developer/builder plans.

City Office of Economic Development and Greater Tucson Economic Council. Commitment to actively recruit employers for location in Civano.

City Planning and State Land Departments. Consideration of land-use designations that increase employment opportunities and services in the vicinity of Civano. Goal achievement will be strengthened to the extent that the general vicinity becomes recognized as an employment center. As noted earlier, this trend is already underway at Rita Ranch and the University of Arizona Science and Technology Park.

Monitoring

The Monitoring MOU will provide for:

Baseline Updating. Responsibility for baseline updating will lie with the City Planning Department.

12203 25889

Civano Performance. CCA surveying of Civano employment versus dwellings built.

12203 2590

Goal

The average wage of Civano jobs should enable employees to afford the average cost of Civano housing.

Metropolitan Baseline

According to the Tucson Chamber of Commerce, in 1993 the average price of a new home in metropolitan Tucson was $109,000, and the average rent for a new apartment was approximately $550 per month.

According to statistics compiled by the City's Comprehensive Planning Task Force, the average sales price for a single family home (both new and resale) as of May 2003 was $193,561. The estimated monthly rental for a two-bedroom apartment for 2004 is $707.

Performance Target

The Civano Master Plan cites a range of single-family dwelling prices of $99,000-134,000; and apartment rental rates of $400-670 (these are 1989 estimates escalated to 1994 dollars). When compared to the baselines, the Civano price range implies apartment affordability, but suggests difficulty in home affordability for lower wage groups, e.g., retail/service employees.

A widely-used market share goal for low and moderate-income housing is 20% of the dwellings in new projects. Therefore, the CCA DRC will ensure that at least 20% of the eventual total number of all dwellings are priced for low and moderate-income households (defined by HUD as 80% or less of the local median household income); and that the affordable housing include all dwelling types built in Civano. This goal will be reviewed periodically, but the exact percentage is anticipated to vary year-by-year. It is reasonable to expect approximate conformance with the goal at the stages when 25%, 50%, and 75% of all residential units have been built and occupied, to ensure that the goal is achieved at 100% completion. However, developers and builders will be afforded some flexibility within those intervals.

Implementation Responsibilities

The Implementation MOU will provide for the following roles:

Developers/builders. Design, construction and marketing of residences in accordance with the affordability target to the extent that assistance is available from public agencies, foundations, and other sources to finance and construct affordable housing.

CCA DRC. Review and approval of developer/builder plans.

City Community Services Department. Assistance to developers/builders that may participate in low and moderate-income housing programs. Other non-municipal organizations can also assist developers/builders with these programs, such as Chicanos Por La Causa, Habitat for Humanity, and the Tucson Urban League.

