Prepared for Rio Development Company

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Master Plan for

MERCADO NEIGHBORHOOD
RIO NUEVO

Tucson, AZ

01 September 2004

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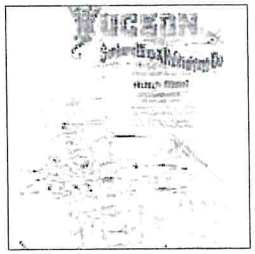
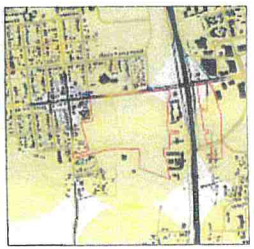
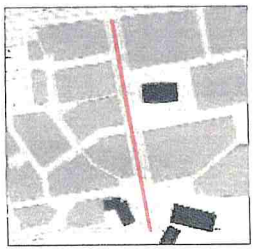
CHARRETTE PROCESS

This plan and code were produced through a charrette process which was led by Moule & Polyzoides in late January 2004. During this process, all participants, private and public worked together over the course of a few intensive days to prepare a plan in common. The complete list of project team members and charrette participants is provided at the end of this document.

During the charrette, the project site, its immediate surroundings and Tucson as a whole were analyzed and evaluated in a variety of terms: environmental, social, economic and physical. This information served as the basis from which to begin to understand what can and should be designed in the project site. Throughout each of four days, sessions focused on particular issues ranging from archaeology, transportation and architecture, to emergency access and economics. Each day, progress was reviewed on all elements with the entire group to reaffirm the desired project direction. Participants were motivated and interested in this process because their time was used efficiently and their input led to direct results. The charrette's numerous focused sessions and daily reviews built upon each other while pursuing the larger goal: an urbanism and architecture master plan for the project site that, when executed, supports the expectations of all stakeholders and the community at large.



THE NEIGHBORHOOD PLAN

The project vision is to produce a new neighborhood based on the traditional development patterns of Tucson's Barrio. Here, the major physical elements of the plan are discussed for their particular characteristics and contribution to the vision. The project is bounded by Congress Street, the Avenida del Convento, Clearwater Drive and the Menlo Park Neighborhood. Eight residential blocks are centered on the traces of an ancient acequia. A "Main Street" central to the vitality of the Mercado District is developed along the Avenida del Convento. This development seamlessly interacts with the adjacent Menlo Park Neighborhood, the University of Arizona Science Center and the Tucson Origins project. Eventually, what is currently a vacant area alongside the freeway will be transformed into a vibrant district that includes 3 major cultural institutions within it.
The major subjects addressed here are:

THE CODE

The form and expected performance of the plan are incorporated into specific development standards. Each component of the Mercado Neighborhood is addressed in terms of both the public and private realm. The public realm involves the standards for infrastructure used by all. The private realm is governed by standards for private development and use.
The major subjects addressed here are:

APPENDIX

The background analysis and documentation used to prepare the plan and code.

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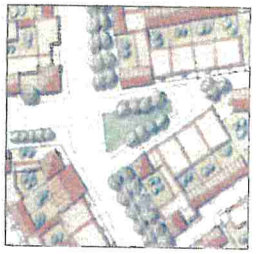

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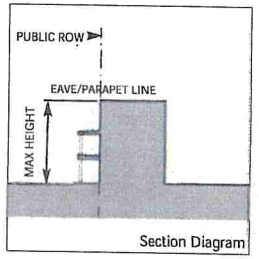

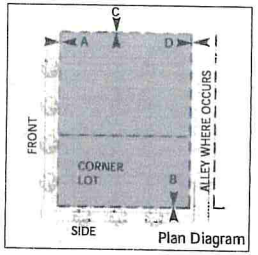

Applicability
The provisions of this Code apply to all subdivision, site and building development, and, land use activity within the Mercado District Planned Area Development (PAD).

This Code was prepared and adopted by the City in approving the Mercado District 'PAD'. Because this Code provides specialized regulations for subdivision improvements, street standards, site planning, and building design within the PAD, these standards and requirements supercede and replace the requirements for new development in the City of Tucson Zoning Ordinance.

Administration of Code
This Code shall be administered by the City of Tucson Planning Department. Decisions by those bodies and individuals regarding property within the PAD area shall comply with all applicable provisions of this Code.

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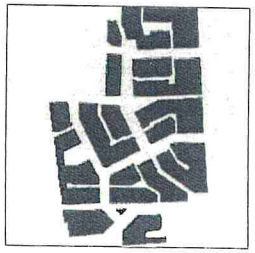
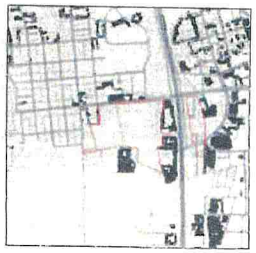




INTRODUCTION

SITE CONTEXT

The project site is located within the area of western Tucson currently known as Menlo Park. The project also lies within the boundaries of the Rio Nuevo Pojrect which is part of an overall municipal strategy to reinvigorate the downtown and areas straddling the I-10 freeway. Within this 62 acre project area, the site comprises the most westerly 13 acres and is an eastward extension of Menlo Park.

As seen in the aerial diagram at right, the equivalent of one pedestrian shed, or an area in which a person can walk an average distance of 5 minutes from the center to the edge, includes the project site to the west and a portion of Menlo Park.

The most glaring distinction between the current downtown and Menlo Park is a change in scale. This is the result of the urban renewal 'improvements' of the 1960's that unfortunately, destroyed the traditional character of downtown Tucson by demolishing the historic city center and creating mega blocks with large buildings floating in a sea of parking. Not only did the sustainable urbanism and well-defined public realm of Tucson's Barrio neighborhood get eliminated, but so did the benefits: walkability, shade, buildings with windows and activity fronting the sidewalk as well as the dignified siting of civic and institutional buildings.

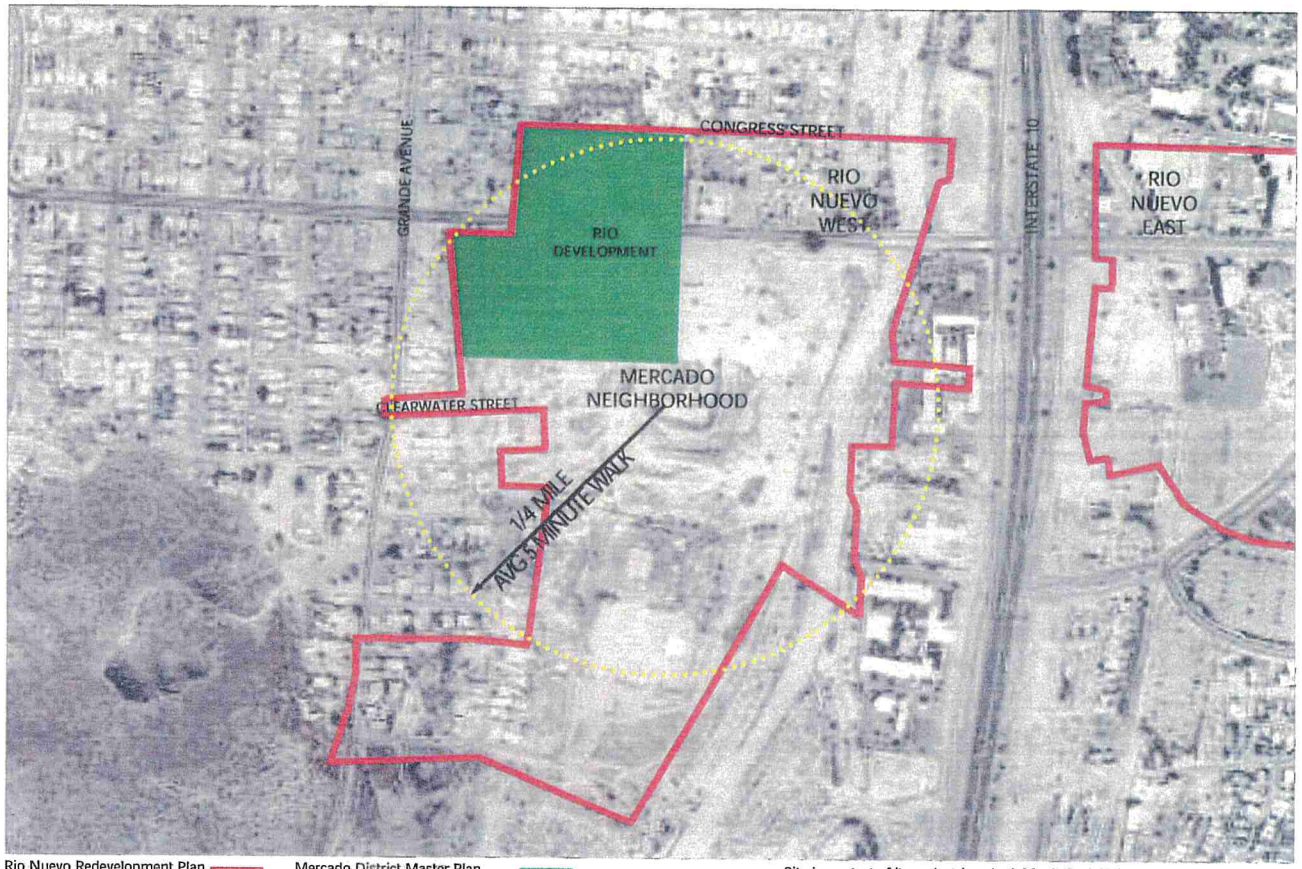
Ironically, though the project site is vacant and unimproved, it is less damaged than the 'improved' properties to the east that were subject to the failed national experiment of Urban Renewal. As such, the project site is ready to receive sensitive planning attention and to help complete the area of the city to which it belongs.

The site of the Mercado District at the base of "A" Mountain is the birth place of modern Tucson and has been inhabited for at least 4,000 years. It evolved from an early agricultural period village with small pit houses and a canal system watering fields of squash, beans, maize, melons, cotton and tobacco, to a Spanish Colonial outpost, eventually becoming modern Tucson.

When Jesuit missionary Father Kino passed through the area, he visited the Pima Indian village of the Schook-shon (from where the name Tucson derived). Kino named the site "San Cosme de Tucson." In 1770, a chapel was built just to the south of the Mercado Neighborhood and was named San Agustin del Tucson. After the nearby Mission of San Xavier del Bac was completed in 1797, a two story Convento was constructed at San Agustin as well as a walled mission garden, cemeteries and a granary, all of which served as a "visita" to San Xavier del Bac.

On August 20th, 1775 Lieutenant Colonel Hugo O'Conner of the Royal Spanish army selected and surveyed the site for the building of the Presidio of San Agustin de Tucson and laid the foundation for the beginning of the modern day City of Tucson. The Presidio site located on the east side of the Santa Cruz River was selected.

The Presidio San Agustin de Tucson was abandoned in the 1820's and by 1843 was falling into ruin. The Convento survived into the early 1900's. By the 1950's only a few walls remained. The City of Tucson bulldozed the area to make room for a landfill. In 1999 the City of Tucson began the Rio Nuevo Project, which among other goals, seeks to reconstruct the historic center of Tucson.



Rio Nuevo Redevelopment Plan and Tucson Origins — Mercado District Master Plan

Site in context of its pedestrian shed, Menlo Park Neighborhood and Downtown

Existing Conditions

0 300 600 1200ft

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INTRODUCTION

VISION PLAN FOR RIO NUEVO WEST &

THE MERCADO NEIGHBORHOOD

The design team prepared this plan to best understand the project site's role within the entire Rio Nuevo West area. Rio Nuevo West is the current gap between the Menlo Park Neighborhood and downtown.

The Vision Plan proposes a network of 18 blocks of varying sizes, connected by varying street types. Its traditional pattern of development establishes opportunities on each block and street in a way that conventional suburban development cannot.

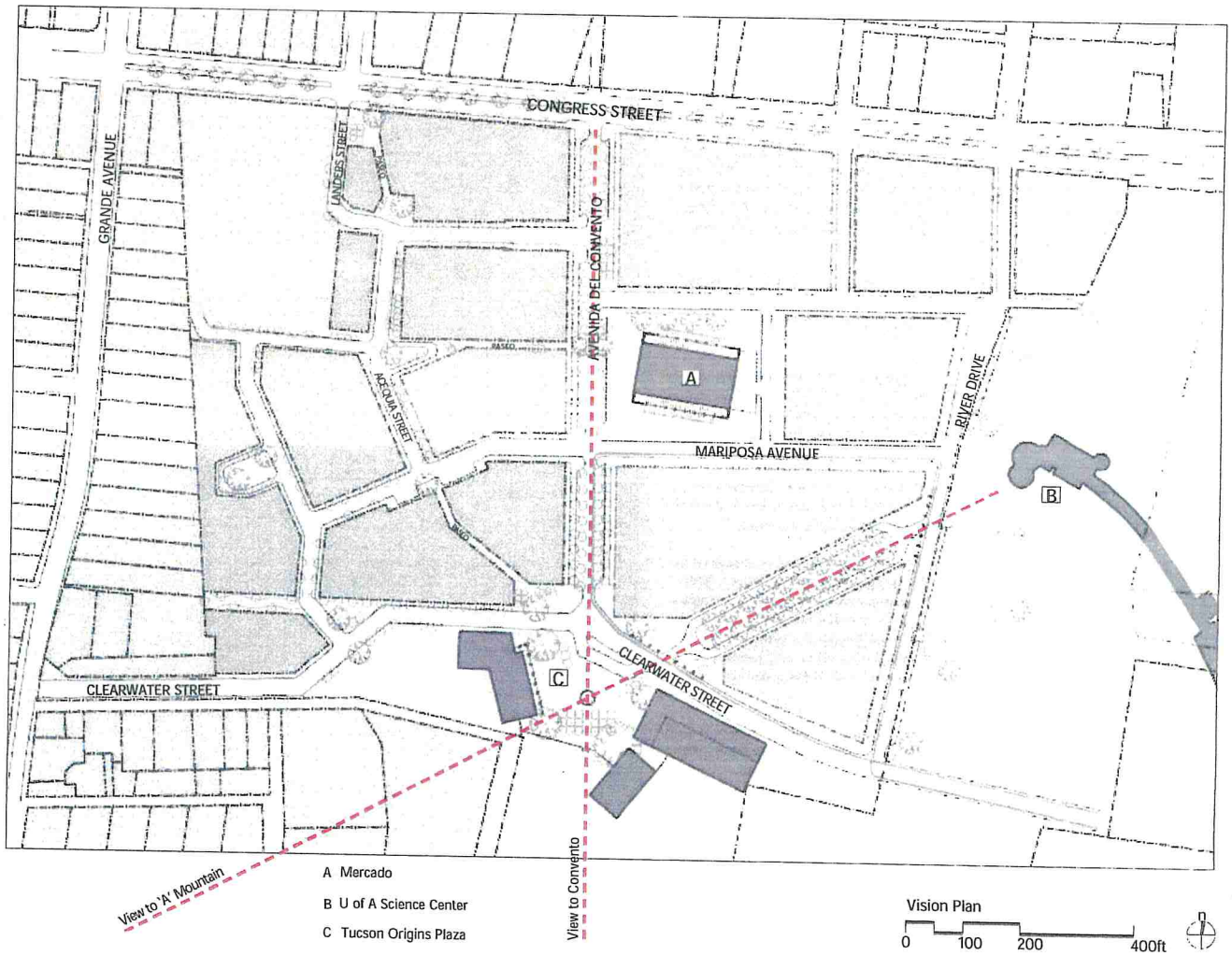
The completely interconnected and deeply varied plan of blocks and streets organizes the smallest of blocks for primarily residential use and the larger blocks for mixed use projects and buildings of more intense programs. Parking garages organized into a park-once shared parking district are to be strategically dispersed throughout the plan and lined by residential and/or mixed use buildings.

Three primary programs and facilities contribute to the richness of the overall plan of Rio Nuevo West: The University of Arizona Science Center which links downtown with this neighborhood; The Mercado; and, The Tucson Origins Center including the historic Convento. These civic institutions give this proposed area enormous benefits absent in most neighborhood and district plans. Instead of making a combined attraction out of these civic facilities, the design team strategically dispersed them throughout the plan. Great cities have always contained a mix of public and private buildings, civic institutions and individual businesses and homes. By seeding the 18-blocks with civic opportunities, the pedestrian is given many reasons to explore the neighborhood, moving along varied and interesting routes. Additionally, the proposed trolley system now has a short loop that provides 3 very convenient stops at these featured civic attractions.

Alignment of Avenida del Convento
Equally influential to the plan is the technically-oriented task of placing a major access street to be introduced into the site. Upon learning the significance of terminating this thoroughfare on the Convento de San Augustin, the team decided to appropriately call it the Avenida del Convento.

The net effect is that the historic convento, seemingly hidden from memory and public view is now prominently featured.

What may have begun as a simple technical matter of adjusting parcel boundaries and acreages provided the design team with a significant opportunity to enrich the plan. The three buildings at the entrance to the Tucson Origins Park are subtly separated to make a gateway entrance place, to allow for the Avenida to be terminated at the Convento, and to visually connect on the diagonal, the U of A Science Center with 'A' Mountain.



NEIGHBORHOOD DESIGN PRINCIPLES

Traditional neighborhood design (TND) is a method of planning and development that has emerged in the last decade as an alternative to conventional suburban development (CSD). It is this latter form of growth which has produced large-scale sprawl all over the United States, including Arizona, over the last fifty years.

Sprawl development is characterized by homogeneous single-use zones, with the housing tract, the shopping center and the business park as its basic elements. These segregated use areas are connected by a discontinuous system of wide thoroughfares designed for the rapid movement of cars. Within such a homogeneous urban structure, dull and repetitive buildings are typically designed without any particular obligation to define a realm of public space.

The vast majority of such places designed since the 1940's are architecturally undistinguished and urbanistically destructive, as they both absorb and eliminate the local landscape while generating as inferior a fabric of buildings as has ever been built on this continent.

This kind of bleak development pattern can be observed all over the southwest. The walled tracts, the excessively wide streets, McMansions, ugly strip retail development, the absence of sidewalks on streets, cul de sacs, three car garage houses with invisible front doors, are all symptoms of the dominance of sprawl thinking in contemporary development practice.

It is time to reverse both the physical patterns and the social and economic consequences of sprawl by returning to a pattern of community development based on the traditional American ideas of the neighborhood, the district and the corridor.

In American cities and towns, large or small, traditional neighborhoods have been the setting for a rich family and community life. While their populations can vary, 1500 to 2000 people per neighborhood is common. Depending on local conditions, a neighborhood is often a compact area of between 80 and 120 acres. It contains a balanced mix of dwellings, workplaces, shops, civic buildings and parks all accessible on foot from each dwelling. This enables a diverse population of a variety of incomes to live in a neighborhood, particularly those young, old and poor who cannot entirely depend on automobiles for mobility.

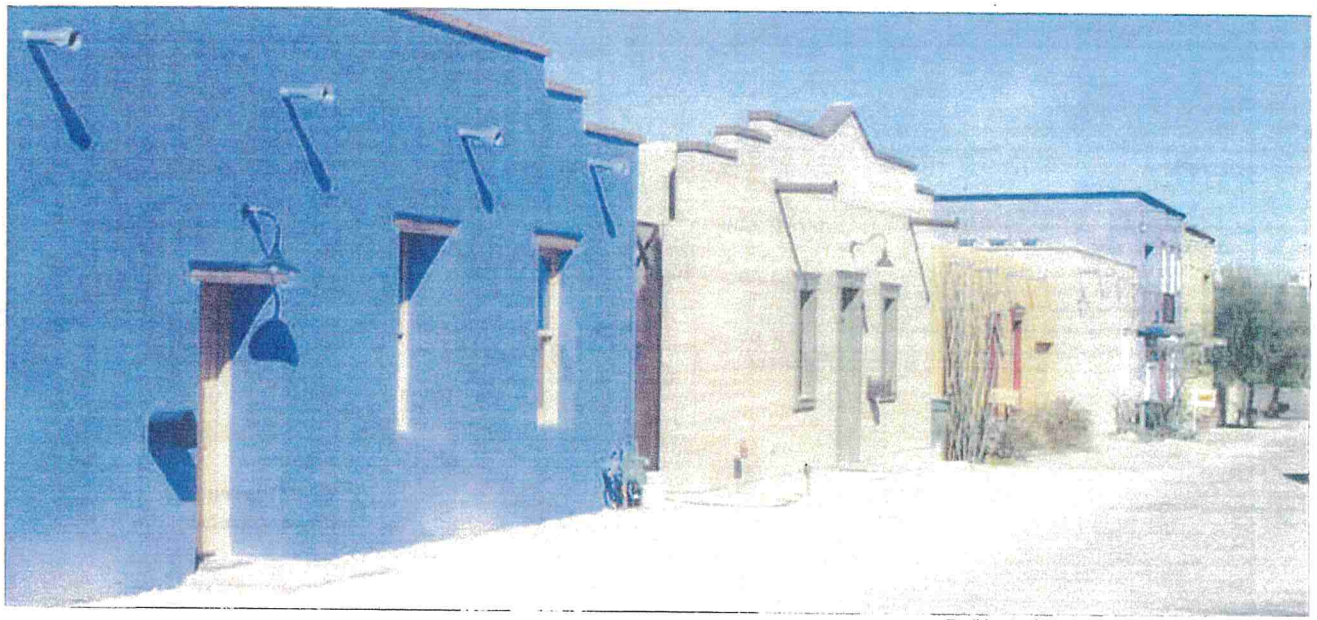
Great traditional neighborhoods have a center and an edge. The combination of such a focus and a limit contributes to the social identity of the people that inhabit it. The neighborhood center is a public place, which may be a plaza, a green or 'jardin' or, an important street intersection. It may also be located near a pre-existing historic building, a transportation corridor or a compelling view. Although the neighborhood center may be located near its geographic mid-point, frequently adjacent neighborhoods have a shared commercial center located at the intersection of their common edges.