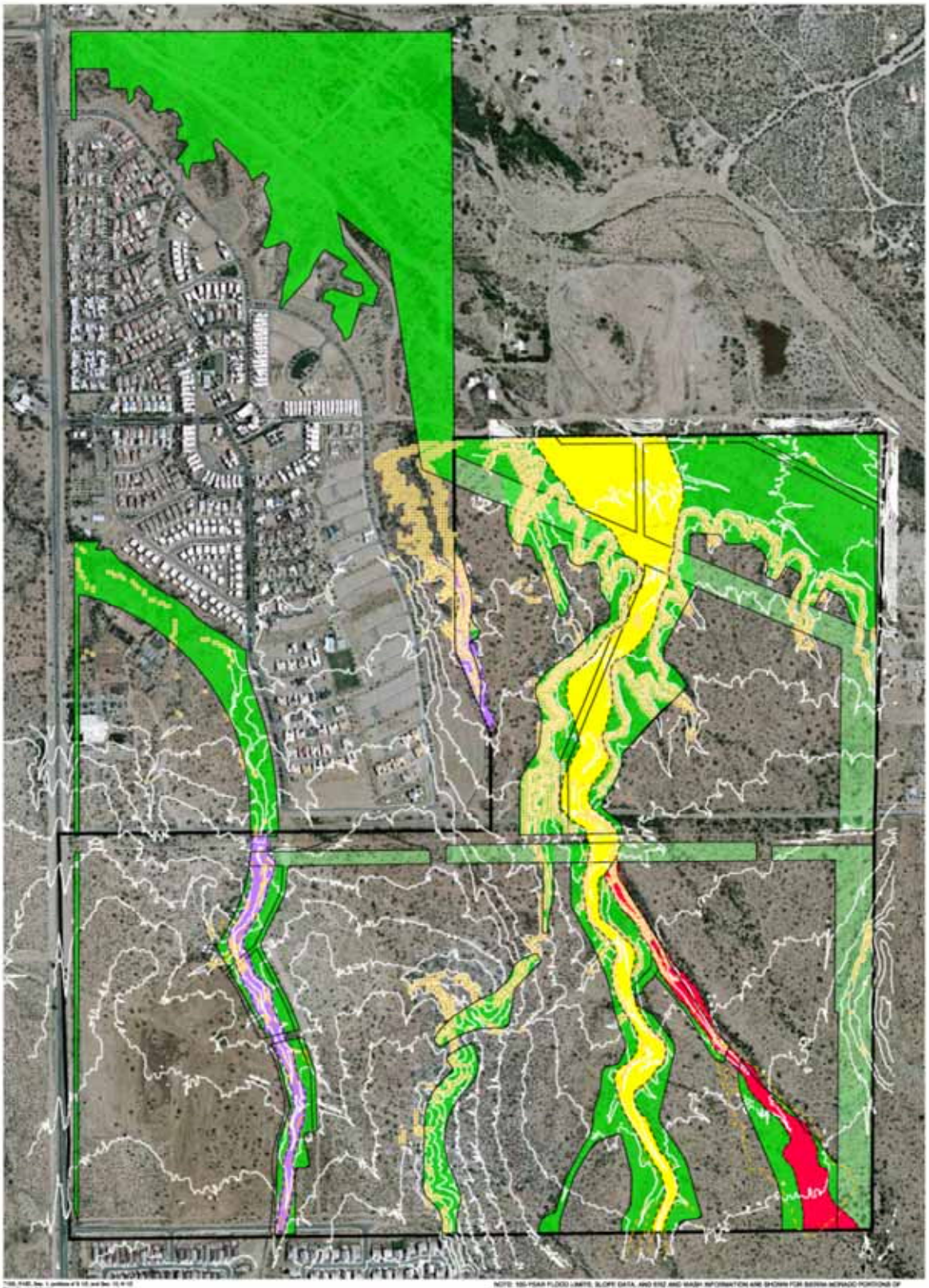
Monitoring

The Monitoring MOU will provide for:

Baseline Updating. Responsibility for baseline updating lies with the City's Community Services Department.

Civano Performance. CCA surveying of Civano employees who reside on site.

Appendix 3: Environmental Impact Report Exhibit



LEGEND

- 100-YEAR FLOOD LIMITS
- SLOPE - >= 15%
- XERORIPARIAN VEGETATION LIMITS WITHIN PROPOSED ERZ ORDINANCE DESIGNATION
- XERORIPARIAN VEGETATION LIMITS WITHIN PROPOSED WASH ORDINANCE DESIGNATION
- XERORIPARIAN VEGETATION LIMITS WITHIN EXISTING WASH ORDINANCE DESIGNATION
- NATURAL OPEN SPACE
- OVERHEAD EASEMENT NATURAL OPEN SPACE

CIVANO MASTER PLANNED AREA DEVELOPMENT

Environmental Resources Exhibit

SHEET 1 OF 1

PAVILIONS PAD
PROCEDURE FOR IMPLEMENTATION OF VIEW CORRIDOR REQUIREMENTS

Background

A. The undersigned are all of the owners of the land constituting the Pavilions PAD.

B. Section E-5.a.4 of the Pavilions PAD provides as follows:

> Section 2.8.2.6B of the LUC shall apply to the Pavilions PAD except that (i) the requirements may be met for the Pavilions PAD as a whole and (ii) for the purpose of Section 2.8.2.6B, the Scenic Corridor Zone shall be 200 feet deep measured from the future Houghton Road right-of-way line as indicated on the Major Streets and Routes Map. The method of allocating view corridor areas across the Pavilions PAD and/or among different property owners shall be established and submitted to City staff for approval in connection with the approval of the first development plan within the Pavilions PAD.

C. This Procedure for Implementation of View Corridor Requirements implements the foregoing provision of the Pavilions PAD.

D. For the purposes hereof:

(i) The numbering of Lots refers to the plat entitled "Pavilions: Final Plat" recorded in the Pima County Recorder's Office in Book 63 of Maps and Plats at Page 68.

(ii) 'Scenic Corridor Zone" has the meaning given in Section E-5.a.4 of the Pavilions PAD.

(iii) "Zone 1" means the portions of Lots 6, 7, 9 and 10 lying within the Scenic Corridor Zone.

(iv) "Zone 2" means the portions of Lots 1 and 16 lying within the Scenic Corridor Zone.

E. Lots 2 through 5, 8, 11 through 15, and 17 are not included in Zone 1 or Zone 2 because no portion of those Lots is within the Scenic Corridor Zone.

Procedure

1. Each development plan for the development or redevelopment of any land within Zone 1 or Zone 2 shall comply with this Procedure.

2. The first development plan for the development of any land within Zone 1 shall comply with the 20% view corridor requirement of LUC Section 2.8.2.6.B as applied to the particular Lot. Each subsequent development plan for the development or redevelopment of any land within Zone 1 also shall comply with the 20% view corridor requirement of LUC Section 2.8.2.6.B, but the 20% requirement shall be calculated for the particular Lot taken together with all of the land within Zone 1 previously improved pursuant to a City-approved development plan.

3. Similarly, the first development plan for the development of any land within Zone 2 shall comply with the 20% view corridor requirement of LUC Section 2.8.2.6.B as applied to the particular Lot. Each subsequent development plan for the development or redevelopment of any land within Zone 2 also shall comply with the 20% view corridor requirement of LUC Section 2.8.2.6.B, but the 20% requirement shall be calculated for the particular Lot taken together with all of the land within Zone 2 previously improved pursuant to a City-approved development plan.

4. For example, if Lot 9 is the first Lot in Zone 1 for which a development plan is submitted for approval, the development plan must comply with the 20% view corridor requirement of LUC Section 2.8.2.6.B applied to Lot 9 on its own. If a development plan is then submitted for Lot 6, then Lot must also comply with the 20% view corridor requirement of LUC Section 2.8.2.6.B; however, for the purposes of the calculation, Lots 6 and 9 would be considered together (taking into account the improvements previously constructed on Lot 6). In this way, a development plan for Lot 9 that would not on its own meet the 20% requirement could meet the requirement if the prior development of Lot 6 was such that, taken together, Lot 6 and Lot 9 together meet the 20% requirement.

TITLE SECURITY AGENCY OF ARIZONA,
an Arizona corporation, as Trustee under Trust
No. 975 (with respect to Lots (1-4 and 11-17),
and not in its corporate capacity

By: _____
Name: Diane L Stopani
Trust Officer

Beneficiary Approval:
TMC HOLDINGS, INC.

By _____
Name Tracy P. Nuckolls, Esq.
Title Executive Vice President
Business Affairs

TITLE SECURITY AGENCY OF ARIZONA,
an Arizona corporation, as Trustee under Trust
Trust No. 1080 (with respect to Lots (5-10),
and not in its corporate capacity