The center of a neighborhood is the locus of its public life. Its civic buildings enhance community identity and foster civic pride. Its shops and workplaces provide convenient access to goods and services without need for a car trip. The availability of workspace near home fosters entrepeneurship.

The typical size of a neighborhood is a quarter-mile radius from physical center to edge. This distance gathers the neighborhood population within an average 5-minute walk at an easy pace of a commercial center located between neighborhoods. A transit stop

Traditional neighborhood street, Tucson, AZ

Traditional Town Center, Tucson, AZ



Traditional neighborhood architectural types, Tucson, AZ

located at the commercial center increases mobility options. Thus the maximum size of a neighborhood is determined not by density but by a walkability shed.

The neighborhood is structured on individual blocks and a network of skinny thoroughfares, which encourage pedestrian movement and in Tucson, provide for shading. This interconnecting pattern of thoroughfares provides multiple routes that diffuse traffic, keeping local traffic off regional roads and through traffic off local streets. A diffuse traffic network additionally increases the options emergency personnel have to reach a distressed location in the neighborhood. Neighborhood streets of varying types are detailed to provide equitably for pedestrian comfort and for automobile movement.

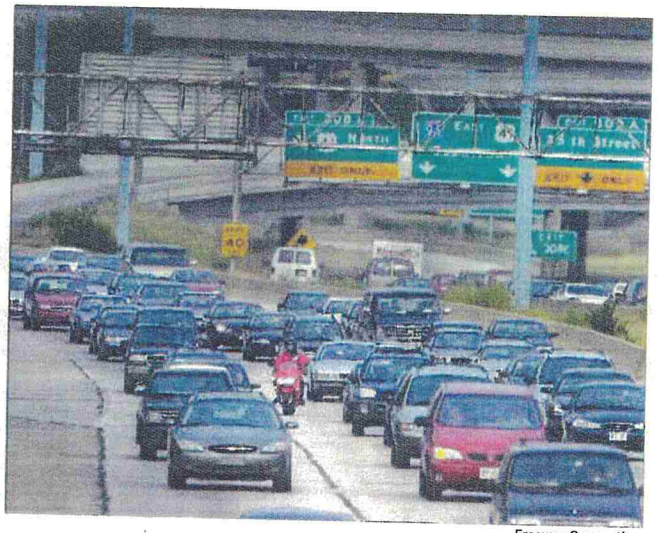
Street intersections have minimal curb radii to slow cars and minimize the crossing distance of pedestrians. Two-way streets also improve pedestrian crossing safety and minimize automotive speed. Where needed, streets have landscaped center medians, to reduce apparent street width. Finally, where possible, streets have on-street parking to provide a buffer between the moving traffic and the pedestrian, thus diminishing perceived and actual danger. A properly configured network of neighborhood streets increases pedestrian activity and safety for all, especially children.

The buildings, blocks and streets of a neighborhood are interdependent. Each one contains in part the ingredients of all the others. Any decision to design the street in a certain manner dictates the form of the corresponding blocks and buildings. Likewise buildings of a particular quality can define the block that contains them and the street that surrounds them. Design is the matrix that helps either create or destroy the quality and character of a neighborhood.

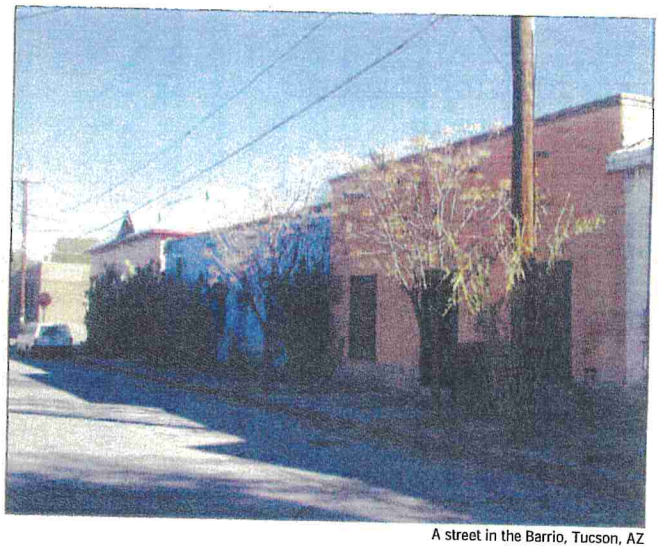
Blocks are typically square or rectangular. In Tucson, there are strong precedents such as the Barrio which use a combination of square, rectangular and trapezoidal blocks. They can vary in size from a minimum of 250 feet in any direction to a maximum of 600 feet. These dimensions keep the circulation network scaled to the pedestrian. Blocks of this size allow buildings to face onto the street and force parking to be located on the street or in the middle of the block, away from the street frontage. The width and depth of the block ultimately determines, through lotting, the range of building types and densities that will create the character of the neighborhood fabric.

Buildings are the smallest increment of growth within a neighborhood. The proper configuration of buildings and their relationship to each other, determine the character of the neighborhood and define the street or open space they face. This public realm, all that is not building in a neighborhood, is probably its most important social ingredient, as it encourages the casual meetings among neighbors that are the bonds of community.

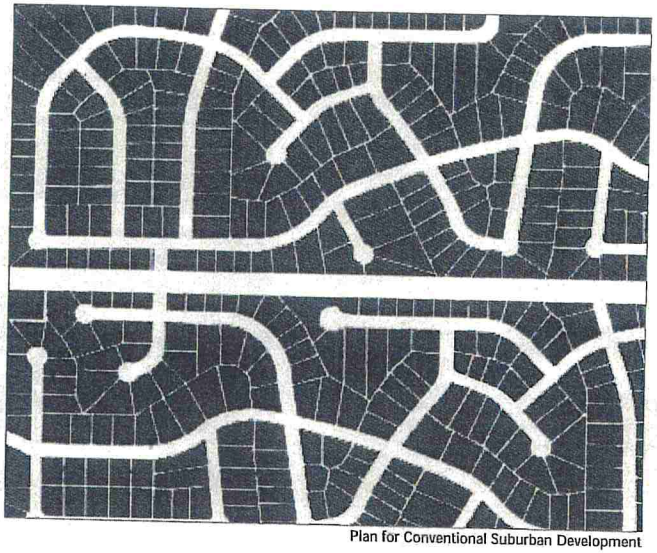
Streets, and parks are places where people live their public lives away from the privacy of their homes. A rich set of such places can make life in a neighborhood especially pleasant. Proper distances make proper neighbors. The way houses and other buildings are aggregated determines the manner in which neighbors interact on a daily basis. Living in a pleasant private setting, connecting to your neighbors by choice and being able to walk to fulfill civic obligations and enjoy commercial opportunities are the hallmark of living in a traditional community. It is a way of life which is possible to provide again, and appropriate and desirable, for the future of Tucson.



Freeway Congestion



A street in the Barrio, Tucson, AZ



Plan for Conventional Suburban Development

A traditional street and block pattern (Tucson, AZ 1886)

MERCADO NEIGHBORHOOD

NEIGHBORHOOD PLAN

The proposed traditional neighborhood development is based on the local, historical development patterns of Tucson's Barrio for physical, social, economic and environmental reasons.

This illustrative plan was designed by incorporating the following constituent elements of a traditional neighborhood:

- A seamless connection to the urban and natural surroundings of the site;
- A five minute walk from center to edge;
- An interconnected network of multi-modal thoroughfares;
- A rich set of public spaces, both thoroughfares that range from ramblas to paseos, as well as places of repose, such as plazas and plazuelas.
- A mix of residential, retail and office uses;
- A set of civic and community facilities that enable the public life of all people living there;
- Educational facilities that promote life-long learning;
- Immediate pedestrian access to nature;
- Places for recreational activity in plazas and pocket parks or 'jardines';
- House types for people of a variety of incomes and ages;
- A landscape in character with the climate and culture of Tucson;
- Sustainability measures that advance the long-term value and viability of the project.

The plan for the 13-acres consists of 8 main blocks for residential, commercial and office development. These blocks are formed by 10 different types of streets and 7 distinct plazas and greens that provide a varied, interesting and interconnected public realm throughout the neighborhood. All blocks are served by rear alleys which provide all vehicle access (with the exception of several corner lots).

In terms of buildings, those along the north and east edges of the plan are more intense, mixed-use and up to 3 stories, providing a transition to the primarily residential area behind

of 1 and 2 story buildings.

North Edge of Site
Development will transform Congress Street from its current state as only a place for vehicles and fast traffic to a pedestrian-oriented Parkway with 2 lanes in each direction, that allows on-street parking and ground floor commercial businesses and live-work/housing above.

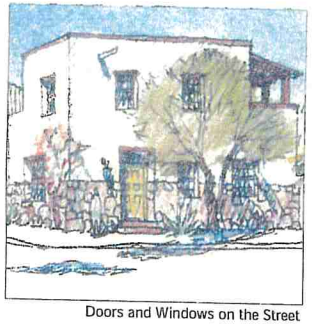
East Edge of Site
Development fronting Avenida del Convento, will produce the 'Main Street' for the Mercado District. This lively streetscape will be punctuated mid-way by the Mercado leading south to the Tucson Origins Plaza or east to the U of A Science Center.

Residential Area
The land behind these two edges consists of attached and detached single-family patio houses built close to the street. The result is a well-defined and shaded public realm of varying streetscapes, plazas accented by jardines with plenty of room within the each lot to create sizeable, private outdoor spaces.

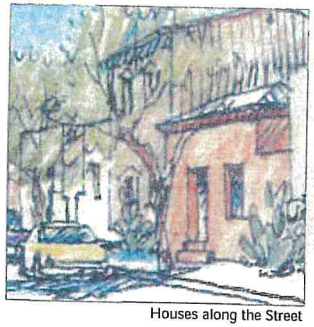
Ancient Acequia
This 2500 year old artifact is buried and according to municipal officials, has been documented and needs no further mitigation. However, the design team collaborated with the archaeologists and preserved the alignment of this artifact through the block and street pattern. This unique alignment results in pedestrian paseos on the north and south segments while vehicles and pedestrians are allowed on the middle segment. This longer, middle, segment features a 20-foot wide landscape swale to recall the acequia while providing for water harvesting and significant shading for the east side of the street.

Illustrative plan is conceptual, relying on the Code (pages 18-59) for implementation.

Illustrative Plan
0 40 80 160ft

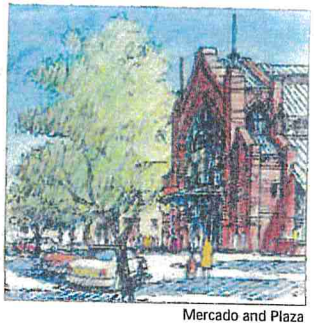

Doors and Windows on the Street


Houses fronting a Plaza


Houses along the Street


A Paseo


Acequia Street


Mercado and Plaza

THE NEIGHBORHOOD PLAN

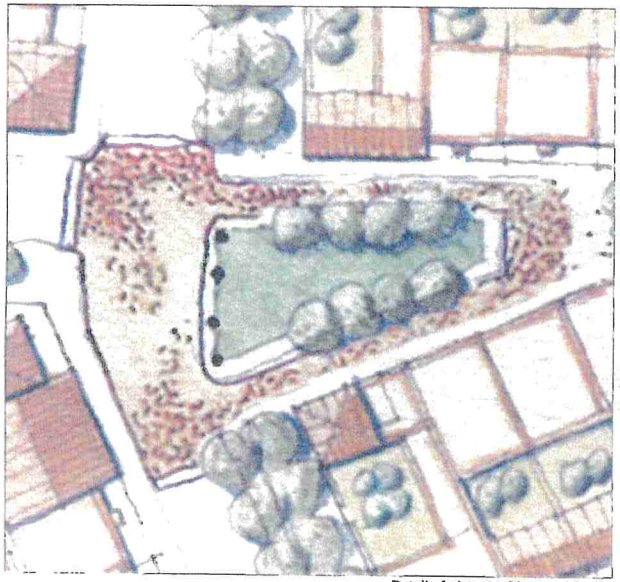
HOUSES FRONTING PLAZAS

There are 7 plazas in the plan that are defined and enclosed by single-family houses of varying sizes. These houses are built close to the sidewalk and are obliged to position a carriage house toward or at the rear of the property. These plazas are intimate public spaces, scaled to the pedestrian with buildings of 2 stories and bounded by narrow streets with on-street parking. All vehicle access is from rear alleys or side streets on corner lots.

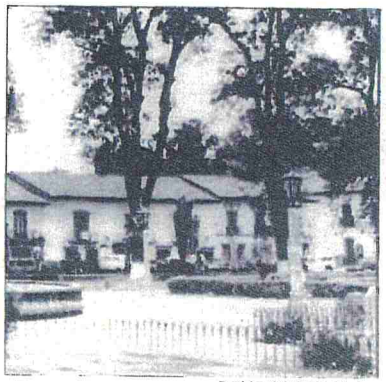
The plazas extend from building to building, incorporating the sidewalks, pavement and center garden or 'jardin' into the space. The jardines range in size and detail and are intended for enjoyment by all as well as providing water harvesting acreage.

The spatial qualities of the plazas are emphasized by the strong, continuous and simple 'street wall' that is formed by the buildings. These plazas become a larger outdoor room within the overall public realm. At times, one may want the communal qualities that these spaces offer. At other times, by building in this way, one has the option of staying in their private open space behind the street wall.

Houses are built on a variety of lot widths ranging from 18 to 60 feet



Detail of plan at a Plaza and Jardin



Residential plaza, Mexico

Typical residential street surrounding a jardin, fronted by a 'street wall' of varying widths of houses

THE NEIGHBORHOOD PLAN

ACEQUIA STREET

This street follows the alignment of a 2500 year old canal used by the Hohokam tribe of Native Americans.

The street is pedestrian at its ends in the form of two paseos. In this middle segment illustrated in plan below and in perspective to the right, the east side of the street features a landscape swale varying in width to recall the acequia. The houses along the west side of the street are adjacent to the sidewalk and parkway. The houses along the east side are adjacent to the landscape swale which will be planted with a dense grove of trees to shade the swale and the houses. Additionally, the swale provides for water harvesting and permaculture opportunities.

The Acequia Street is the central thoroughfare and the defining streetscape image for the project.

Detail of plan along the Acequia alignment

View along the Acequia Street

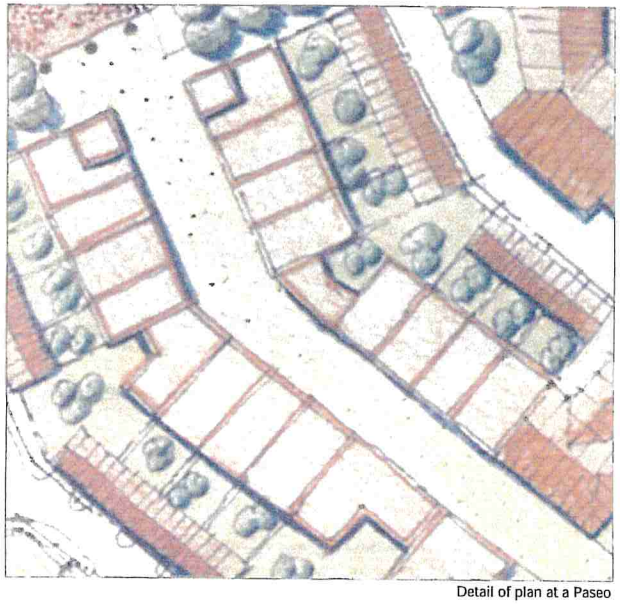
THE NEIGHBORHOOD PLAN

PASEOS

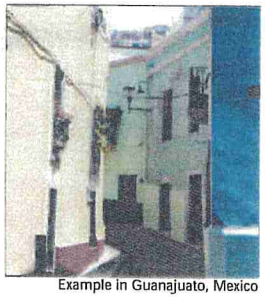
A total of 3 paseos are used in the plan. These pedestrian streets provide an additional level of circulation while creating 3 areas that have even more intimate spatial qualities than the rest of the neighborhood. Two of the paseos are along the alignment of the acequia. These two areas are lined by 2 story attached single-family houses, strongly framing the space. Limited non-residential activity on the ground floor is allowed.

The other paseo is perpendicular to the Avenida del Convento at its mid-point and opens to a live-work/mixed use court on the way toward the Acequia Street located to the west. Buildings on this paseo are 2 and 3 stories with ground floor non-residential activity allowed. In all cases, the paseos are one large space that is shared by pedestrians and bicycles, and do not have separated sidewalks.

Houses are built on a variety of lot widths ranging from 18 to 36 feet.



Detail of plan at a Paseo



Example in Guanajuato, Mexico

Paseo framed by native landscape and attached houses

THE NEIGHBORHOOD PLAN

TYPICAL RESIDENTIAL AREAS

The houses that are not surrounding a plaza or that are not located along the Acequia Street or Paseos comprise the rest of the neighborhood. These areas are arranged along slow or yield streets with on-street parking. All vehicle access is from rear alleys or side streets on corner lots. Houses in these areas are within a 1-minute walk of a plaza.

These houses are built close to the street with carriage houses mandated toward the rear of the properties. As with the other houses in the neighborhood, a continuos street wall is present. This provides the spatial enclosure desired for the public realm while enabling significant open area within each lot for private exterior use.

Houses are built on a variety of lot widths ranging from 18 to 50 feet.

Typical residential street

Detail of plan in typical residential area

Residential street, Lagos de Moreno, MX

THE NEIGHBORHOOD PLAN

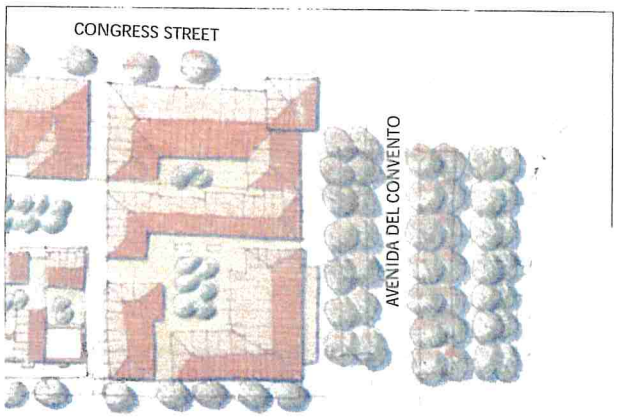
AVENIDA DEL CONVENTO

This 3-block thoroughfare is the most important in the plan as it links Congress Street with Clearwater Street and River Drive while providing access to 3 major civic institutions. This is the area's main street. Mid-way along this "Main Street", the Mercado building faces the project site with its stately and prominent framing west-facing facade. Connecting this building to the Avenida, is a plaza worthy of such a building. Further south, the view is terminated by the historic Convento and the Tucson Origins plaza. Because of the buildings, activity and significant planting, the Avenida will most certainly be noticed by those travelling along Congress Street as a place both important and inviting.

The Avenida is a commercially-oriented street framed by a combination of buildings up to 3 stories engaging the wide sidewalks through the use of arcades along most of its length. These buildings are of a hybrid courtyard type. The building portion fronting the street accommodates commercial uses on the ground floor with residential or office uses above and encroaches into the right of way. Behind them, there is a residential courtyard typically serving up to 30 dwellings. Resident and tenant parking is underground. Carefully located shade trees will be provided between one side of the street and the other to visually control the carriage way while adding substantial shading for this important street of commerce.

The southerly third of this street accommodates the trolley route from downtown through this area and east over to the University of Arizona Science Center. The trolley operates in a loop providing 3 stops: the Tucson Origins Plaza, the Mercado, and the Science Center. Angled parking is provided out in front of the stores and restaurants. This increases the free supply of parking stalls while taming traffic to maintain a pleasant and thriving pedestrian-oriented atmosphere.

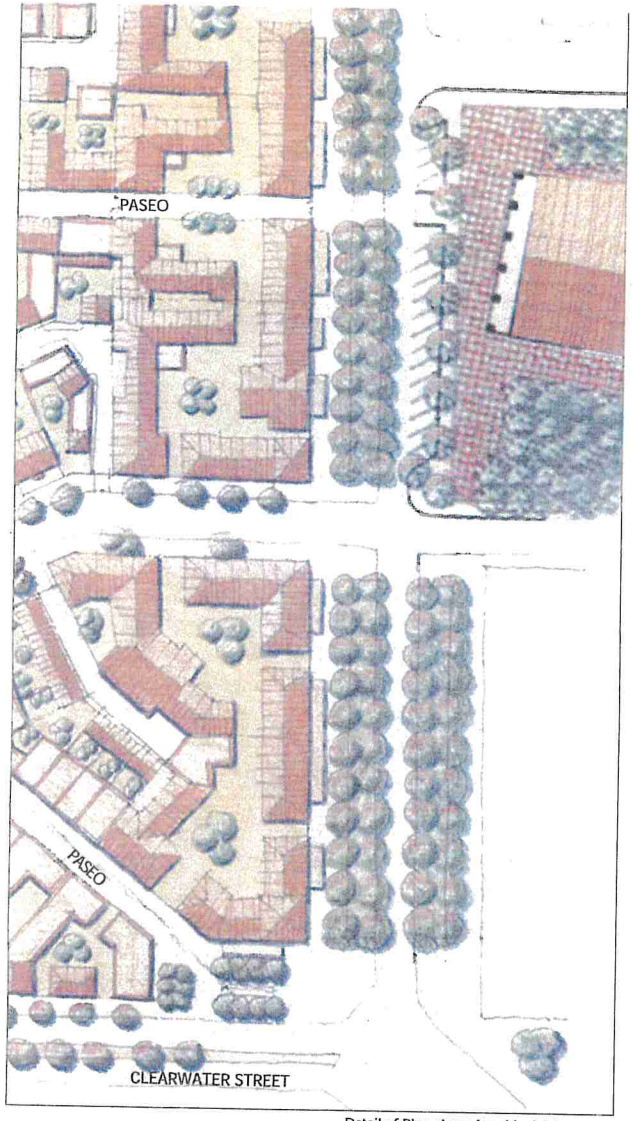
Buildings are built on a variety of lot widths ranging from 72 to 194 feet.



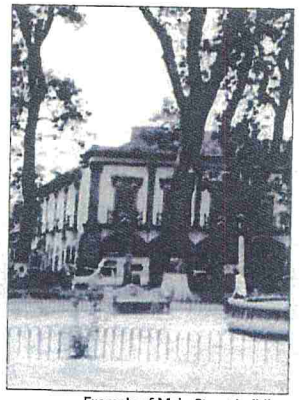
View to north of Mercado along the Avenida del Convento

Plaza and Mercado
Guanajuato, Mexico

Interior of Mercado,
Guanajuato, Mexico

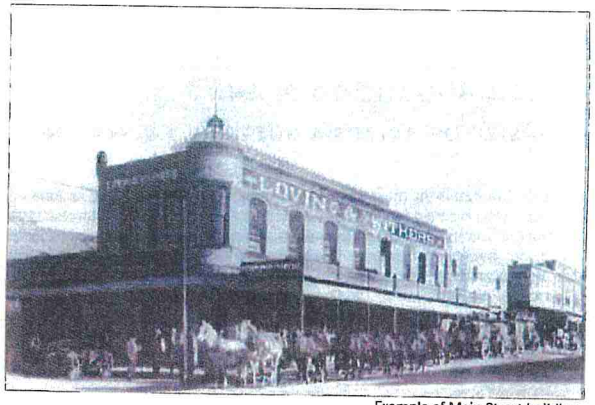


Detail of Plan along Avenida del Convento



Example of Main Street building
Patzquarro, Mexico

Example of Main Street building
Tucson,AZ



Example of Main Street building,
Tucson, AZ

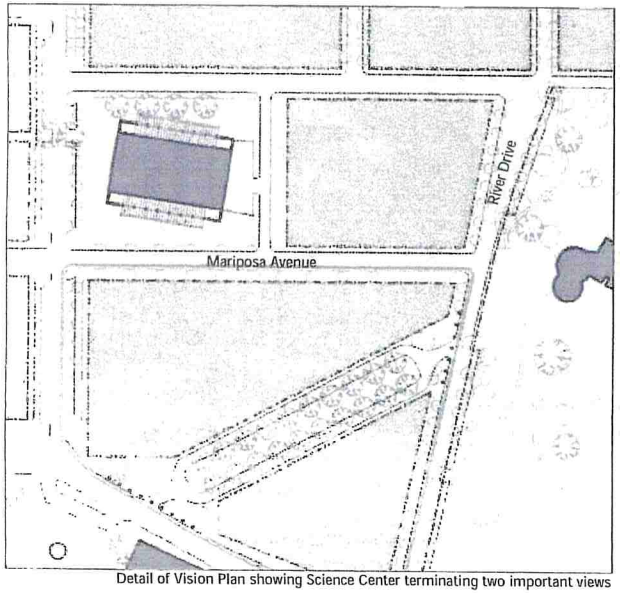
View to south along Avenida del Convento

THE NEIGHBORHOOD PLAN

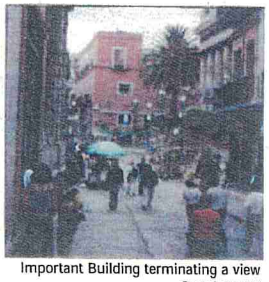
UNIVERSITY OF ARIZONA BUTTERFLY VIVARIUM

The Butterfly Vivarium is the most westerly component of the University of Arizona's 3-part Science Center planned for Rio Nuevo. The Science Center is a multi-faceted strategy to bring the University's substantial energy and importance as a research and learning center into downtown Tucson. The overarching objective is to create a 'cultural campus' that reconnects the Tucsonan culture with science while reinvigorating downtown Tucson for the community. The Science Center consists of 14 distinct but related attractions ranging from the Center for Health and Wellness east of I-10 and the Bridge of Knowledge (spanning I-10) to a Unispherium, 24-hour Observatory and a Butterfly Vivarium west of I-10.

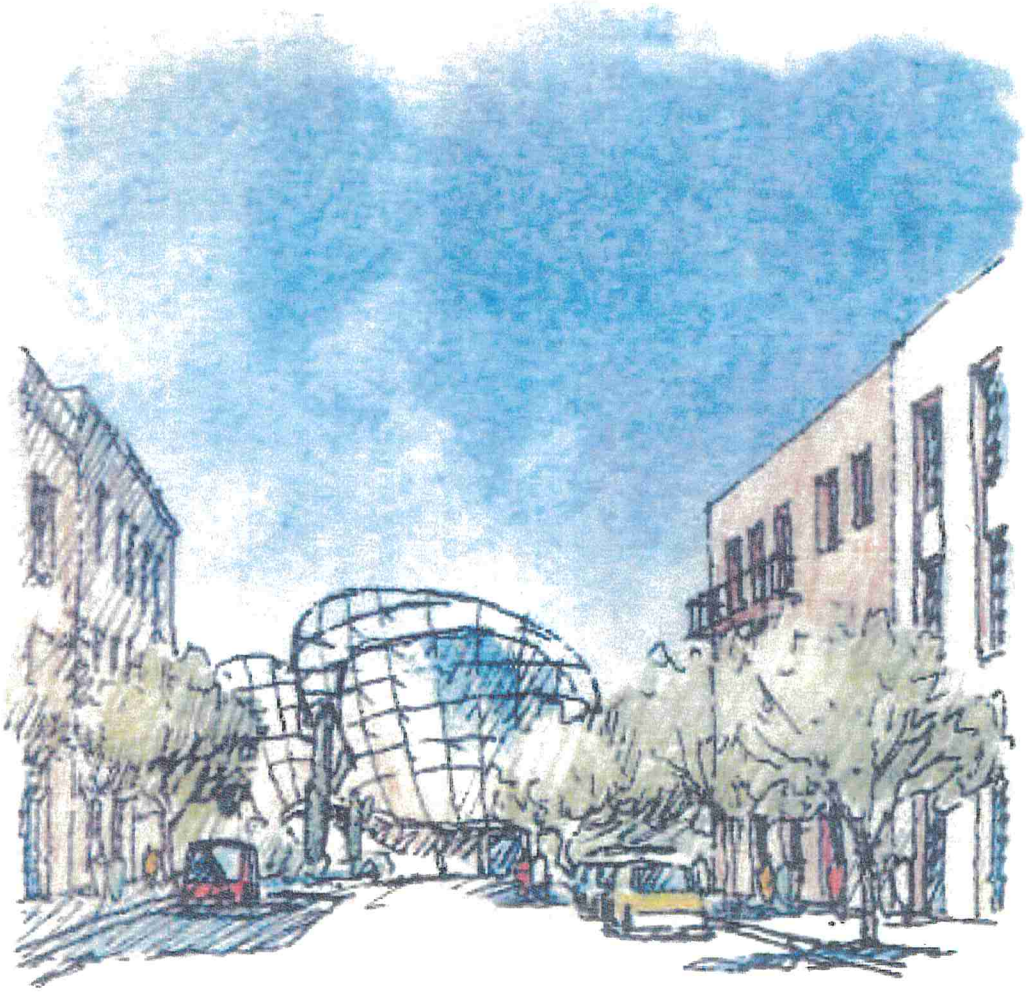
The Vivarium will simulate a tropical rainforest environment for throngs of butterflies, providing an exciting and energizing attraction that also teaches about the crucial importance of this insect. In addition to various educational exhibits, one will be able to check the progress of butterflies migrating from Canada, across southern Arizona to their wintering grounds in Central America. This attraction with its unique function and structure, is celebrated further by positioning it at the terminus of a new street, Mariposa Avenue, that connects the Avenida del Convento and River Drive. Also, a diagonal street from the Tucson Origins Plaza connects to the Vivarium providing pedestrian friendly retail and office uses. A trolley will provide vehicular access over I-10 making a loop that stops at the Vivarium before returning to the downtown.



Detail of Vision Plan showing Science Center terminating two important views



Important Building terminating a view
Guanajuato, MX



Science Center Vivarium terminating Mariposa Avenue

THE NEIGHBORHOOD PLAN

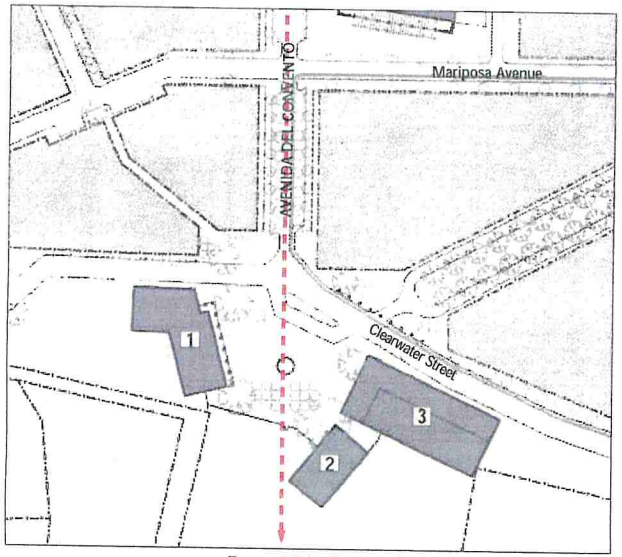
TUCSON ORIGINS PARK

Recent excavations reveal that Tucson has been continuously inhabited for over 11,000 years. This Park reconnects Tucsonans and visitors with the previous inhabitants of the area, their history, culture, and science. The collection of buildings, gardens and exhibits terminates the Avenida del Convento on the south and begins with an appropriately sized plaza offering entry to the Park. It is on this site that the historic Convento stood before being destroyed in the 1950's. It is the goal of Tucson Origins to replicate the Convento as part of the Park. Here, the culture and history of Tucson are illustrated in a variety of exhibits and displays.

A diagonal street connects this area with the U of A Science Center and Vivarium. It is fronted by ground floor retail with offices and residential uses above.

The entrance to the Tucson Origins park is formed as a plaza defined by three buildings. The plaza is large in size and will accommodate large numbers of visitors dropped off by buses and waiting to enter the park. A major fountain and symmetrical bosque of trees centers an otherwise irregular plaza. The three buildings are varied in their programs.

The geometry of the plaza allows for a picturesque reading of buildings from all approaching streets, while allowing the axis of the Avenida del Convento to terminate on the Convento de San Augustin.



Tucson Origins Plaza terminating the Avenida del Convento

View of entrance to the Origins Park at the terminus of the Avenida del Convento

1 Principal Museum facility for the Park

2 Combination of residential/retail/museum

3 Parking garage lined by residential/retail uses

THE CODE: PUBLIC REALM
LANDSCAPE CONCEPT

The streetscape concept is simply to use the block pattern in combination with buildings at or close to the frontage line and, native trees on west and south exposures to generate the proposed neighborhood.

North and East Exposures
These areas enjoy the benefit of natural shading because of the alignment of buildings is close to or at the frontage lines. As such, these streets have little or no street planting. These sides of streets will have sidewalks that are wide enough to provide access while taking maximum advantage of the shade provided by adjacent buildings. In addition to the above general direction, the following streets are identified for their specific landscape design character within the neighborhood:

Congress Street
With its commercial presence, it will receive regularly spaced trees to help define it as a wide thoroughfare while providing shade and visibility to pedestrians.

Avenida del Convento
As the neighborhood's main street, it receives significantly sized, paired rows of trees to provide shade and comfort while accommodating commercial activity at a pedestrian scale.

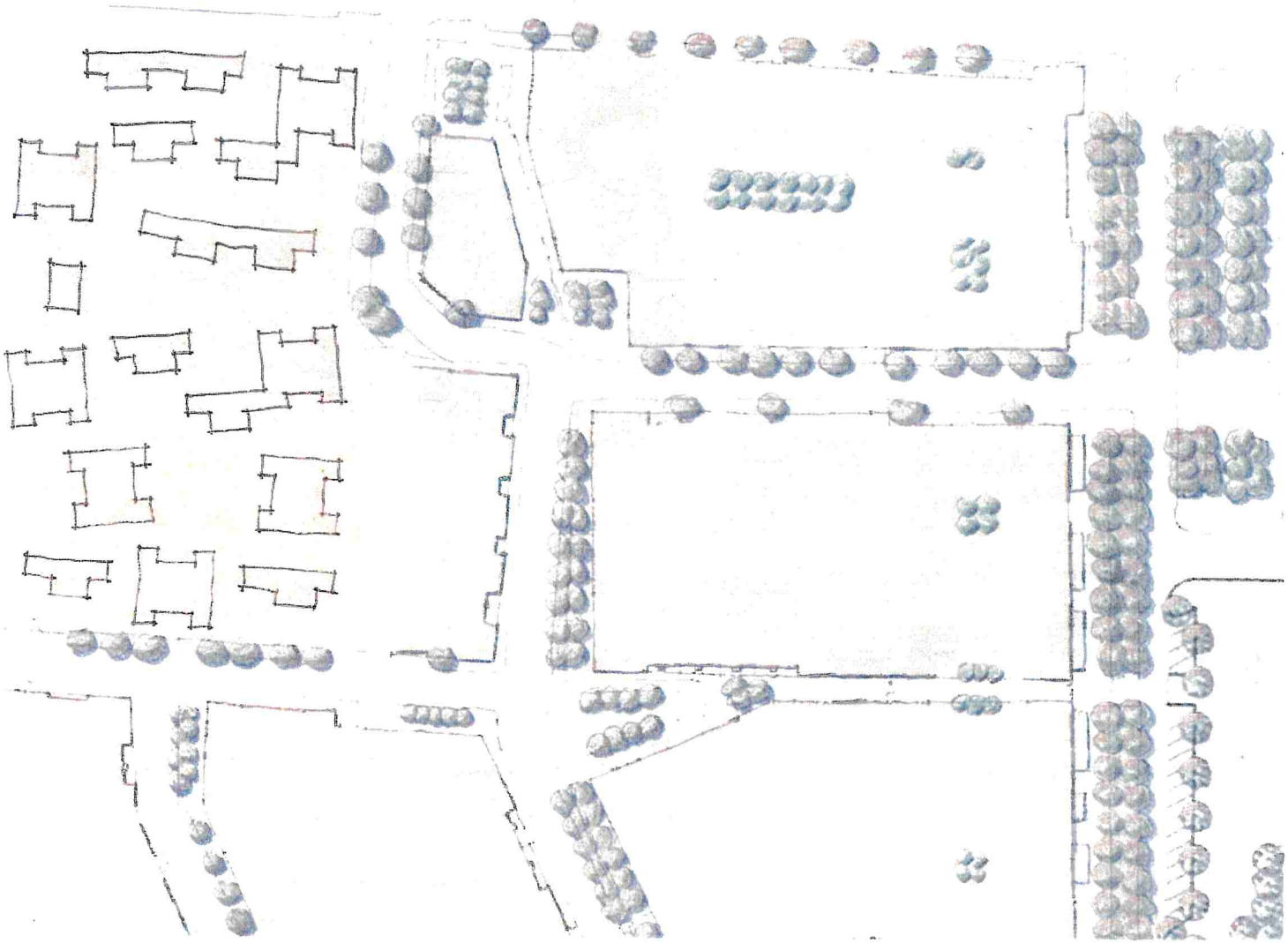
West and South Exposures
In the time-tested practice of southwest urbanism, streets are often asymmetrical in their planting with the emphasis on the west and south exposures. This practice is followed in the landscape concept for this neighborhood.

Generally, the streetscape objective for these sides of streets is to provide substantial shading for the buildings and sidewalks while making interesting public places.

Acequia Street
The east side of this street will receive grouping of trees within a modest swale that will provide water harvesting and a place for respite from the summer heat.