By: _____
Name: DIANA L SLOAN
Trust Officer

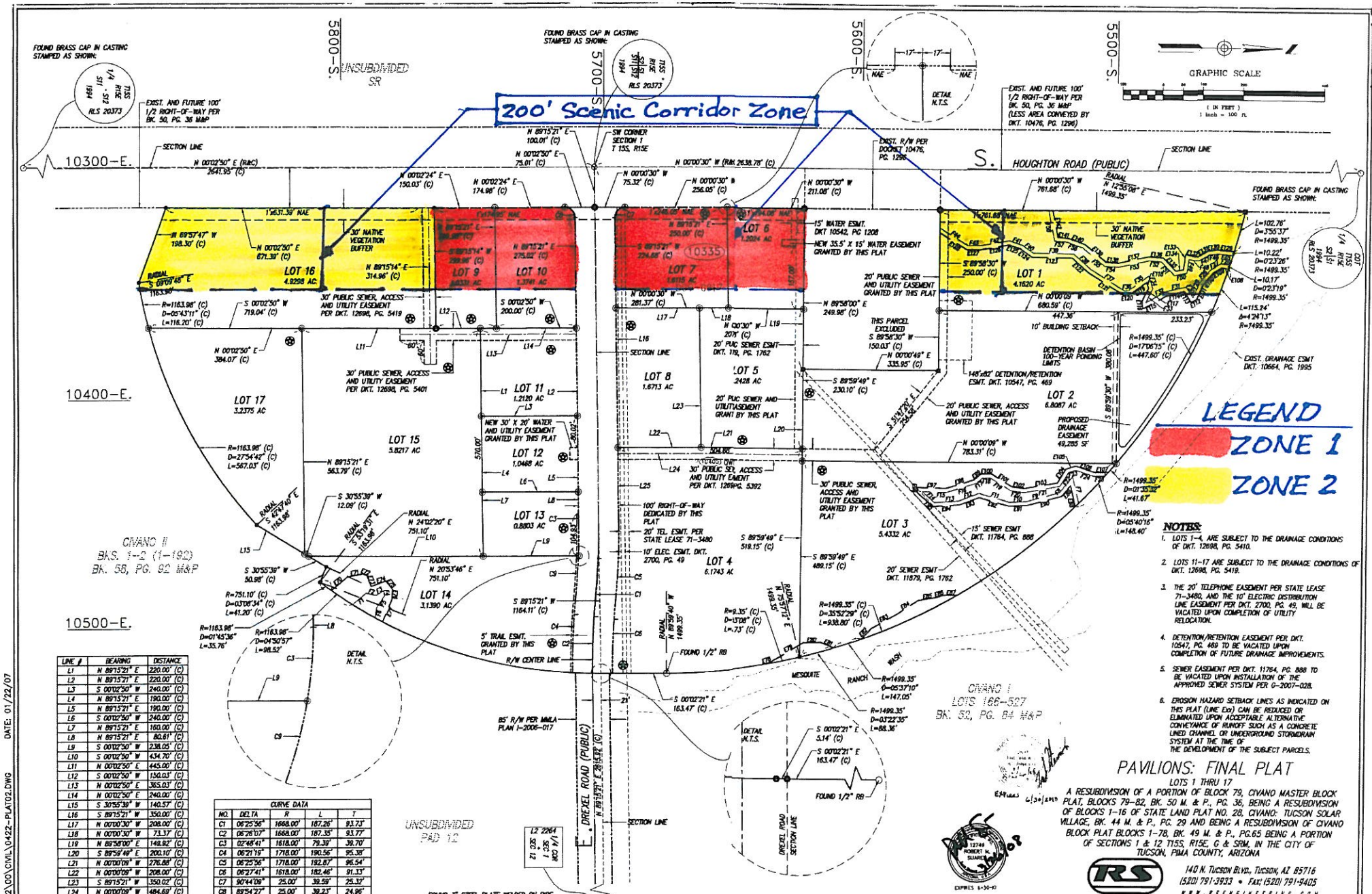
Beneficiary Approval:
HOUGHTON DREXEL, LLC

By_____
Name Member
Authorized Representative

City staff approval:

The foregoing has been approved pursuant to Section E-5.a.4 of the Pavilions PAD.

By: _____
Name: BENEDT A. DUARTE
Title DIRECTOR, PDSD



LINE #	BEARING	DISTANCE
L1	N 89°15'21" E	220.00' (C)
L2	N 89°15'21" E	220.00' (C)
L3	S 00°02'50" W	240.00' (C)
L4	N 89°15'21" E	190.00' (C)
L5	N 89°15'21" E	190.00' (C)
L6	S 00°02'50" W	240.00' (C)
L7	N 89°15'21" E	160.00' (C)
L8	N 89°15'21" E	80.61' (C)
L9	S 00°02'50" W	238.05' (C)
L10	S 00°02'50" W	434.70' (C)
L11	N 00°02'50" E	445.00' (C)
L12	S 00°02'50" W	150.03' (C)
L13	N 00°02'50" E	365.03' (C)
L14	N 00°02'50" E	240.00' (C)
L15	S 30°55'39" W	140.57' (C)
L16	S 89°15'21" W	350.00' (C)
L17	N 00°00'30" W	208.00' (C)
L18	N 00°00'30" W	73.17' (C)
L19	N 89°58'00" E	148.82' (C)
L20	S 89°59'49" E	200.10' (C)
L21	N 00°00'09" W	276.68' (C)
L22	N 00°00'09" W	208.00' (C)
L23	S 89°15'21" W	350.02' (C)
L24	N 00°00'09" W	484.69' (C)
L25	N 89°15'21" E	275.63' (C)