Tree Species
The following tree species have been identified as examples that have the necessary characteristics for use in this climate and planting in this neighborhood:

Cercidium floridum (Blue Palo Verde)
Foliage: Deciduous
Mature Height: 20' - 30'
Mature Width: 20' - 30'
Growth Rate: moderate
Hardiness: 10 F to -12.2 C
Exposure: Full Sun



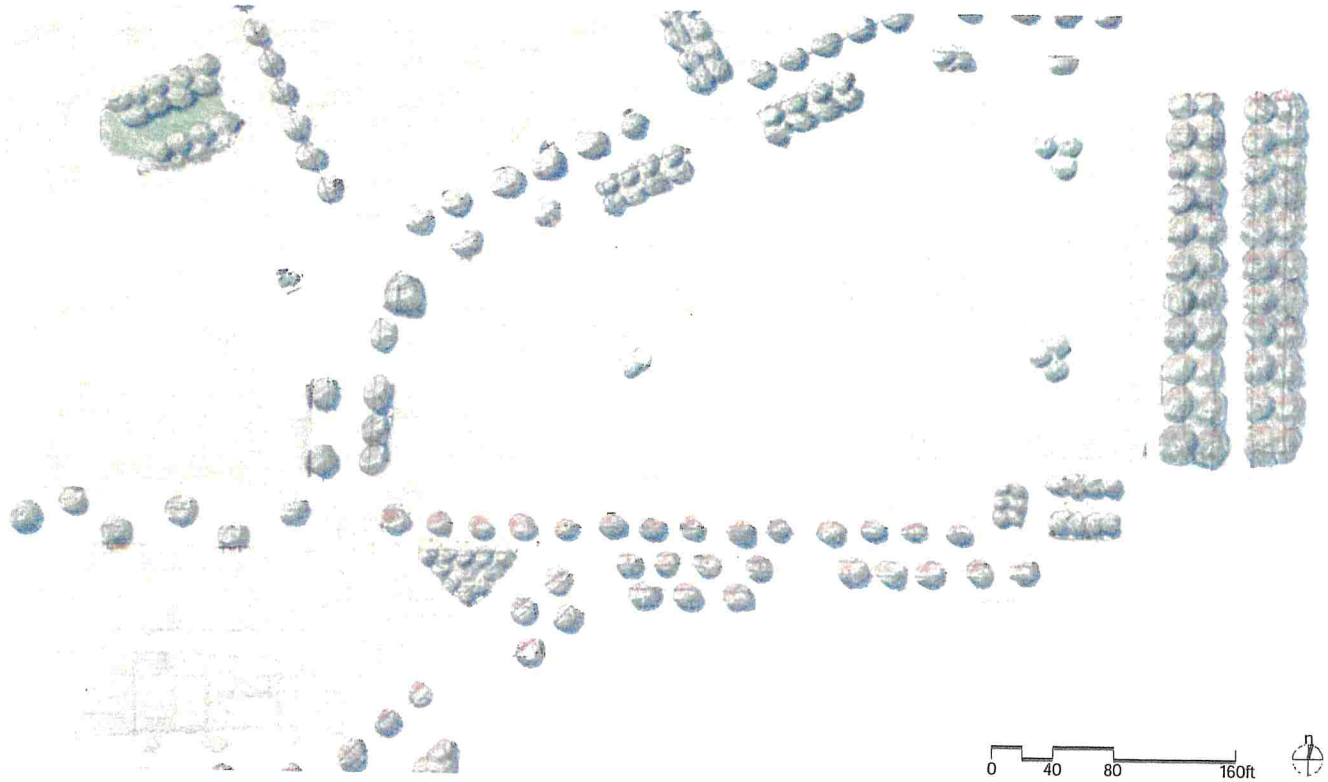
Chilopsis linearis (Desert Willow)
Foliage: Deciduous
Mature Height: 15' - 30'
Mature Width: 10' - 15'
Growth Rate: fast
Hardiness: 10 F to -12.2 C
Exposure: Full Sun

Fraxinus velutina (Arizona Ash)
Foliage: Deciduous
Mature Height: 30' - 50'
Mature Width: 20' - 35'
Growth Rate: fast
Hardiness: to 0 F
Exposure: Full Sun

Olneya tesota (Desert Ironwood)
Foliage: Evergreen to Semi-Deciduous
Mature Height: 15' - 40'
Mature Width: 15' - 40'
Growth Rate: slow to moderate
Hardiness: to 20 F to -6.7 C
Exposure: Full Sun

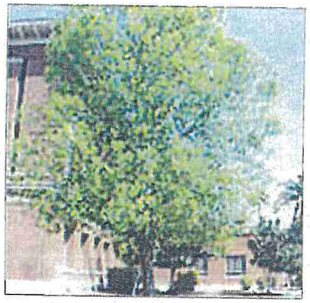
Prosopis velutina (Velvet Mesquite)
Foliage: Deciduous
Mature Height: 30' - 40'
Mature Width: 30' - 40'
Growth Rate: moderate
Hardiness: 5 F to -15 C
Exposure: Full Sun

The above species are intended as examples and may be substituted with other species provided that the objectives of the overall Master Plan are satisfied.




Chilopsis linearis (Desert Willow)


Cercidium floridum (Blue Palo Verde)


Fraxinus velutina (Arizona Ash)


Olneya tesota (Desert Ironwood)


Platanus wrightii (Sycamore)


Prosopis velutina (Velvet Mesquite)

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PLAZAS AND JARDINES

These spaces are the connectors between all of the different types of streets in the neighborhood. Accordingly, each space has the opportunity to express a unique character depending upon the types of buildings surrounding it and the nature of the streets feeding into it. In terms of priorities, the spatial definition of these spaces is the first priority and the design of the space itself, the second.

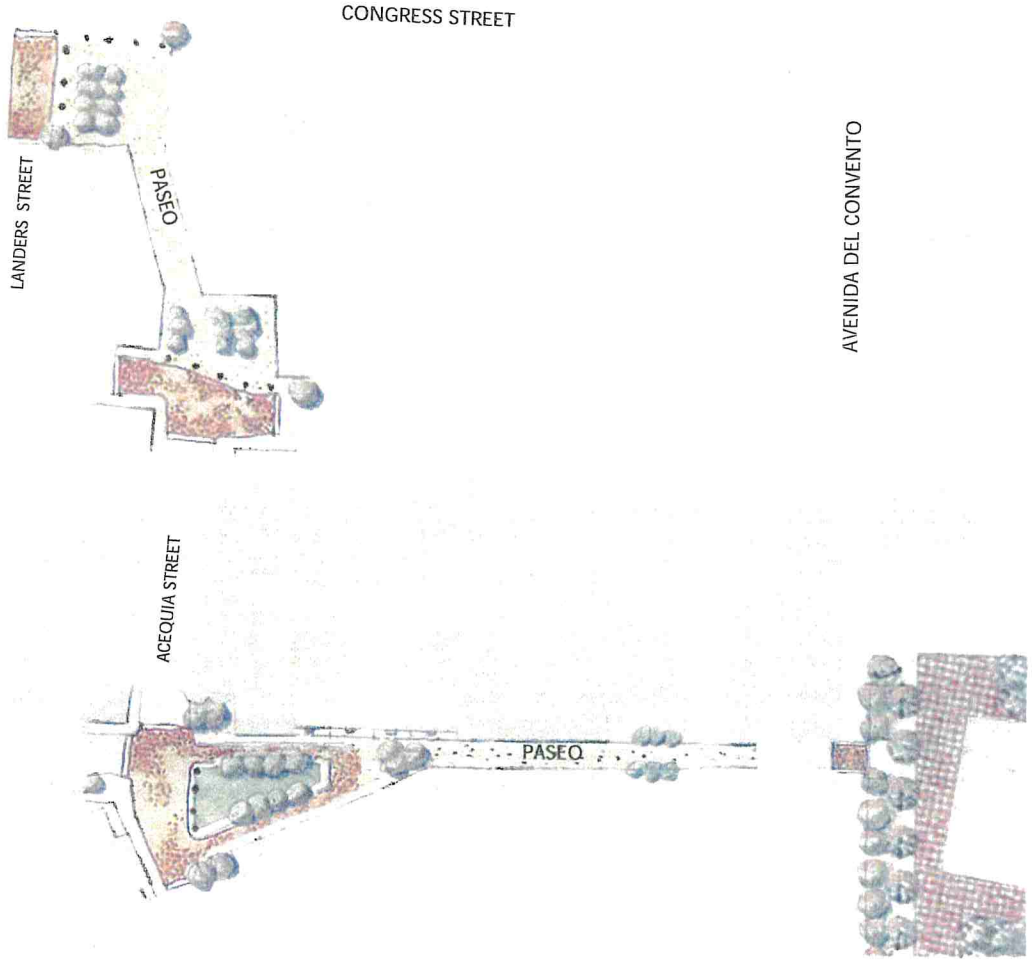
If streets are outdoor rooms that happen to be longer than they are wide, plazas are larger and more dimensionally balanced outdoor rooms. A plaza and its associated jardin is heavily dependent upon the surrounding buildings to clearly define its edges. Without this interrelationship, the public space loses its definition and places between buildings lose their intimacy.

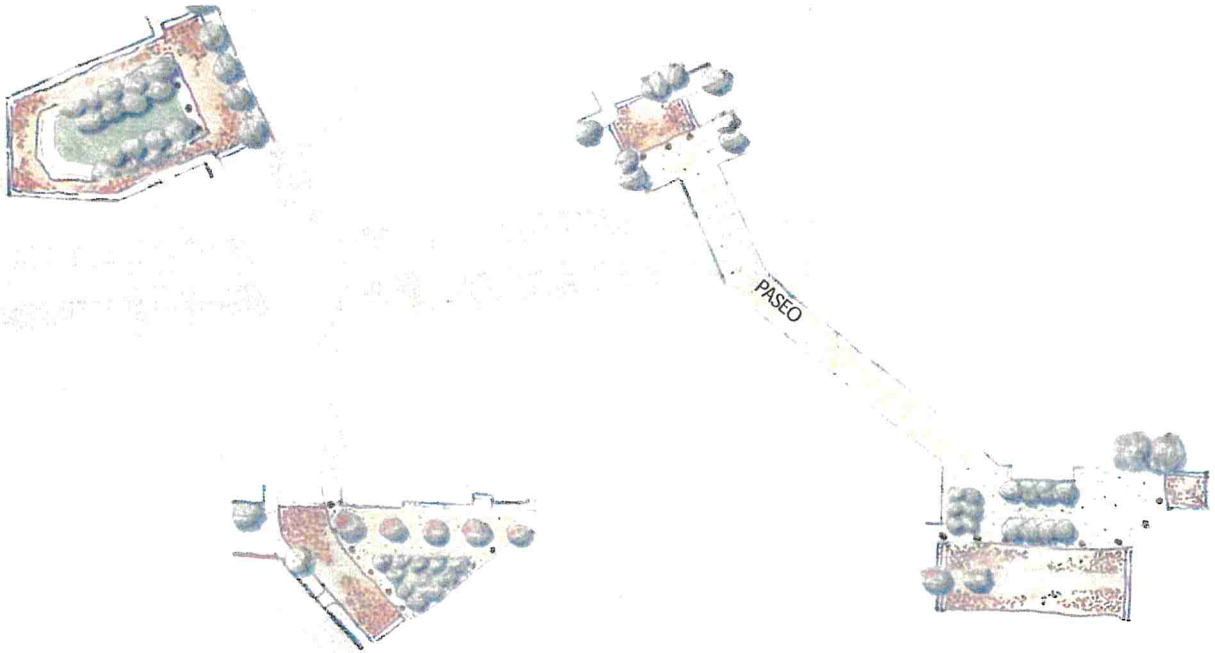
A jardin is the landscape accent within the plaza. Sometimes, the jardin is linear and most often it is trapezoidal in shape. In either case, it is the focus within each plaza.

The use of these spaces is passive and their design can be both formal and informal.

Planting and Character
Plazas and their associated jardines express their own character without unnecessarily changing hardscape details and plant species simply to be different. Public art could provide visual accents for each jardin.

For example, all plazas will have paving that differentiates the plaza from the streets and alleys leading into them. Bollards will define the carriageway of the streets from the plaza area immediately surrounding the jardin. Planting will be special in design for each jardin and appropriate to the climate condition of the site. Please refer to pages 65-78 for the Native and Exotic Edible Plant List.



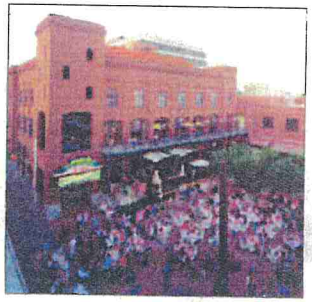


Plaza and Jardin Plan

0 40 80 160ft

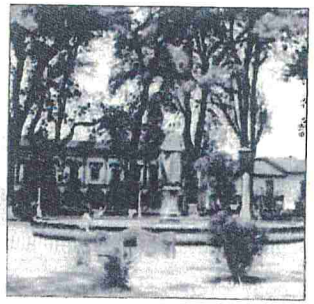
CLEARWATER STREET

Plaza de la Mesilla ca 1903 / demolished 1960's



A plaza in a Town Center, Pasadena, CA

A plaza, Guanajuato, MX



A plaza, Patzquarro, MX

A plaza, Lagos de Moreno, MX

THE CODE: PUBLIC REALM

BLOCKS AND STREETS

Finely calibrated right-of-way sections are in balance between the needs of people walking, parked cars, moving cars and streetscape. These four ingredients of street design vary from one thoroughfare to the other, giving each of them a particular and unique architectural character. A pedestrian walking through the neighborhood or a driver in a car should be able to recognize where they are located at any point in time.

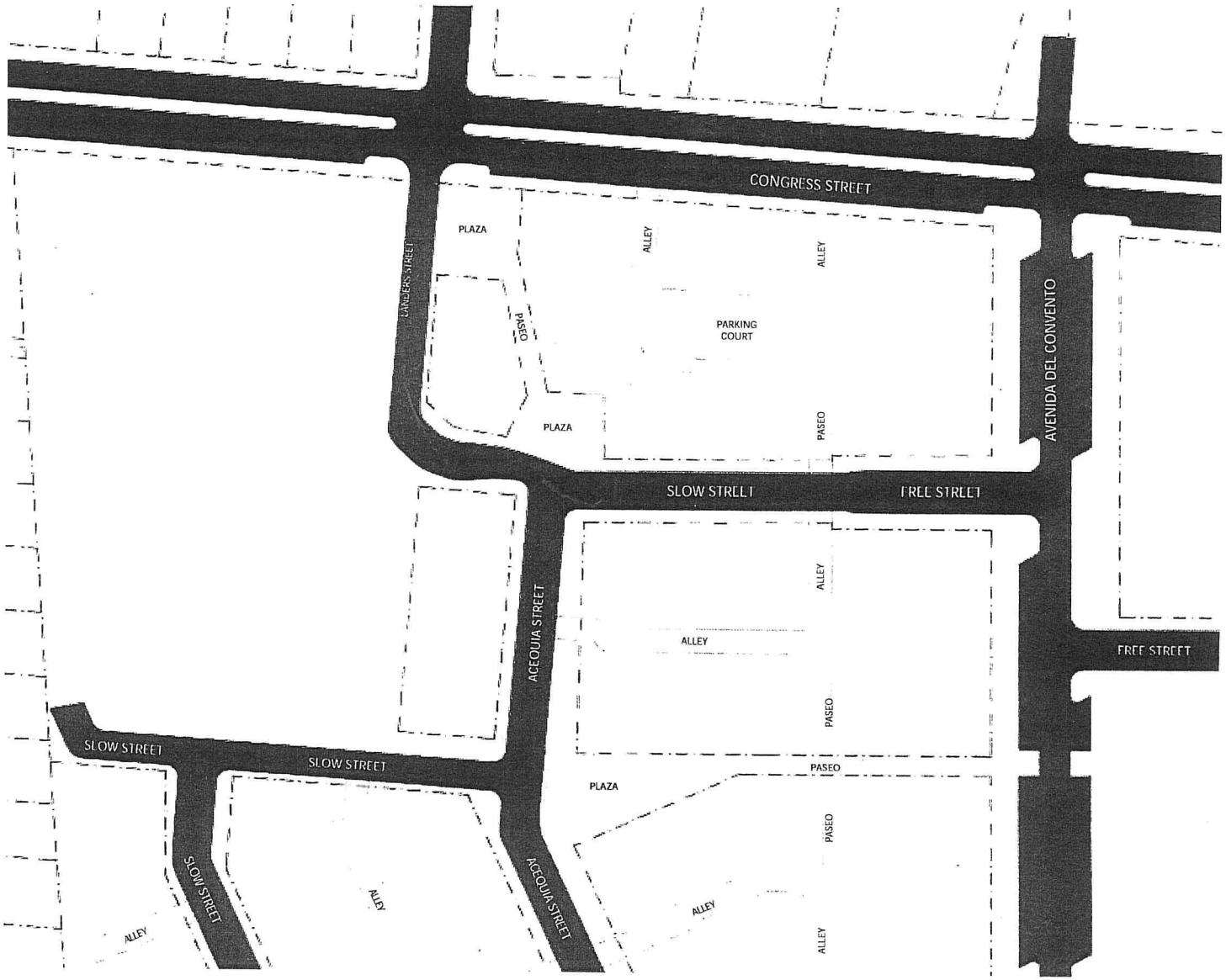
The street network is interconnected and geometrically rich. Streets are appropriately terminated as necessary to generate a sense of enclosure and spatial variety.

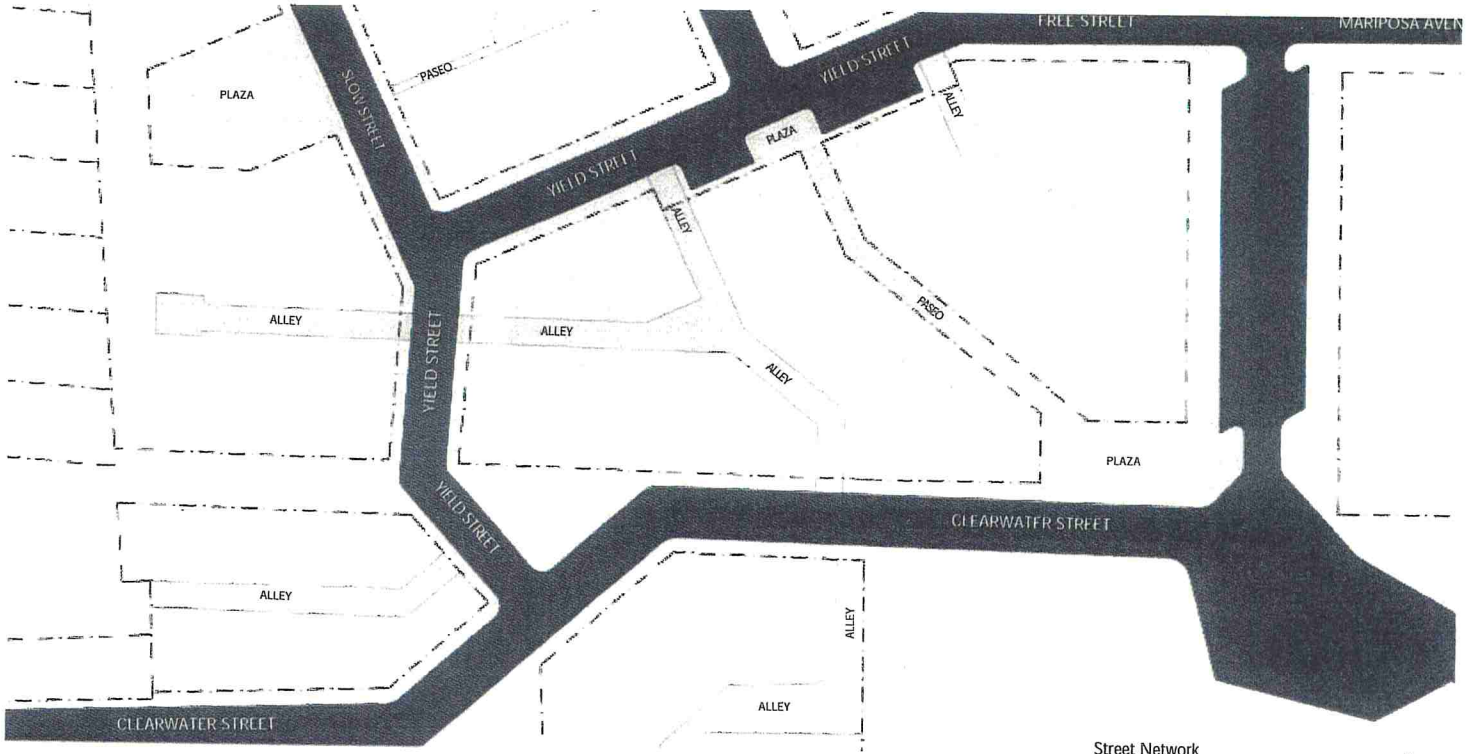
From a functional perspective, the dimensional palette of streets generally follows new urbanist street standards. Neighborhood streets accept the principle of narrowness as a fundamental precondition of pedestrian safety. Depending on their length and repetition along blocks, streets vary from free to slow to yield flow. The thoroughfares connecting in and out of the neighborhood are large enough to accommodate more significant traffic loads, yet they remain pedestrian-friendly. Blocks are between 250 and 600 feet per side.

This plan utilizes 11 different types of streets in descending order of dimension in right-of-way:

Street	R.O.W.
Avenida del Convento	100
Congress Street	97
Acequia Street	60
Residential Street 1 (free)	58
Clearwater Street	54
Landers Street	54
Residential Street 2 (slow)	50
Residential Street 3 (yield)	41
River Drive	52
Alley	18
Paseo	16 and 6

Each type is discussed and illustrated in detail on the following pages.

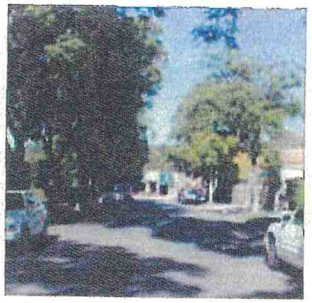


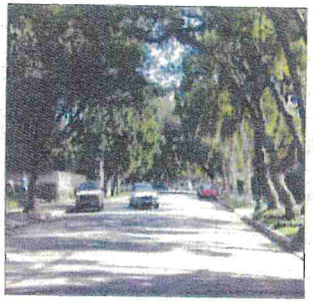



paseo


alley


yield street


slow street

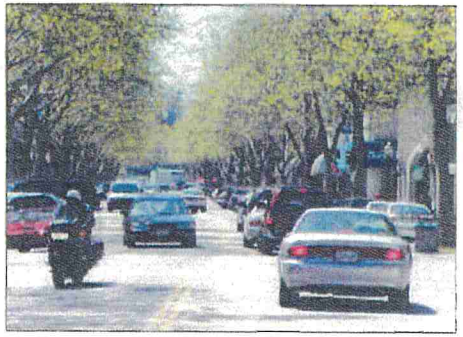

free street


commercial street

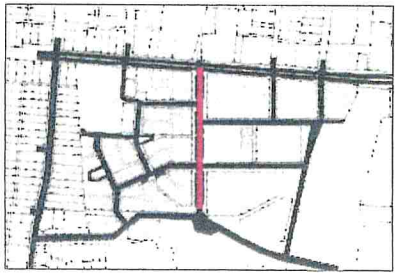
AVENIDA DEL CONVENTO

CS 100'-56'

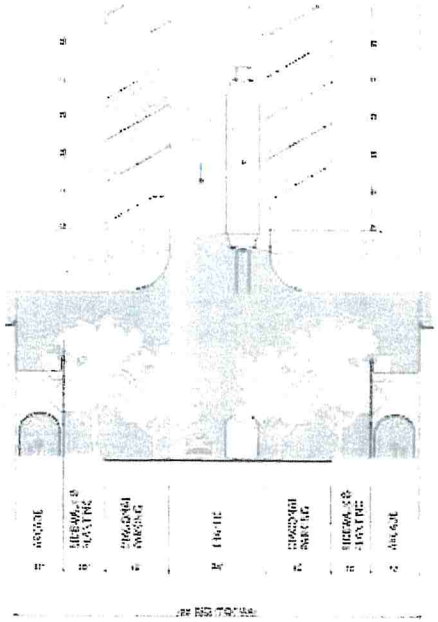
MOVEMENT / SPEED ..... Slow / 20 mph
CROSSING TIME ..... 11 seconds
ROW WIDTH ..... 100'
TRAFFIC LANES ..... 2 in 24' (trolley in southerly block only)
PARKING ..... both sides (diagonal)
CURB TYPE ..... vertical
CURB RADIUS ..... 10' typical or 15' with bulb-outs
SIDEWALK WIDTH ..... 12' plus 10' arcade walk
PLANTER WIDTH ..... 5' x 15'
PLANTER TYPE ..... squares at front and back of parking at 30'-40' o.c.
PLANTING ..... 30'-40' o.c.
TREE SPECIES..... Arizona Ash, Walnut, Sycamore



Example



Key Plan no scale

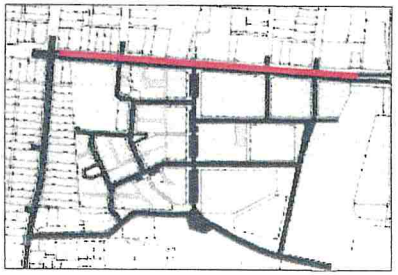


CONGRESS STREET

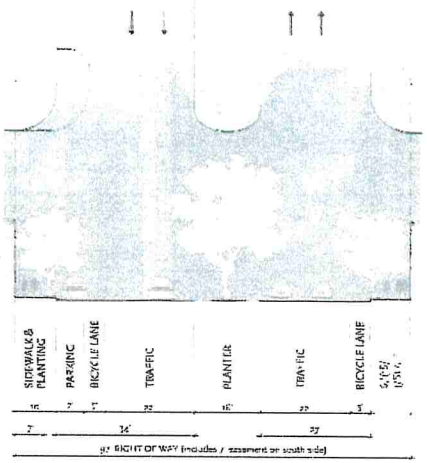
PK 97'-59'

MOVEMENT / SPEED ..... Free / 35 mph
CROSSING TIME ..... 16 seconds
ROW WIDTH ..... 97'
TRAFFIC LANES ..... 2 each way
PARKING ..... south side (parallel)
CURB TYPE ..... sidewalks: vertical; median: raised
CURB RADIUS ..... 10' typical or 15' with bulb-outs
SIDEWALK WIDTH ..... 10'
PLANTER WIDTH ..... NA'
PLANTER TYPE ..... 4' x 10'
PLANTING ..... trees in planters 35' o.c.

Example along south side



Key Plan no scale

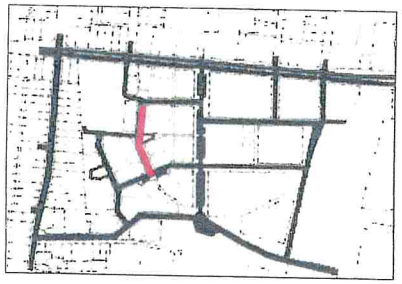


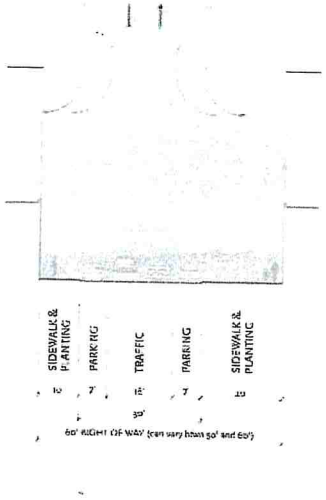
ACEQUIA STREET

ST 60'-30'

MOVEMENT / SPEED ..... Free / 20-25 mph
CROSSING TIME ..... 6 seconds
ROW WIDTH ..... 60'
TRAFFIC LANES ..... 2 in 16'
PARKING ..... both sides (not striped, permeable, textured)
CURB TYPE ..... west: vertical; east: see swale detail
CURB RADIUS ..... 10' typical or 15' with bulb-outs
SIDEWALK WIDTH ..... 5'
PLANTER WIDTH ..... east: 8' to 20'
PLANTER TYPE ..... continuous
PLANTING ..... east: natural groupings
TREE SPECIES..... Desert Willow, Walnut, Canyon Hackberry, White-Thorn Acacia, Mexican Elderberry, Wolfberry Sycamore
SHRUBS..... Cuparosa, Penstemon, Brittlebush, Desert Lavender, Snapdragon Vine, Condalla Warnockii

Example



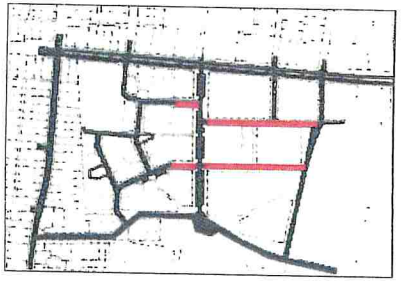


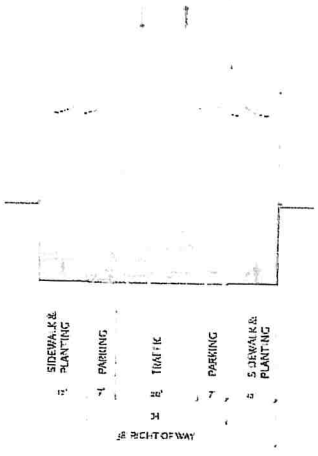
RESIDENTIAL STREET 1 (FREE)

ST 58'-34'

MOVEMENT / SPEED ..... Free / 30 mph
CROSSING TIME ..... 12 seconds
ROW WIDTH ..... 58'
TRAFFIC LANES ..... 2 in 20'
PARKING ..... both sides (not striped, permeable and textured)
CURB TYPE ..... vertical
CURB RADIUS ..... 10' typical or 15' with bulb-outs
SIDEWALK WIDTH ..... 5'
PLANTER WIDTH ..... 7'
PLANTER TYPE ..... Continuous
PLANTING ..... trees 30'-40' on center

Example



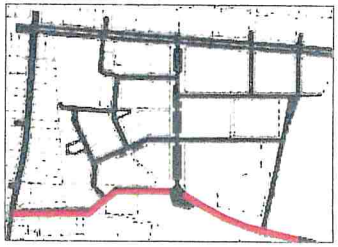


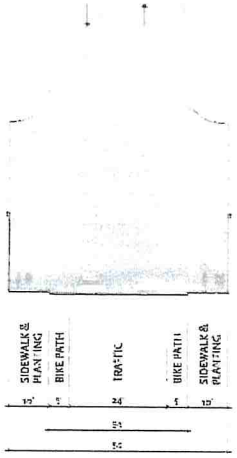
CLEARWATER STREET

ST 54'-34'

MOVEMENT / SPEED ..... Slow / 20 mph
CROSSING TIME ..... 8 seconds
ROW WIDTH ..... 54'
TRAFFIC LANES ..... 2 in 20' with 5' bike lanes each side
PARKING ..... 8' on south side
CURB TYPE ..... vertical
CURB RADIUS ..... 10' typical or 15' with bulb-outs
SIDEWALK WIDTH ..... 5'
PLANTER WIDTH ..... 5'
PLANTER TYPE ..... Continuous
PLANTING ..... south: 25' o.c.; north: 35' o.c.
TREE SPECIES..... Velvet Mesquite (Prosopis velutina)

Example



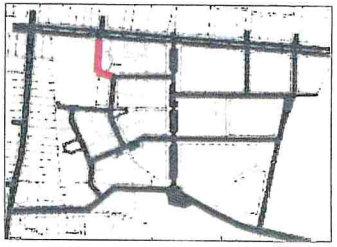


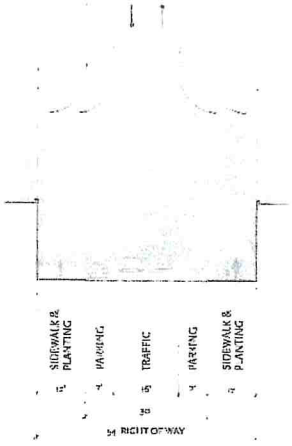
LANDERS STREET

ST 54'-30'

MOVEMENT / SPEED ..... Slow / 20 mph
CROSSING TIME ..... 6 seconds
ROW WIDTH ..... 54'
TRAFFIC LANES ..... 2 in 16'
PARKING ..... both sides (not striped, permeable and textured)
CURB TYPE ..... vertical
CURB RADIUS ..... 10' typical or 15' with bulb-outs
SIDEWALK WIDTH ..... 5'
PLANTER WIDTH ..... west: 7' east: 5'
PLANTER TYPE ..... Continuous
PLANTING ..... trees 30'-40' on center

Example





RIVER DRIVE

DR 52'-27'

MOVEMENT / SPEED ..... Free / 20-25 mph
CROSSING TIME ..... 10 seconds
ROW WIDTH ..... 52'
TRAFFIC LANES ..... 2 in 20'
PARKING ..... west side (parallel)
CURB TYPE ..... vertical, west side
CURB RADIUS ..... 10' typical or 15' with bulb-outs
SIDEWALK WIDTH ..... west: 20'; east: 6'
PLANTER WIDTH ..... west: 7'; east: variable
PLANTER TYPE ..... west: continuous; east: random
PLANTING ..... trees-west: 30'-40' on center; east: random

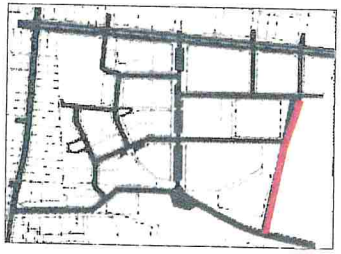
Example

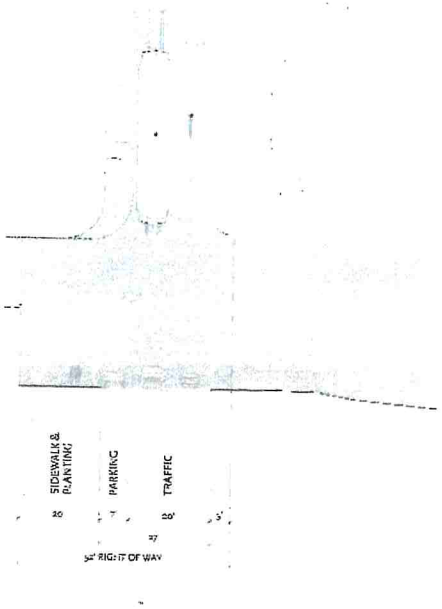
RESIDENTIAL STREET 2 (SLOW)

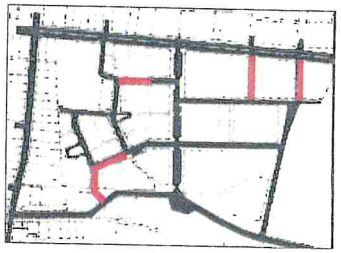
ST 50'-30'

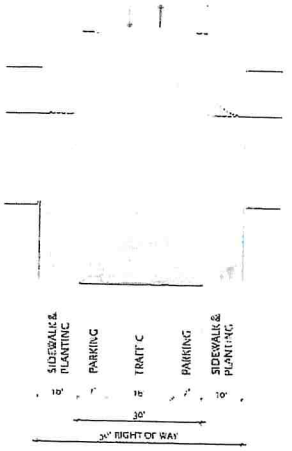
MOVEMENT / SPEED ..... Slow / 20 mph
CROSSING TIME ..... 7 seconds
ROW WIDTH ..... 50'
TRAFFIC LANES ..... 2 in 16'
PARKING ..... both sides (not striped, permeable and textured)
CURB TYPE ..... vertical
CURB RADIUS ..... 10' typical or 15' with bulb-outs
SIDEWALK WIDTH ..... 5'
PLANTER WIDTH ..... 5'
PLANTER TYPE ..... Continuous
PLANTING ..... 30'-40' on center

Example







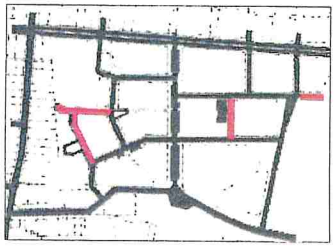


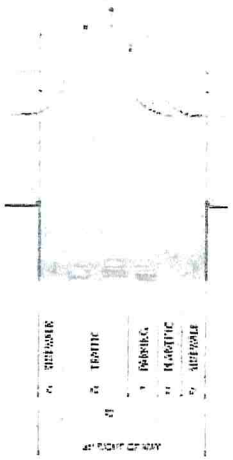
RESIDENTIAL STREET 3 (YIELD)

ST 41'-23'

MOVEMENT / SPEED ..... Yield / 20 mph
CROSSING TIME ..... 9 seconds
ROW WIDTH ..... 46'
TRAFFIC LANES ..... 2 in 16'
PARKING ..... both sides (not striped, permeable and textured)
CURB TYPE ..... vertical
CURB RADIUS ..... 10' typical or 15' with bulb-outs
SIDEWALK WIDTH ..... 5'
PLANTER WIDTH ..... 5'
PLANTER TYPE ..... Continuous on east
PLANTING ..... 25' o.c.
TREE SPECIES..... Desert Ironwood

Example



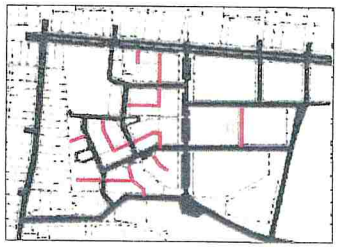


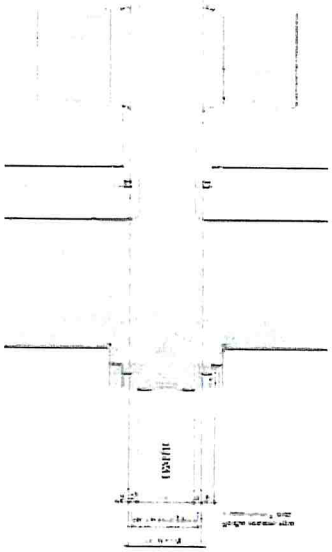
ALLEY

AL 18'-14'

MOVEMENT / SPEED ..... Yield / 10 mph
CROSSING TIME ..... 3 seconds
ROW WIDTH ..... 18'
TRAFFIC LANES ..... 1 (shared)
PARKING ..... NA
CURB TYPE ..... rolled or none - reverse crown
CURB RADIUS ..... NA
SIDEWALK WIDTH ..... NA
PLANTER WIDTH ..... 5'
PLANTER TYPE ..... between garages
PLANTING ..... in between 1-story buildings, south side emphasis
TREE SPECIES..... Canyon Hackberry (Celtis reticulata)
SHRUB SPECIES..... random nopal thornless prickly pear

Example

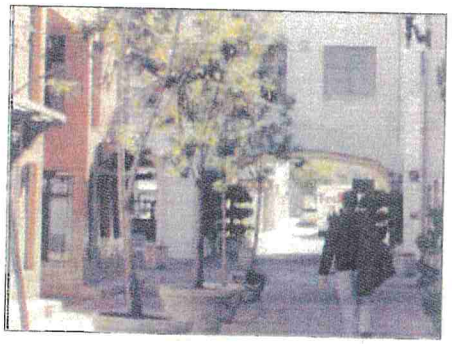




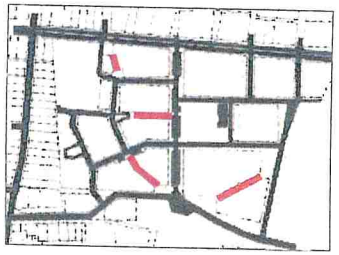
PASEO

PA 16'

MOVEMENT / SPEED ..... NA
CROSSING TIME ..... 3 seconds
ROW WIDTH ..... 16'
TRAFFIC LANES ..... NA
PARKING ..... NA
CURB TYPE ..... NA
CURB RADIUS ..... NA
SIDEWALK WIDTH ..... NA
PLANTER WIDTH ..... NA
PLANTER TYPE ..... NA
PLANTING ..... NA



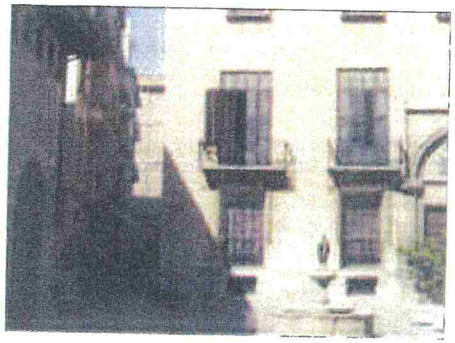
Example



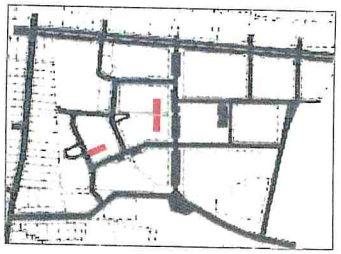
PASEO

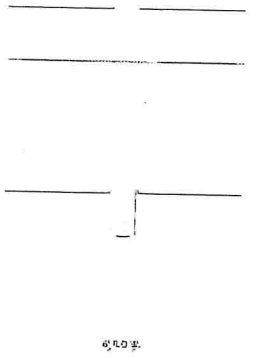
PA 6'

MOVEMENT / SPEED ..... NA
CROSSING TIME ..... 2 seconds
ROW WIDTH ..... 6'
TRAFFIC LANES ..... NA
PARKING ..... NA
CURB TYPE ..... NA
CURB RADIUS ..... NA
SIDEWALK WIDTH ..... NA
PLANTER WIDTH ..... NA
PLANTER TYPE ..... NA
PLANTING ..... NA



Example





THE CODE: PRIVATE REALM

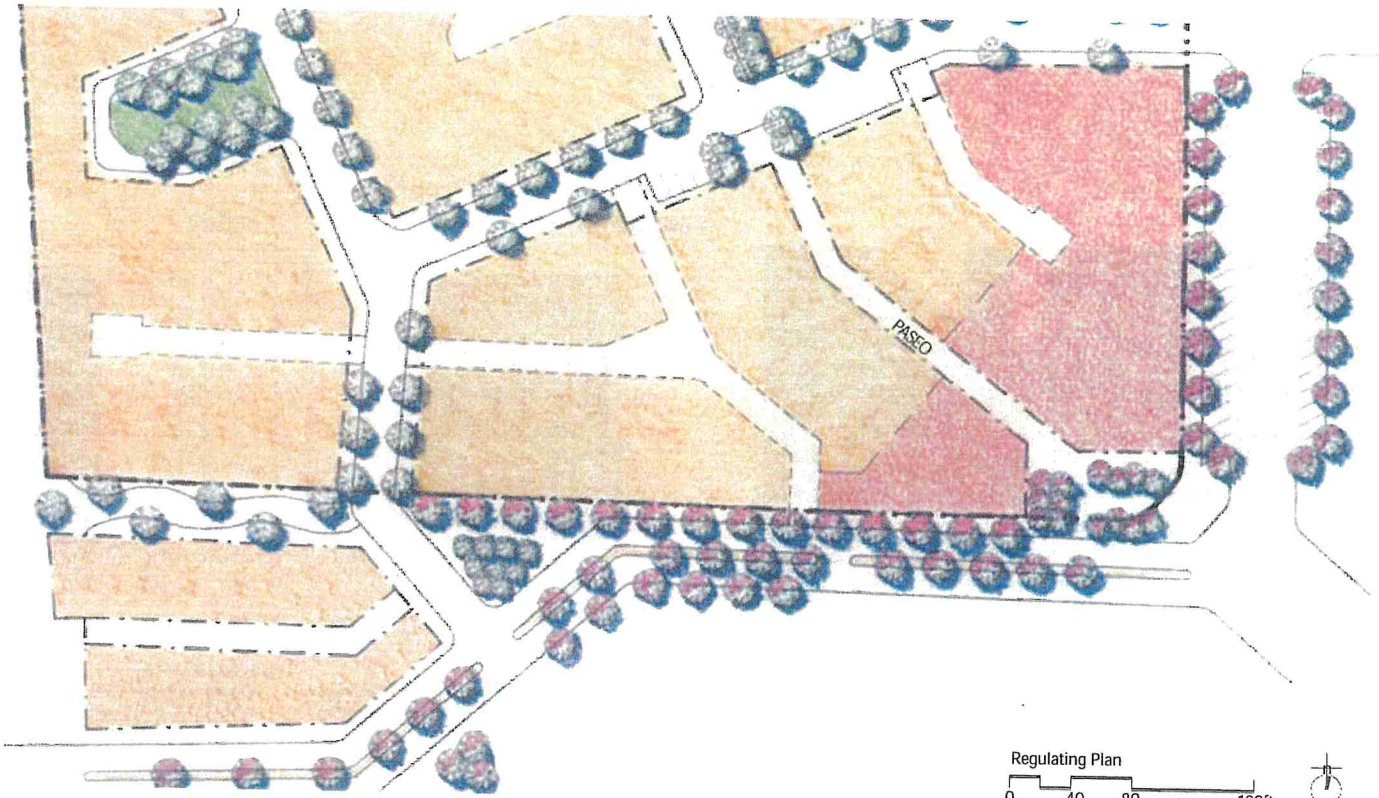
REGULATING PLAN

The Regulating Plan is the controlling document for the architectural disposition of all projects throughout the Mercado District Master Plan. It is a drawing that delineates the two distinct pieces of this neighborhood: the primarily residential area and the main street. The Regulating Plan then describes the form and location of streets, blocks and lots, and assigns appropriate transect categories to them.