CURVE DATA				
NO.	DELTA	R	L	T
C1	06°25'56"	1668.00'	187.26'	93.73'
C2	06°26'07"	1668.00'	187.35'	93.77'
C3	02°48'41"	1618.00'	79.39'	39.70'
C4	06°21'19"	1718.00'	190.56'	95.38'
C5	06°25'56"	1718.00'	192.87'	96.54'
C6	06°27'41"	1618.00'	182.46'	91.33'
C7	90°44'09"	25.00'	39.59'	25.32'
C8	89°54'27"	25.00'	39.23'	24.96'
C9	03°37'15"	1618.00'	102.25'	51.14'

NOTES:

1. LOTS 1-4, ARE SUBJECT TO THE DRAINAGE CONDITIONS OF DKT. 12698, PG. 5410.
2. LOTS 11-17 ARE SUBJECT TO THE DRAINAGE CONDITIONS OF DKT. 12698, PG. 5419.
3. THE 20' TELEPHONE EASEMENT PER STATE LEASE 71-3480, AND THE 10' ELECTRIC DISTRIBUTION LINE EASEMENT PER DKT. 2700, PG. 49, WILL BE VACATED UPON COMPLETION OF UTILITY RELOCATION.
4. DETENTION/RETENTION EASEMENT PER DKT. 10547, PG. 469 TO BE VACATED UPON COMPLETION OF FUTURE DRAINAGE IMPROVEMENTS.
5. SEWER EASEMENT PER DKT. 11764, PG. 888 TO BE VACATED UPON INSTALLATION OF THE APPROVED SEWER SYSTEM PER G-2007-028.
6. EROSION HAZARD SETBACK LINES AS INDICATED ON THIS PLAT (LINE Exx) CAN BE REDUCED OR ELIMINATED UPON ACCEPTABLE ALTERNATIVE CONVEYANCE OF RUNOFF SUCH AS A CONCRETE LINED CHANNEL OR UNDERGROUND STORMDRAIN SYSTEM AT THE TIME OF THE DEVELOPMENT OF THE SUBJECT PARCELS.

PAVILIONS: FINAL PLAT

LOTS 1 THRU 17

A RESUBDIVISION OF A PORTION OF BLOCK 79, CIVANO MASTER BLOCK PLAT, BLOCKS 79-82, BK. 50 M. & P., PG. 36, BEING A RESUBDIVISION OF BLOCKS 1-16 OF STATE LAND PLAT NO. 28, CIVANO: TUCSON SOLAR VILLAGE, BK. 44 M. & P., PG. 29 AND BEING A RESUBDIVISION OF CIVANO BLOCK PLAT BLOCKS 1-78, BK. 49 M. & P., PG.65 BEING A PORTION OF SECTIONS 1 & 12 T15S, R15E, G & SRM, IN THE CITY OF TUCSON, PIMA COUNTY, ARIZONA

RS ENGINEERING
140 N. Tucson Blvd., Tucson, AZ 85716
(520) 791-3933 • Fax: (520) 791-9405
WWW.RSENGINEERING.COM

S06-204 PAD12 C9-05-02 SHEET 2 OF 2

DATE: 01/22/07

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CITY OF
TUCSON
PLANNING &
DEVELOPMENT
SERVICES
DEPARTMENT

February 24, 2010

Mr. Michael Baruch, Principal
L3 Project Management, LLC.
3331 N. Riverbend Circle West
Tucson, AZ 85750

SUBJECT: Clarification to the Civano Planned Area Development Zoning Rights for the Civano Nursery, Parcels 141-01-279 A & B

Dear Mr. Baruch:

I have reviewed your letter requesting clarification as to the zoning rights allowed for the Civano Nursery as found in the Civano PAD – Neighborhood 1.

Your request letter outlines that the property owner, in preparation to the future Houghton Road widening project, wishes to re-orient and improve the nursery/garden center to have direct access onto Houghton Road. Current access is provided from an interior neighborhood street, Thunder Sky Way. Your letter asks for clarification that the development standards found in Civano PAD – Neighborhood 1 for building setbacks and building heights along Houghton Road will not be subject to the Land Use Code Scenic Corridor Zone.

The Civano PAD – Neighborhood 1 District specifically addresses setbacks along Houghton Road in the Thoroughfare Standards (Exhibit 37) that call out a 10-foot building setback. The Nursery site is within the Neighborhood General District, which allows for a maximum 35' building height.

The Land Use Code (LUC) states that where a provision in a PAD District varies from the LUC, the provisions in the PAD District shall govern (LUC 2.6.3.2).

Therefore, it is determined that any proposed redevelopment of the Civano Nursery will follow the zoning rights as articulated in the Neighborhood 1 section of the PAD document. And the Nursery site will only be subject to scenic corridor zoned criteria if such criteria is not specifically addressed in the PAD.

Note also, per TDOT, it has been determined that the nursery will have access from Houghton Road as indicated in the Houghton Road Widening Project.

Mr. Michael Baruch, Principal
L3 Project Management, LLC.
February 24, 2010
Page Two

The purposed access drive is 24-foot wide with 35-foot radii curb returns and will be restricted to right-in, right-out. The driveway has been designed to accommodate larger trucks for deliveries, but in light of the recent request by the property owner, TDOT has no objections permitting ingress/egress for the general public (see attached TDOT letter). It should be noted that no additional access points from Houghton Road will be permitted to or from the nursery. TDOT-Traffic requests that TDOT staff be included in the review of any future redevelopment to the nursery site.

This letter serves as clarification by the Planning and Development Services Director, that the Civano Nursery will follow the development standards in Civano PAD - Neighborhood 1 even if a provision in the PAD District varies from the Land Use Code. Please note that a copy of this letter must be attached to any development plan for the Civano Nursery.

Sincerely,

Ernie Duarte, Director
Planning and Development Services Department

c. Craig Gross, PDSD
Jim Mazzocco, PDSD
Patricia Gehlen, PDSD
John Beall, PDSD
Jose Ortiz, TDOT

Attachments: Applicant's Request

L3 Project Management LLC
3331 N. Riverbend Circle West
Tucson, Arizona 85750

Via Hand Delivery

February 10, 2010

Mr. John Beal
City of Tucson Zoning Review Department
201 North Stone
Tucson, Arizona 85726

Re: The Civano Nursery, Parcels 141-01-279 A & B

Dear John,

This letter is a request for confirmation from the City of Tucson with regards to the PAD zoning rights for the above referenced parcels. The property owner, the Shipley family, is excited to begin work on an ambitious plan to redesign the nursery and garden center to embrace the future Houghton Road widening project. In preparation for the road project the Shipley's wish to re-orient and improve the nursery and garden center to directly ingress and egress from Houghton Road versus the current Thunder Sky Way entrance internal to the residential neighborhood of Civano I. The project will begin with a substantial investment in time and consulting as we work with national experts in garden center design and marketing to develop a master program and layout for the project which will include state of the art climate conditioned greenhouses for both growing and all weather retail sales. Likewise, it is important that we receive a committed response to the following questions regarding the development criteria that are applicable to our parcels.

We wish to confirm that the above referenced parcels zoned PAD 12 and therein the Neighborhood General District, Civano Nursery overlay zone are by virtue of the specific language written into the PAD entitled to the following development standards:

Building Setback at Houghton Road:	"10 ft. excluding fences, walls, overhangs for roofs and porches and shade structure overhangs and supports; which can extend up to the Houghton Road property line."
Building Height:	"35' max., excluding cool towers, wind catchers, chimneys and other vertical extensions with similar purpose under 250 sq. ft. in section and limited to 50 feet in height."

Furthermore, it is important to receive confirmation that these zoning rights specifically articulated in the PAD are not inferior to the current major streets and routes setback zone criteria L.U.C. 2.8.2.4 and 2.8.2.5 which would otherwise require a property along the Houghton Road scenic arterial street to observe a thirty (30) foot buffer setback and an additional setback and height restriction of a maximum height equal to one-third (1/3) the distance of the structure from the future right-of-way line not to

L3 Project Management LLC
3331 N. Riverbend Circle West
Tucson, Arizona 85750

exceed thirty (30) feet for a nonresidential structure. It is our belief that because of the specific nature of the criteria written into the ordinanced PAD section 2.8.2.5.B does not nullify the PAD language.

In giving this matter consideration it may be helpful to understand the historical context of this specific project. Civano I was zoned PAD 6a in October of 1997 and later repackaged in its entirety as one component to the Civano Master PAD in April of 2005 thereby changing the zoning designation to PAD 12. At the time of the adoption of the original PAD the MS&R plan was in its tenth (10th) iteration and the PAD specifically identified Houghton as an "urban gateway". The use of a 0' wall and 10' building setbacks written into the PAD figured precisely in the layout of both residential lots and the subject nursery parcels including the spacing between Thunder Sky Way and Houghton Road. Application of a 30' buffer zone would have required Thunder Sky Way to be located an additional 30' easterly of its current location (see attached figure 1).