The transect is a tool that suggests and enables a range of properties and patterns in designing the balance between building and nature and locates them precisely within an overall plan. In the typical suburban sprawl- based design of tracts there is only one such pattern, variously sized buildings surrounded by cars, the bigger the building, the bigger the parking field around it.

In the New Urbanist design of this project, two categories of development intensity and their associated standards are necessary to complete the larger, Menlo Park neighborhood of which the project site is a part: Town Center and Neighborhood General. As seen in the Regulating Plan, the Town Center zone is used for the properties fronting Congress Street and for the "Main Street" environment planned for the Avenida del Convento. Accordingly, the properties behind this more intense development are in the Neighborhood General zone.

For each zone, development standards ranging from building placement, parking placement, building height, building use and frontage types are presented in detail on the following pages. These standards apply to all eight blocks within the Mercado District and all parcels within each block.



Regulating Plan

0 40 80 160ft

NEIGHBORHOOD ZONES

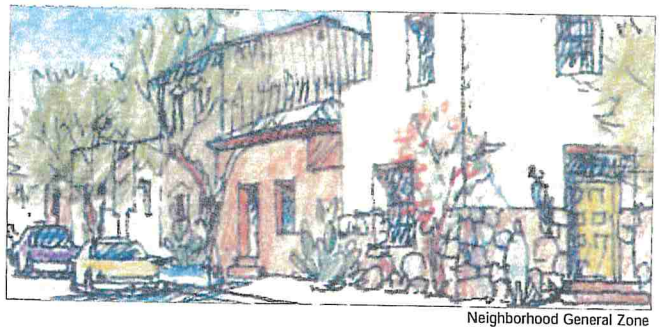
Each transect zone provides the rules and standards that make that particular level and intensity of urbanism different from the next. In this way, each zone is true to its particular role within the greater neighborhood of which it is a part.

On the following 2 pages, the information necessary to carry out development and/or land use activity on an incremental basis is provided.

TC TOWN CENTER: 2.76 ACRES

NG NEIGHBORHOOD GENERAL: 5.76 ACRES

Town Center Zone



Neighborhood General Zone

THE CODE
1. TOWN CENTER

A. Intent

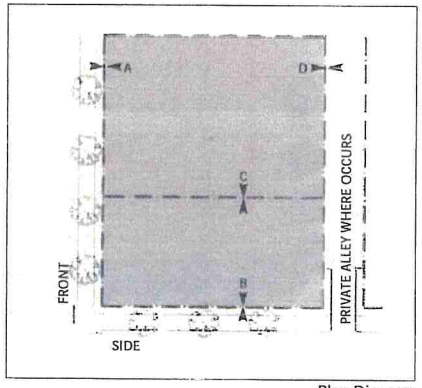
Illustrative Photo

The Town Center zone is intended to generate a central place within the plan, that allows for the long-term commercial development of the site in a pattern that is desirable for both visitors and residents. The architectural types preferred in this zone are denser and taller and they allow for a combination of uses, including housing, that generate a permanent town fabric. The streetscapes are urban, regular in form and planted strictly in the interest of providing merchants, customers and residents with a unique urban place.

1. Allowable Uses
Public
Commercial
Multi-Family Residential (townhouses, flats, condominiums)
Lodging

See appendix for complete list (page 59)

B. Building Placement



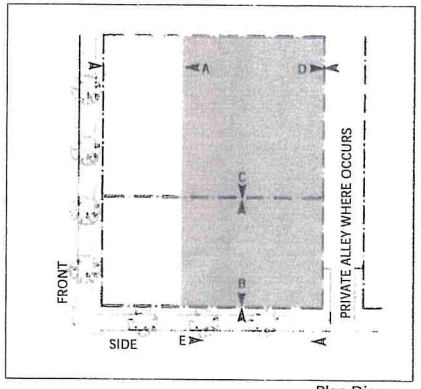
Plan Diagram

1. Build-to Line
Buildings, including accessory structures and frontage walls, shall be placed within the shaded area as shown in the above diagram.
A. Front: 0' min - 5' max
B. Side Street: 0' min - 5' max
C. Sideyard: 0' min - 10' max
D. Rear: 0' min for 40% of lot

2. Lot Coverage
75% max

3. Accessory Structures
Separation from primary building: 0' min

C. Parking



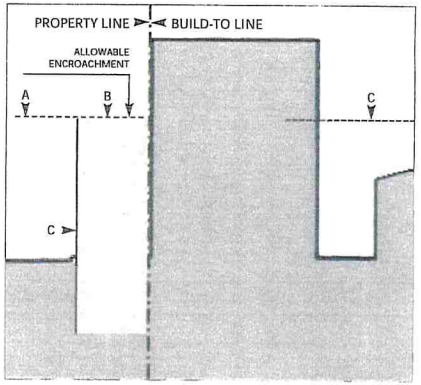
Plan Diagram

1. Parking Placement
At-grade parking is allowed in the shaded area as shown in the above diagram. Setbacks may be 0' if parking is completely below grade.
A. Front setback: 50% lot depth
B. Side street setback: 4' min w/ 4' tall min frontage-wall (no landscape buffer)
C. Side yard setback: 0' min
D. Rear setback: 0' min
E. Driveway: Max 12' wide

2. Parking and Loading Access
Vehicular access is permitted from the private or public alley or side streets. Loading space can be located anywhere within lot where parking is allowed.

3. Parking Requirements
Residential: 1.0 on-site spaces per dwelling unit
Commercial: 0 (provided on-street)
Bicycle: 1 per 1,000 commercial sq. ft.
1 per 4 multi-family dwelling units
Loading: 1, 12' x 26' space per lot

D. Building Profile



Section Diagram

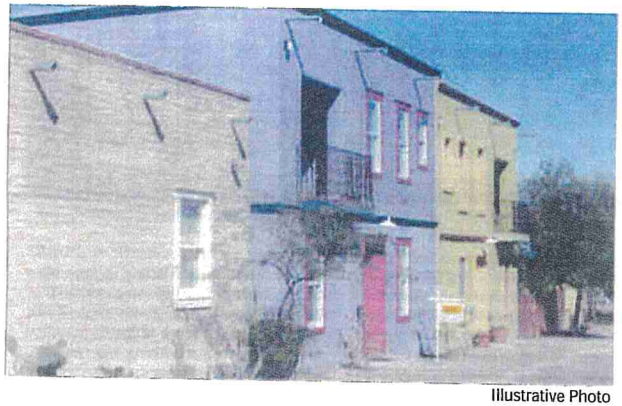
1. Building Height
A. Maximum height: 50' measured from adjacent finished grade.

2. Encroachments
B. Encroachments into the public right-of-way will comply with the following:
Front encroachment: 12' max
Side Street encroachment: 8' max

3. Frontage Types
Arcade, Shopfront, Stoop, Forecourt

4. Frontage Walls
C. 4' tall: can be opaque or transparent
4'-12' tall: min 20% transparent (gates, windows, etc)
12' - 50' tall: min 35% transparent (gates, windows, etc) provided that the top of encroachment is no taller than the eave or beginning of the parapet.

A. Intent



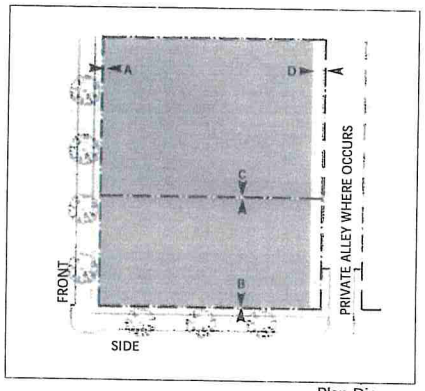
Illustrative Photo

The Neighborhood General zone is intended to provide areas for a variety of residential architectural types at various densities, all of them single family house form-compatible. This zone is located behind the Town Center zone to transition from the least dense and more single family house - dominated areas at the edges of each neighborhood. This is the most typical residential townscape of this project, and it is here more than anywhere else, that orchestrating the various architectural types well will have a great influence on the image and quality of life possible on every street and plaza in the neighborhood.

1. Allowable Uses
Home Occupation
Multi-Family Residential (townhouses, condominiums)
Single-Family Residential

see appendix for complete list (page 59)

B. Building Placement



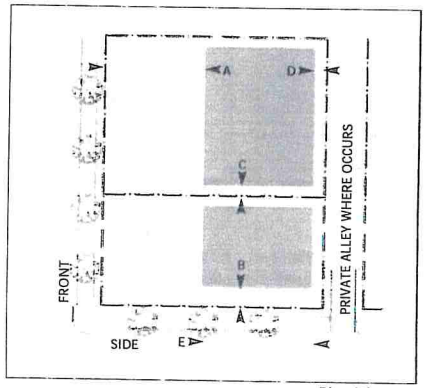
Plan Diagram

1. Build-to Line
Buildings, including accessory structures and frontage walls, shall be placed within the shaded area as shown in the above diagram.
A. Front: 0' min - 8' max
B. Side Street: 0' min - 5' max
C. Sideyard: 0' min - 5' max
D. Rear: 2' min

2. Lot Coverage
100% max

3. Accessory Structures
Separation from primary building: 0' min

C. Parking



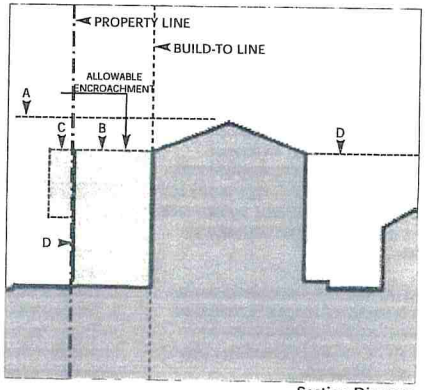
Plan Diagram

1. Parking Placement
At-grade parking is allowed in the shaded area as shown in the above diagram.
A. Front setback: 40% lot depth
B. Side street setback: 2' min w/ 6' tall min frontage wall (no landscape buffer)
C. Side yard setback: 2' min
D. Rear setback: 3' min
E. Max 10' for driveway

2. Parking and Loading Access
Vehicular access is permitted from the private alley or side streets.
Loading space can be located anywhere within lot where parking is allowed.

3. Parking Requirements
Residential: 1 on-site spaces per dwelling unit
Home Occupation: 1 bike per 1,000 sq. ft. (exempt from loading reqmt's)

D. Building Profile



Section Diagram

1. Building Height
A. Maximum height: 35' measured from adjacent finished grade.

2. Encroachments
B. Encroachments into the setback will comply with the following:
Front encroachment: 8' max
Side Street encroachment: 5' max
C. Upper floor encroachments into the right of way will be 4' max with a minimum clearance of 10' from the sidewallk.

3. Frontage Types
Stoop, Forecourt, Porch & Fence

4. Frontage Walls
D. 4' tall: can be opaque or transparent
4'-12' tall: min 20% transparent (gates, windows, etc)
12' - 35' tall: min 35% transparent (gates, windows, etc)

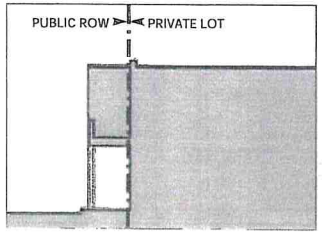
THE CODE:

FRONTAGE TYPES

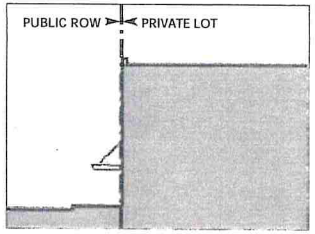
Frontage Types. In the interest of generating a quality public realm, the issue of how buildings front a particular thoroughfare is addressed. A range of Frontage Types that correspond to the anticipated urbanism is applied to each transect zone to produce a public realm that is predictable, well defined and active.

The diagrams and associated descriptions represent a range of conditions which could be applied to the basic facade of a building depending upon its location in the plan.

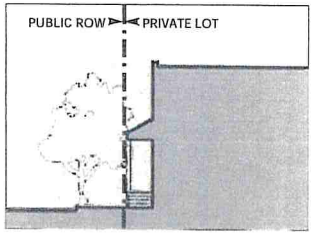
In the following illustrations, "ROW" means the public street right-of-way.



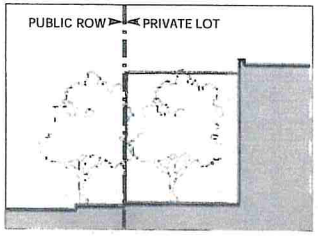
A. Arcade: the facade of a building with an attached colonnade. Balconies may overlap the sidewalk while the ground floor remains set at the lot line. This type is ideal for retail use, but only when the sidewalk is fully absorbed within the arcade so that a pedestrian cannot bypass it. An easement for private use of the right-of-way is usually required. To be useful, the arcade should be no less than 10 feet wide clear in all directions.



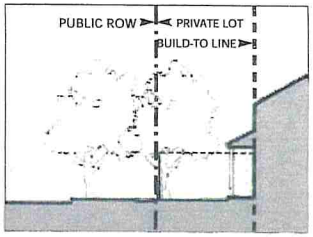
B. Shopfront: the facade is placed at or close to the right-of-way line, with the entrance at sidewalk grade. This type is conventional for retail frontage. It is commonly equipped with a cantilevered shed roof or awning. The absence of a raised ground floor story precludes residential use on the ground floor facing the street, although this use is appropriate behind and above.



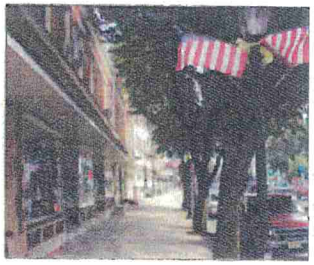
C. Stoop: the facade is placed close to the frontage line with the ground story elevated from the sidewalk, securing privacy for the windows. This type is suitable for ground-floor residential uses at short setbacks. This type may be interspersed with the shopfront. A porch may also cover the stoop.



D. Forecourt: the facade is aligned close to the frontage line with a portion of it setback. The resulting forecourt is suitable for gardens, vehicular drop offs, and utility off loading. This type should be used sparingly and in conjunction with the stoops and shopfronts. A fence or wall at the property line may be used to define the private space of the yard. The court may also be raised from the sidewalk, creating a small retaining wall at the property line with entry steps to the court.



E. Porch & Fence: the facade is set back from the frontage line with an encroaching porch appended. The porch should be within a conversational distance of the sidewalk, while a fence or frontage wall at the frontage line maintains the demarcation of the yard. A great variety of porches are possible, but to be useful, none should be less than 6 feet wide.



THE CODE: ARCHITECTURE
INTRODUCTION

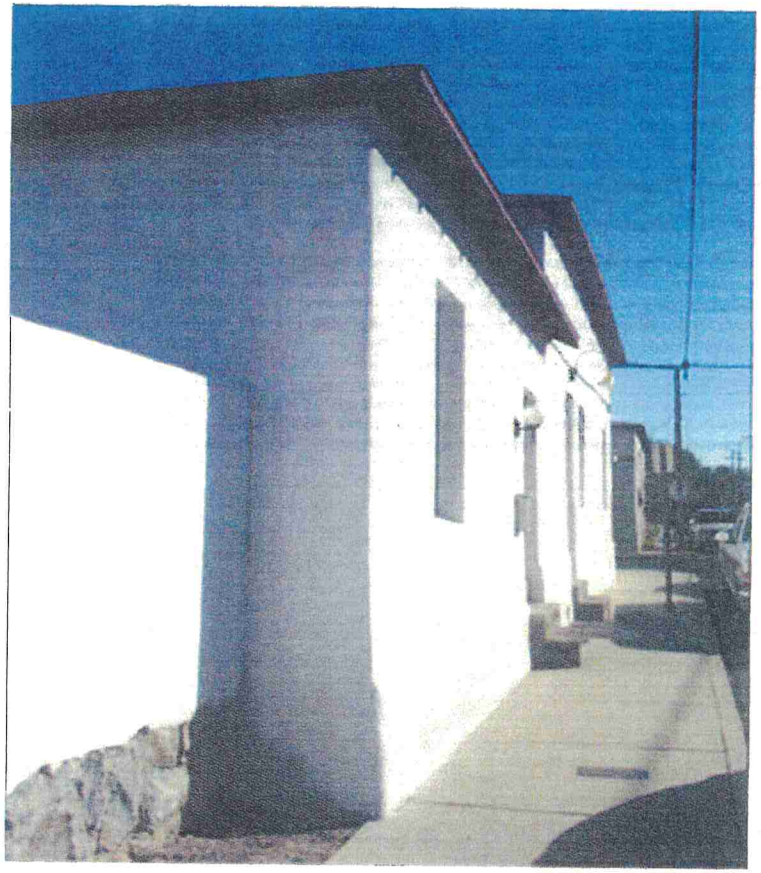
The design of a new neighborhood is an act to be taken very seriously. In order for new design patterns to become integrated with existing, care must be taken to understand the nature of what has already been built, how it came to be, and how it maintains its vitality. With the creation of the new comes the opportunity to be critical, and offer ways to improve upon precedent. Above all, the creation of city fabric should be an occasion to re-affirm what it means to be a Tucsonan and to delight in what a city in the desert can be.

This text aspires to provoke a vigorous discourse about what it means to be urban in this very unique place. The various building guidelines contained in this section are conceived as part precedent study and part typological primer; suggesting an evolutionary process moving forward. The Mercado District is addressed in terms of two general realms: public and private. The private realm containing buildings for commerce and residence and the public being all that the neighborhood can use together: the streets, plazas, jardines, sidewalks.

The architecture for the Mercado District is divided into five categories, each pertaining to a specific housing or commercial type and precedent group. Each category outlines salient qualities regarding material assemblies that have been traditionally influential in the development of local character, and have an appropriateness to Tucson. Each section contains an introduction, an elaboration on major building elements and assemblies, and material notes. An appendix is also provided which deals with specific building elements, materials and finishes as well as secondary structures. This material is meant to be an inspiration and not a restrictive device. Designers are encouraged to propose ways in which each building type might be re-interpreted, keeping in mind the underlying desire to maintain a consistent character with the surrounding context.

The fifth category, Commercial Buildings, is a separate category, largely due to the density and scale characteristics of this architectural type. It is in these structures along Congress Street and the new Avenida del Convento where urban activities within this neighborhood will take place. As with our comments on the private realm, this text should be taken as a point of departure for thoughtful design. Although, for individual buildings, the immediate context in some cases will not be yet known, consistency with the fabric of the emerging neighborhood as a whole is the desired result.