At the time of the adoption of PAD 12 the MS&R plan was in its twenty-third (23rd) iteration and portions of the PAD outside the Civano I PAD limits were specifically identified as subject to the Scenic Corridor Zone (SCZ) overlay zone; by contrast such specific language was not then added to the Civano I PAD district. In fact, by that time the entire Houghton Road frontage was fully developed in accordance with the PAD 6a Houghton Road setback of 0' for walls and 10' for buildings (see attached figure 2).

Today Civano Nursery seeks to maintain the economic viability of its Houghton Road location by re-orienting the entire site toward a new Houghton road entrance and making a substantial new investment in high-technology conditioned growing and retail greenhouse facilities. In order to do so the additional facilities and relocation will be tantamount to a total redevelopment of the site and the owners need confirmation that the specific, zoned language regarding setbacks and height will be honored such that the project will only be subject to scenic corridor zone criteria not specifically addressed in the PAD. We look forward to your timely and studied response on this matter.

Respectfully,

Michael Baruch, Principal
L3 Project Management, LLC

Les Shipley, President
Civano Nursery, Inc.

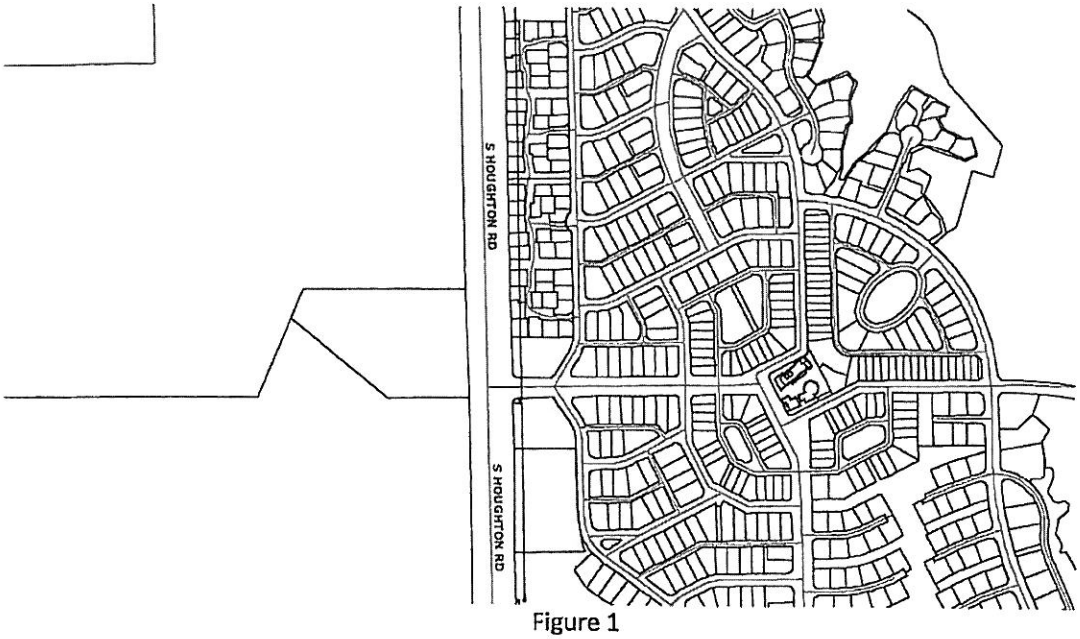

Figure 1

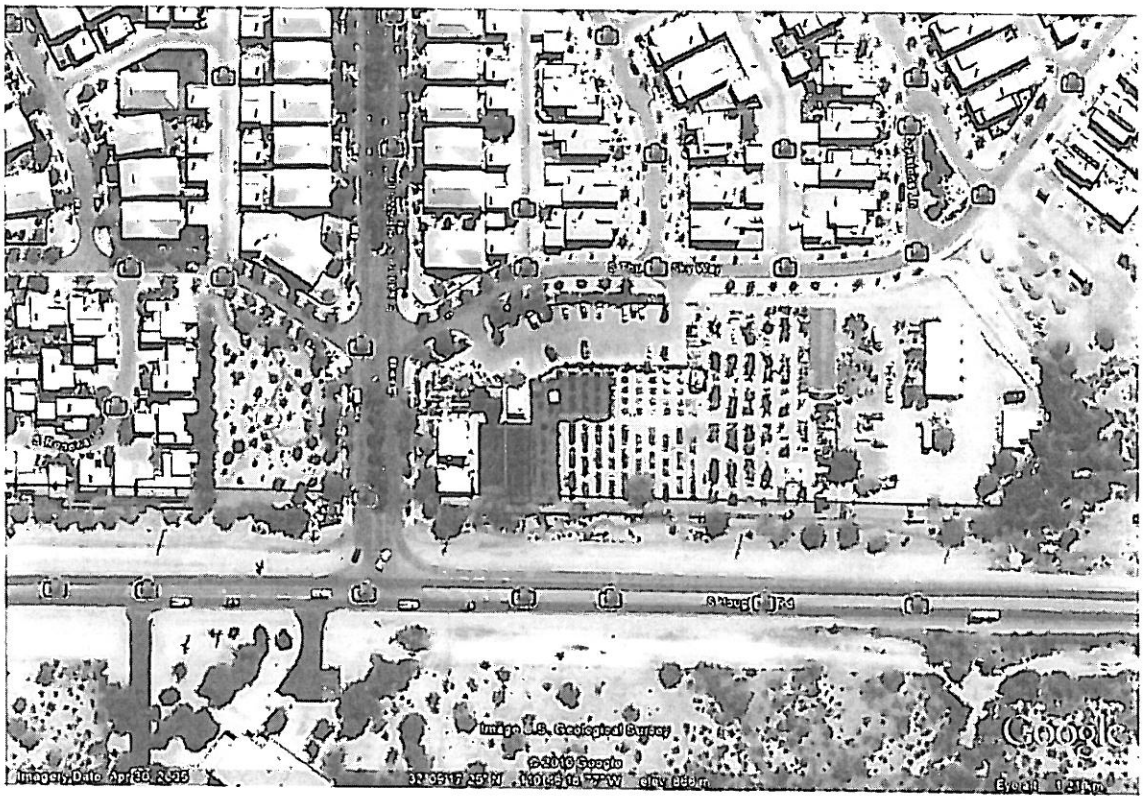

Figure 2

CITY OF TUCSON
DEPARTMENT OF TRANSPORTATION

May 16, 2008

Leslie Shipley
Civano Nursery
5301 S. Houghton Rd.
Tucson, Arizona 85747

Subject: Houghton Roadway Widening and Access to Civano Nursery

Dear Mr. Shipley:

We have reviewed your access request of April 21, 2008, and are pleased to inform you that we are in agreement that the requested right-in, right-out only access into the Civano Nursery fits within the criteria of our roadway widening project, and will include it in our design.

As you recently discussed with the Project Manager for the Houghton Road widening project, this right-in, right-out access point will be constructed as a standard driveway apron. To make this possible, the Civano Nursery will need to seek permission to abandon the No Access Easement that currently exists at this location. Also, as mentioned in that discussion, we will be e-mailing you some drawings showing the specifics of the proposed driveway and to facilitate our discussions in locating the exact location with respect to your proposed development.

We would like to clarify that this access/driveway will be designed to serve only the nursery itself. Any future plans the nursery may have to extend this access through the nursery and into the Civano neighborhood to the east will need to be handled as a separate issue through the City of Tucson Development Services private development process. That process would include determining the feasibility of connecting a roadway through the development, as well as evaluating the potential traffic impacts on the neighborhood. Additionally, given the significant traffic that might use this new access point, if it passes through to the neighborhood, you may also be required to evaluate the need for an exclusive right turn lane on Houghton to accommodate these changes. This project may require the acquisition of additional right of way in the area of your property, as well as the property to the south of you, and it may require the expansion of a nearby drainage culvert to provide the necessary room for the exclusive right turn lane. These are expenses that would need to be funded by the Civano Nursery at no cost to the City.

If you have any questions or concerns, please feel free to call the Houghton Roadway Widening Project Manager, M.J. Dillard at 837-6616.

Sincerely,

James W. Glock, P.E., Director
Department of Transportation

JWG:MJD:mc

c: Andrew Squire, Ward 4
M. J. Dillard, TDOT
Andy McGovern, TDOT

DIRECTOR'S OFFICE
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