The Design Review Process is outlined in an appendix to this section. Although the Design Review Board does have the authority to grant permission to move forward with designs, this document is intended to encourage involvement and dialogue in what is intended to be a collaborative relationship among its members.



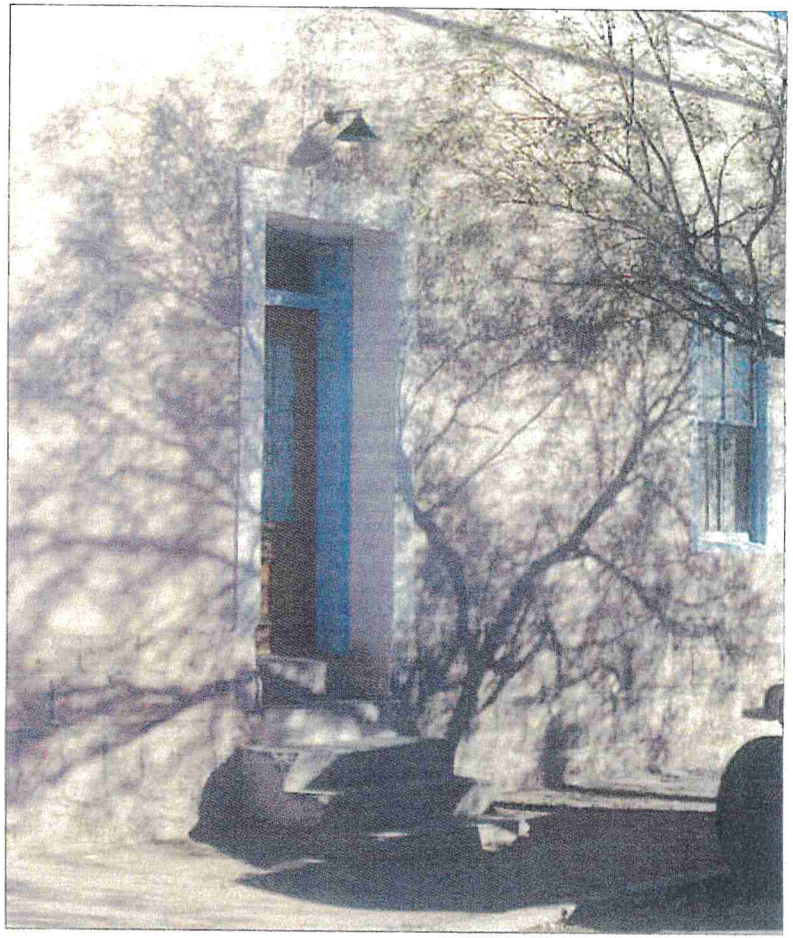
Tucson 2004

THE CODE: PRIVATE REALM
CATEGORY 1:
SONORAN ROW HOUSE

The design team evaluated this subject extensively to ensure that honest and respectful interpretations of Tucson's most appropriate architectural types are encouraged while leaving designers the freedom within which to further interpret the style.

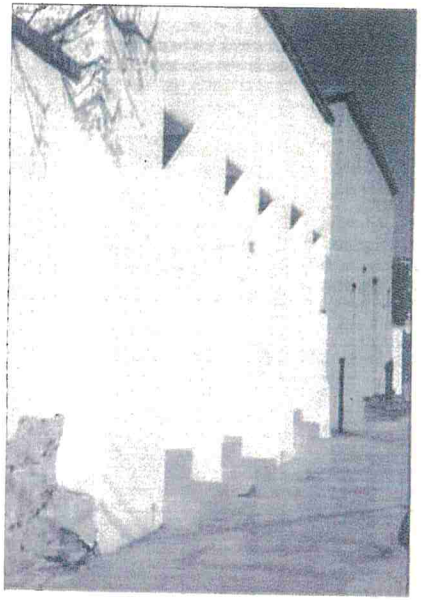
This housing type was the most civic-minded of all the historical precedents Tucson has in its repertoire. Originally built within a relatively homogenous cultural context, its emphasis was on the formation of clearly defined public areas such as streets and plazas without significant differentiation between individual residences. Being built exclusively of local materials until the arrival of more advanced transportation technologies, these houses were characterized by thick adobe walls, deep-set fenestration, and very little in the way of ornamentation. As the population of Tucson grew, various roof forms and materials, along with lateral extensions in non-native materials, at times having far more decoration than were introduced by previous inhabitants.

There are essential qualities that transcend time and speak directly about a rich urban life in the desert. What we can learn from the Sonoran Row House includes a sense of community made by defining sensitively proportioned open spaces, the permanence and climatological appropriateness of massive wall construction, and a humility of expression that comes with a more homogenous streetscape. Without turning our backs on the opportunities presented by our own time, these characteristics can be maintained while still allowing for reinterpretation and adaptation using new building materials and techniques, advanced infrastructural systems, and a greater flexibility of interior space layout. The following code is an attempt to catalogue the basic formal elements of this house type and outline ways that it might be re-presented in our time.



Example

THE CODE: PRIVATE REALM
CATEGORY 1:
SONORAN ROW HOUSE



Materials Legend

1 Adobe Veneer
2 Aluminum-clad French Doors
3 Awning
4 Brick Veneer
5 Built-up Roofing
6 Built-up Roofing with Ballast
7 CMU
8 Concrete Base
9 Concrete Building Structure
10 Concrete Cap
11 Exposed Rafters
12 Frame and Skin
13 Gutter
14 Horizontal Soffit
15 Masonry
16 Metal Roofing
17 Parapet
18 Plaster
19 Plaster Column
20 Post and Beam Structure
21 Precast Concrete Lintel
22 Primary Roof
23 Precast Sill
24 Primary Wall System
25 Rammed Earth
26 Roofing
27 Rastra
28 Shed Roof
29 Shingle Roofing
30 Steel Beam
31 Steel Canopy
32 Steel Column
33 Steel Railing
34 Steel Window
35 Stone
36 Storefront Glazing
37 Storefront Framing
38 Tile Cap
39 Tile Roofing
40 Transom
41 Wood Fascia
42 Wood Frame
43 Wood Window

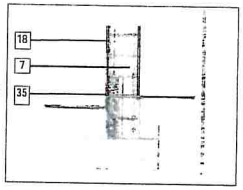
A. Base

Precedent:
Local stone: flush w/ plaster above, proud of plaster above
Plaster o/ local stone: flush w/ plaster above, proud of plaster above

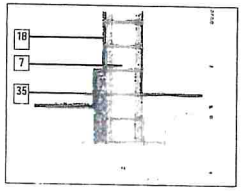
Suggested Adaptations

cast-in-place concrete or CMU with local stone veneer
- flush w/ plaster above
- proud of plaster above

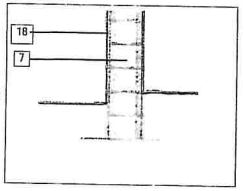
Details



exposed masonry
- flush w/ primary wall surface above
- proud of primary wall surface above



cast-in-place concrete or CMU with plaster base
- flush w/ plaster above
- proud of plaster above



Built Exemplars


flush (cut) stone


proud plaster


fresh plaster


flush (rough) stone


proud stone


exposed concrete stem wall

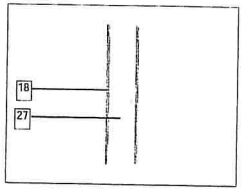
B. Primary Walls

Precedent:
Plaster over sun-dried adobe

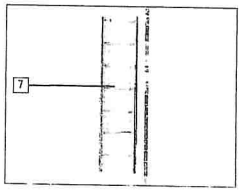
Suggested Adaptations

plaster o/ masonry
- CMU, rammed earth, rastra, omin block, integra block, stabilized adobe

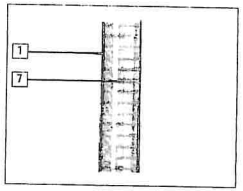
Details



exposed masonry
- cmu, rammed earth, asphalt stabilized adobe, cement stabilized adobe, integral color slump block



exposed masonry veneer o/ steel framing or cmu
- stabilized adobe, brick



Built Exemplars


integral color plaster


exposed rammed earth


exposed cmu


mud plaster


exposed adobe


exposed slump block

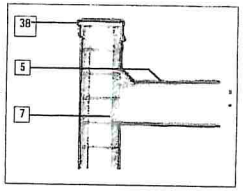
C. Roof-Wall Connections

Precedent:
Parapet: w/ masonry cap, with plaster cap,
Sloped roof: plaster to underside of roof assembly

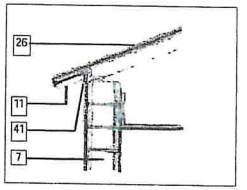
Suggested Adaptations

cast-in-place concrete or CMU with local stone veneer
- flush w/ plaster above
- proud of plaster above

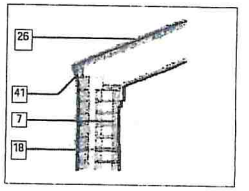
Details



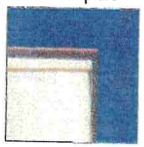
exposed masonry
- flush w/ primary wall surface above
- proud of primary wall surface above



cast-in-place concrete or CMU with plaster base
- flush w/ plaster above
- proud of plaster above



Built Exemplars


masonry cap


finished overhang with large fascia

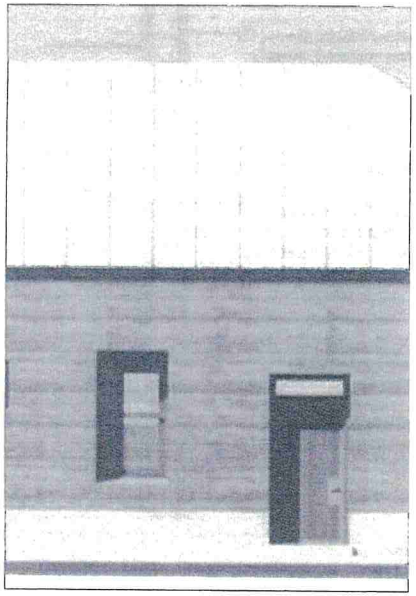

overhang with exposed rafters and decking


articulated plaster cap


unarticulated plaster cap


overhang with soffit

THE CODE: PRIVATE REALM
CATEGORY 1:
SONORAN ROW HOUSE



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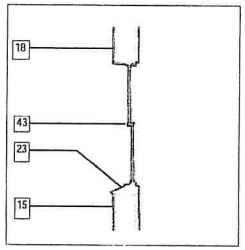
D. Fenestration

Precedent:
Windows-recessed: plastered openings, wood double hung, iron bars, sloped sill, flush wood trimmed opening, wood double hung, vertical orientation
Doors-recessed: plastered opening, wood door and frame, raised masonry sill, transom, flush, wood trimmed opening, wood door and frame, raised masonry sill, transom, exposed lintel

Suggested Adaptations

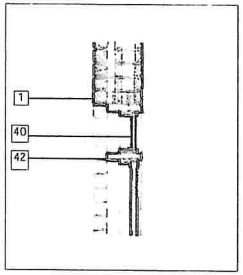
windows
- recessed
- articulated sill
- wood (painted, stained, or clad)
- steel
- aluminum (large section*)
- double hung or casement
- jamb and head*
- decorative bars*

Details



doors
- (same as above where applicable)
- side lights
- solid panel, full or divided light*
- transom
- exposed lintel

note: details may differ to respond to varying street and solar orientations



Built Exemplars

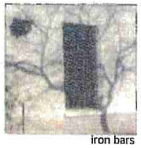

recessed, plastered


raised, masonry sill


expressed lintel


cast sill


shutters


iron bars

E. Roof

Precedent:
Flat, Sloped (gable, hip , shed, combination), Metal, Wood Shakes, Slate

Suggested Adaptations

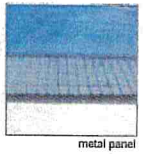
flat
- built-up with ballast
- sloped (gable*, hip*, shed, combination)
- steel
- copper
- slate
- integrated photovoltaic

roof deck
- wood, synthetic, or combination planks
- pavers

* slope greater than 5:12

Built Exemplars


wood shakes


metal panel


galvanized, corrugated


oxidized metal

F. Extension

Precedent:
Side or rear of building only, plaster over adobe to match main volume, enclosed or covered exterior space, wood post and beam covered exterior space, wood frame and skin enclosed living space

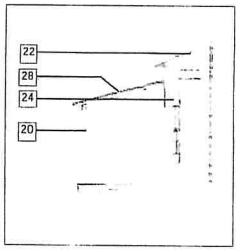
Suggested Adaptations

side or rear of building

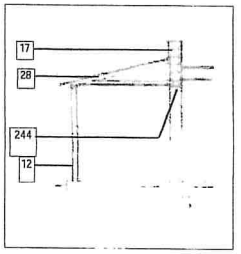
shed or hip roof
material to match main volume enclosed or covered exterior space
steel, wood, or combination

covered exterior space

Details

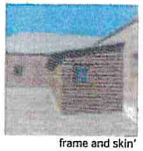


frame with skin or plaster*



Built Exemplars


post and beam covered exterior


frame and skin enclosure


post and beam covered exterior


post and beam extension


frame and skin addition


masonry addition

THE CODE: PRIVATE REALM
CATEGORY 1:
SONORAN ROW HOUSE

G. Drainage

Precedent: Flat roof, wood or sheet metal scuppers (drain to rear yard and/or street), sloped roof, slope to roof perimeter, no gutters

Suggested Adaptations
flat roof

sheet metal shutters

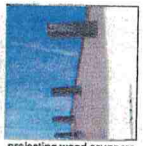
sloped roof

slope to perimeter with gutters and downspouts*

note: coordinate water retention with project master plan

Built Exemplars


projecting decorated scupper


projecting wood scuppers with metal liners


projecting scuppers


vertical scupper

H. Perimeter Definition

Precedent: perimeter walls: match primary wall system; steel frame with corrugated sheet metal skin
gates: hinged wood, steel, ocotillo, saguaro rib, or combination leaves in wood or steel frame

Suggested Adaptations
perimeter walls

match primary wall system

gates

hinged wood, steel, in combination with ocotillo, leaves in wood or steel frame

Built Exemplars


wood garden gate


perimeter enclosure


oxidized steel gate


portal in low wall

I. Landscape

Precedent: primarily in side or rear of lot

Suggested Adaptations
native or adapted arid climate vegetation (no palms)

pavement

-cast-in-place concrete with weathered finish
-local stone, split
-decomposed granite
-stabilized decomposed granite gravel
-low, crawling ground cover
-potted plants
-pavers set in mortar or sand*

Built Exemplars


mixed pavers


tree-lined streets


stone drainage paths


water retention + control


vegetive screening


tree canopy shading structure

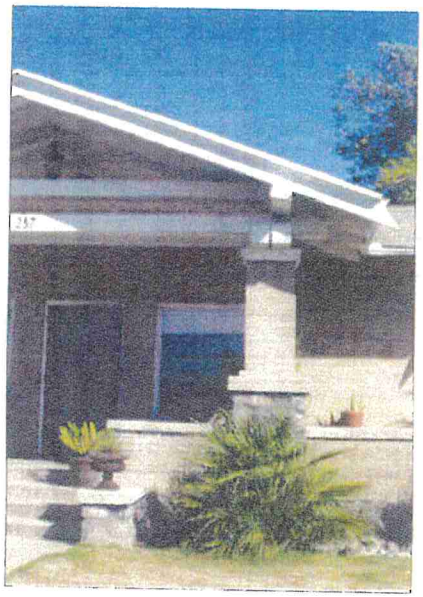
THE CODE: PRIVATE REALM
CATEGORY 2:
POST-RAILROAD

Introduction

The impact of the railroad on the built form of Tucson cannot be underestimated. With it came new inhabitants and technologies along with new ideas about city-making. One of the most profound shifts of this period was the departure from the Row House as the predominant building type toward the more expansive, detached house models imported from both the east and west coasts. Advancements in technology facilitated a shift in major building materials away from adobe to locally produced brick. The brick, stone, and wood bungalow emerged as one of the primary residential types of this period, having the characteristics of covered front porches, intersecting gable roofs, greater ornamentation and articulation of wood and brick work, along with beds of vegetation and low perimeter walls on all sides.

The applicability of this residential type to urban development is limited as it presents an essentially pre-war condition. Nevertheless, as a prolific and indelible pattern within the Tucson cityscape, there are qualities that remain relevant to the Mercado District development. Multiple roof forms aid in the reduction of the overall scale of each structure. Covered front porches offer a sheltered space between streets and the individuals who live along them. In addition, vegetation and low, perimeter walls along the sidewalk edge can add much needed shade and definition to the public way. As with the Sonoran Row House, the pages that follow are an attempt to catalogue the basic formal elements of this house type and outline ways that it might be re-presented. Care should be taken to ensure any re-interpretation is done in a way that is considerate with the higher density urban patterns of the Mercado District.

THE CODE: PRIVATE REALM
CATEGORY 2:
POST RAILROAD



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42 Wood Frame
43 Wood Window

A. Base

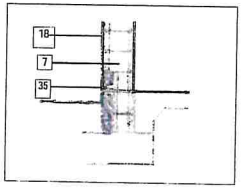
Precedent: local stone, flush w/ plaster above; proud of plaster above, plaster o/ local stone, flush w/ plaster above, proud of plaster above

Suggested Adaptations

cast-in-place concrete or CMU with local stone veneer

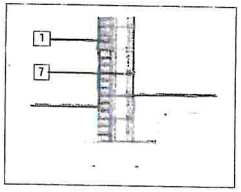
- flush w/ finish above
- proud of finish above

Details



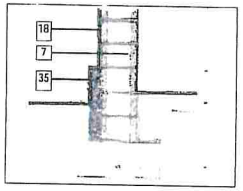
exposed masonry

- flush w/ finish above
- proud of finish above



plaster over masonry

- flush w/ finish above
- proud of finish above

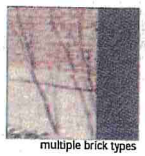


Built Exemplars


local stone with proud stucco above


exposed local stone with brick above


plaster o/masonry


multiple brick types


exposed local stone with brick above

B. Primary Walls

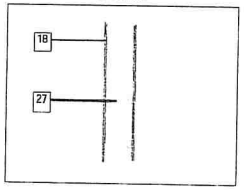
Precedent: double or triple wythe brick, with or without plaster, adobe with plaster

Suggested Adaptations

plaster over masonry

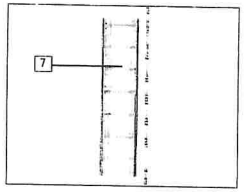
- CMU, rammed earth, rastra, omin block, integra block, stabilized adobe

Details



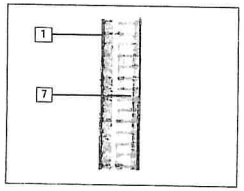
exposed masonry

- cmu, rammed earth, asphalt stabilized adobe, cement stabilized adobe, integral color slump block



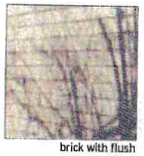
exposed masonry veneer o/ steel framing or cmu

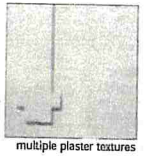
- stabilized adobe, sun-dried brick



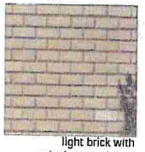
Built Exemplars


textured plaster


brick with flush mortar joints


multiple plaster textures


brick w/matching grout


light brick with raked mortar joints

C. Roof-Wall Connections

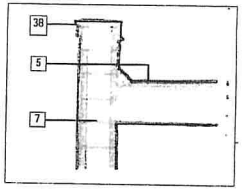
Precedent: parapet: w/ masonry cap; with plaster cap, sloped roof: plaster to underside of roof assembly

Suggested Adaptations

parapet

- w/masonry cap
- w/plaster cap
- w/metal plate cap (does not include sheet metal coping)

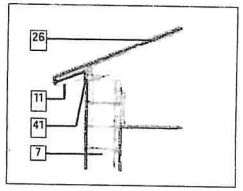
Details



overhang w/plaster or masonry to underside of fascia

- overhang w/exposed rafters
- overhang w/soffit

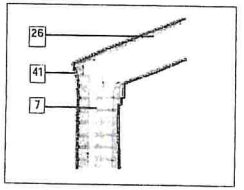
(w/ or w/out gutters)



no overhang w/plaster or masonry to underside of fascia

- fascia board

(w/ or w/out gutters)



Built Exemplars


masonry cap

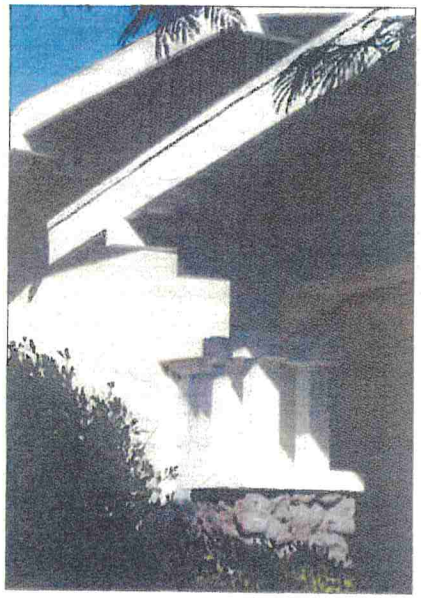

stacked decorative structure


horizontal masonry cap and infill gable vent


curved rater tails


decorative rafter tails

THE CODE: PRIVATE REALM
CATEGORY 2:
POST RAILROAD



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D. Fenestration

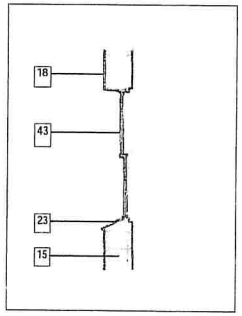
Precedent:
Windows-wood double hung, wood casement, plaster wrap, brick shallow arch header, sloped brick sill
Doors-similar to windows, wood raised panel, wood screen doors

Suggested Adaptations

windows*

- deep set
- square or vertical
- wood: painted, stained, clad
- steel
- aluminum: large section
- double hung, casement
- header: match primary wall finish
- shallow brick arch
- exposed steel lintel if structural
- jamb: wood trim, match wall material
- sill: sloped brick, precast concrete, steel plate

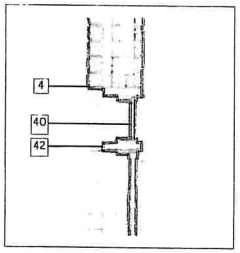
Details



doors*

- same as windows where applicable
- side lites possible
- solid panel
- full or divided lites

note: details may differ to respond to varying street and solar orientations



Built Exemplars


door w/ side lites


recessed, plastered opening


shallow arched header

E. Roof

Precedent:
Flat: Built-Up
Sloped: Gable, Hip, Shed, Low profile metal, slate, shingle

Suggested Adaptations

flat

- built-up with ballast

sloped

- gable, hip, shed, multi-directional possible, multiple types possible
- steel
- copper
- slate
- integrated photovoltaic

Built Exemplars


interpenetrating gables


multiple roof types


dormer vent or window


multiple, parallel gables


shed vent

F. Extension

Precedent:
Front of house: brick combination of brick, plaster, wood
Rear of house: frame with metal skin, painted wood siding

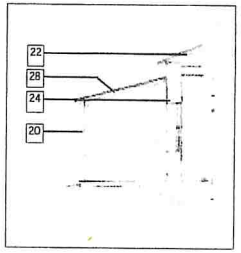
Suggested Adaptations

side or rear of building

covered front porch

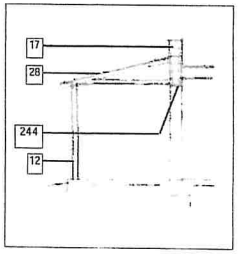
- -shed or gable roof
- -columns to match primary wall materials or base material up to decorative wood structure
- -railings to match base or primary wall material

Details



rear yard or 2nd story extension or addition

- roof to match primary materials of house
- steel or wood frame with horizontal plank siding or plaster



Built Exemplars


decorative wood column porch


stone column with wood trellis

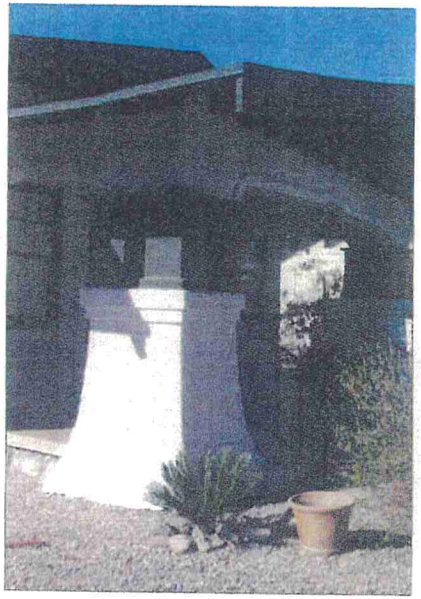

wood framed tower extension


exposed brick arch


front entry porch


framed rear porch

THE CODE: PRIVATE REALM
CATEGORY 2:
POST RAILROAD



G. Drainage

Precedent:
Flat roofs- drain to exposed scupper
Sloped roofs-overhang with no gutter

Suggested Adaptations
flat roof

- drain to exposed scupper or concealed roof drain

sloped roofs

- overhangs with no gutters
- gutters and down spouts

Built Exemplars


gutter and downspout


metal scupper


gutter and downspout

H. Perimeter Definition

Precedent:
low perimeter wall, match primary house materials, plaster over masonry, perimeter fence, iron, wood

Suggested Adaptations
perimeter walls

-match primary house materials
-plaster over masonry
-plate steel on steel structure
-3' max front yard*
-4' max rear yard*

perimeter fences

-steel, non-reflective paint
-steel, oxidized (no hollow metal sec tions)
-3' max front yard*
-4' max rear yard*

entry gates

-steel
-wood
-combination

Built Exemplars


local stone base with plaster over mahagony


decorative steel gate


oxidized steel gate


wood picket fence

I. Landscape

Precedent:
grass, gravel, stones, imported vegetation

Suggested Adaptations
vegetation

-native or adapted arid climate vegetation (no palms)
-low, crawling ground cover

pavement

-cast-in-place concrete w/ weathered finish
-local stone, split
-decomposed granite
-stabilized, decom posed granite
-pavers set in mortar or sand*

Built Exemplars


concrete pavers

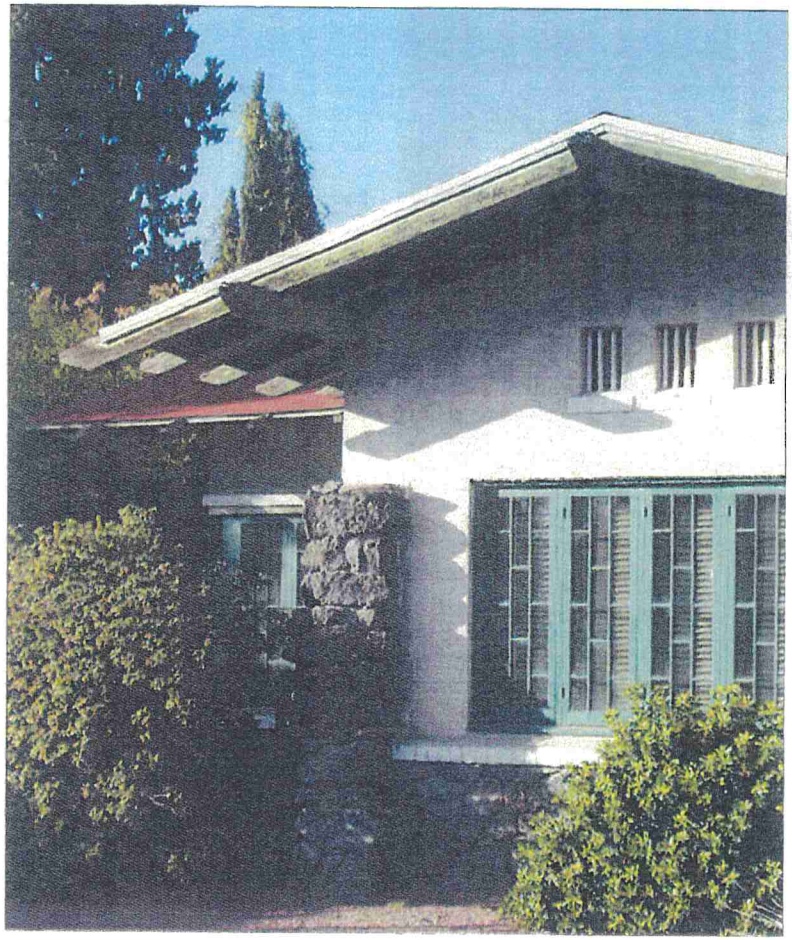

arid climate adapted ground plantings


local stones in decomposed granite

THE CODE: PRIVATE REALM
CATEGORY 3:
TUCSON ECLECTIC: 1850-1950

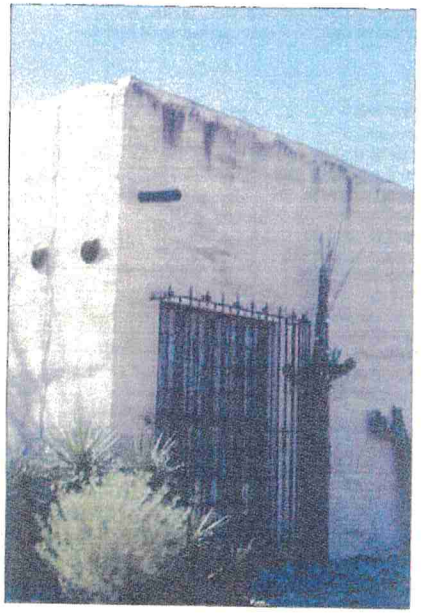
As outside influences grew in strength and number, the built environment continued to diversify in Tucson. Promoted b y publications and periodicals exporting style, a period of borrowing and imitation of regional as well as non-native building modes became popular throughout Tucson. Common stylistic sources included Mediterranean, American Frontier, Sonoran Ranch, Craftsman, and Spanish Colonial Revival. as exemplified by the work of local architect Josias Joesler, these stylistic importations could be adapted to the local, pre-war conditions, yielding new and at times, appropriate compositions.

With such a variety of sources and products, it is difficult to isolate and articulate the qualities these buildings offer to us in our time. What remains vital to these eclectic buildings in this region and climate are the qualities of harboring, massive enclosures, extensions into surrounding streets and gardens, and perimeter definition in the form of building, landscape, or garden walls. All together, these qualities provide a gradient of light and shade, as well as zones of privacy and public exposure. The pages that follow are a collection of exemplars that demonstrate thoughtful adaptations of non-native or more universal building modes that should serve as inspiration for new, locally specific, interpretations.



Example

THE CODE: PRIVATE REALM
CATEGORY 3:
TUCSON ECLECTIC



Materials Legend

1 Adobe Veneer
2 Aluminum-clad French Doors
3 Awning
4 Brick Veneer
5 Built-up Roofing
6 Built-up Roofing with Ballast
7 CMU
8 Concrete Base
9 Concrete Building Structure
10 Concrete Cap
11 Exposed Rafters
12 Frame and Skin
13 Gutter
14 Horizontal Soffit
15 Masonry
16 Metal Roofing
17 Parapet
18 Plaster
19 Plaster Column
20 Post and Beam Structure
21 Precast Concrete Lintel
22 Primary Roof
23 Precast Sill
24 Primary Wall System
25 Rammed Earth
26 Roofing
27 Rastra
28 Shed Roof
29 Shingle Roofing
30 Steel Beam
31 Steel Canopy
32 Steel Column
33 Steel Railing
34 Steel Window
35 Stone
36 Storefront Glazing
37 Storefront Framing
38 Tile Cap
39 Tile Roofing
40 Transom
41 Wood Fascia
42 Wood Frame
43 Wood Window

A. Base

Precedent: local stone: flush w/plaster above; proud of plaster above, plaster over masonry: flush w/plaster above; proud of plaster above; battered

Adaptations

Spanish Colonial Revival
-plaster over masonry, vertical or battered

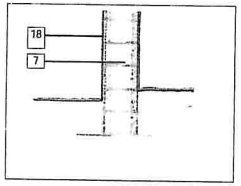
Mediterranean
-plaster over masonry, vertical or battered

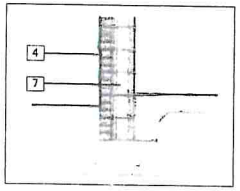
Mediterranean
-brick, vertical or battered

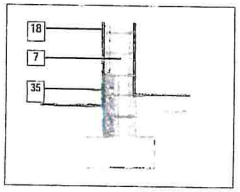
Territorial
-masonry
-brick

Craftsman
-local stone
-plaster over masonry or local stone
-masonry

Details







Spanish Colonial/ Mediterranean


local stone (rough)


local stone (cut)

Territorial


plaster base and wall


plaster base

Craftsman


articulated brick base


masonry base with brick wall above

B. Primary Walls

Precedent: double or triple wythe brick, w/ or w/out plaster, adobe w/ or w/out plaster, sun-dried brick

Adaptations

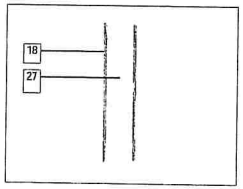
Spanish Colonial Revival
-plaster over masonry*, vertical or battered

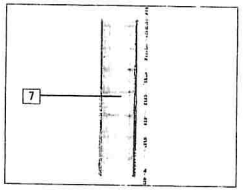
Mediterranean
-plaster over masonry*, vertical or battered
brick veneer, vertical or battered

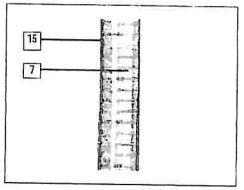
Territorial
-stabilized adobe veneer
-sun-dried brick veneer

Craftsman
-plaster over masonry*

Details







Spanish Colonial/ Mediterranean


brick with battered pilasters


battered plaster wall

Territorial


sun-dried brick


mud adobe block

Craftsman


plaster over masonry main volume


plastered main volume

C. Roof-Wall Connections

Precedent: parapet: w/masonry cap; w/plaster cap, sloped roof: plaster to underside of roof assembly

Adaptations

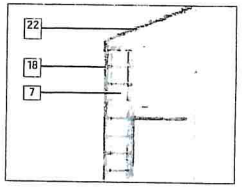
Spanish Colonial Revival
-parapet with tile or plaster cap

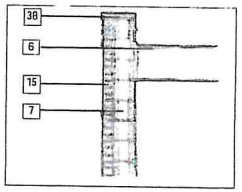
Mediterranean
-parapet with tile or plaster cap

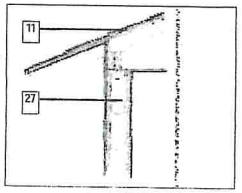
Territorial
-parapet with tile or brick cap

Spanish Colonial Revival
Mediterranean
Territorial
-overhang with exposed rafters (with or without gutters)
Craftsman
-stacked structural members
-broad overhang with exposed rafters (with or without gutters)

Details







Spanish Colonial/ Mediterranean


shaped plaster cap


plaster parapet

Territorial


articulated brick work

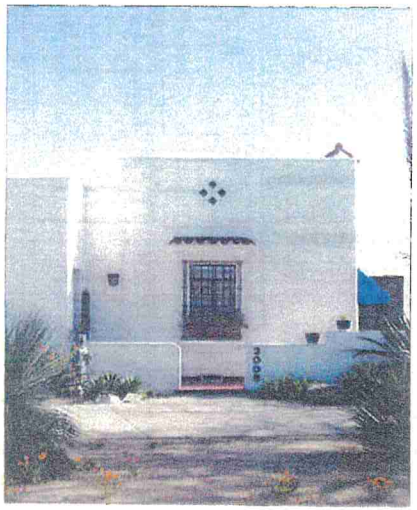

tile cap over masonry

Craftsman


stacked structure with extensive overhangs


multiple layered clay tile (span. col./medit. territ)

THE CODE: PRIVATE REALM
CATEGORY 3:
TUCSON ECLECTIC

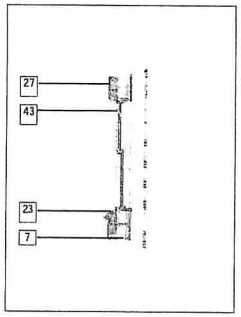


D. Fenestration

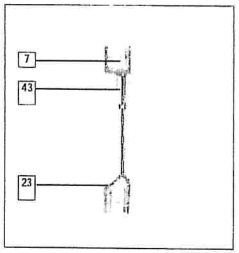
Precedent:
Windows-wood double hung; wood casement; plaster wrap; brick shallow arch header; sloped brick sill
Doors-similar to windows; wood raised panel; wood screen doors

Suggested Adaptations
windows*
-deep set
-square or vertical
-wood (painted, stained, clad steel)
-steel
-aluminum, large section**
-double hung or casement hdr match primary wall finish
shallow brick arch
exposed steel lintel if structural
-jamb
wood trim, match wall material
-sill
sloped brick, precast concrete, steel plate

Details



doors**
(same as windows where applicable)
side lites possible, solid panel, full or divided lites



E. Roof

Precedent:
Flat: built up
Sloped: gable; hip; shed; low profile metal; slate; shingle; clay tile

Suggested Adaptations
flat
-built up with ballast

sloped (gable, hip, shed)
-multi-directional possible
-multiple types possible
-clay or concrete tile
-steel
-copper
-slate
-integrated photovoltaic

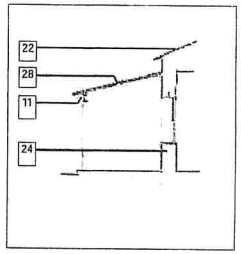
F. Extension

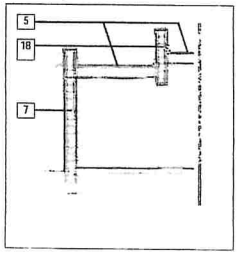
Precedent:
Front of house: brick; combination of brick, plaster, wood
Rear of house: frame with metal skin; painted wood siding

Suggested Adaptations
covered front porch
-flat, shed, or gable roof
-columns to match primary wall materials or base material up to decorative wood structure
-wood or steel columns with exposed beam(s)
-railings to match base or primary wall material

rear yard or 2nd story extension or addition
-roof to match primary house
-match primary materials of house

Details





Materials Legend

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3 Awning
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5 Built-up Roofing
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8 Concrete Base
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31 Steel Canopy
32 Steel Column
33 Steel Railing
34 Steel Window
35 Stone
36 Storefront Glazing
37 Storefront Framing
38 Tile Cap
39 Tile Roofing
40 Transom
41 Wood Fascia
42 Wood Frame
43 Wood Window

Spanish Colonial/ Mediterranean


french doors


thick stile door with sidelights

Territorial


expressed lintel with sloped sill

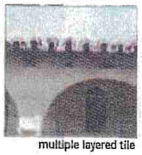

ganged windows with expressed lintel

Craftsman


plaster jambs and sill

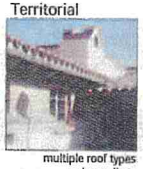

corner window with structural column

Spanish Colonial/ Mediterranean


multiple layered tile


matching roof and window covering

Territorial


multiple roof types and eave lines


flat roof with parapet and flat canopy

Craftsman


broad overhangs with exposed structure


broad overhang with soffit

Spanish Colonial/ Mediterranean


porch with primary roof form


porch with exposed structural elements

Territorial


heavy perimeter columns with wood intermediates

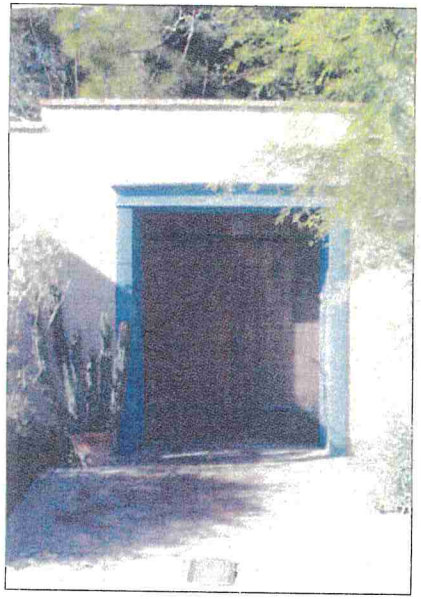

separated porch canopy

Craftsman


wood porch structure


fabric awning

THE CODE: PRIVATE REALM
CATEGORY 3:
TUCSON ECLECTIC



G. Drainage

Precedent:
Flat roofs- drain to exposed scupper
Sloped roofs- overhang with or without gutters and downspouts

Suggested Adaptations
flat roof
-drain to exposed scupper or concealed roof drain

sloped roofs
-overhangs with no gutters
-gutters and downspouts


metal scupper with decorative brickwork


gutter and downspout


precast scupper within masonry structure


integral gutter

H. Perimeter Definition

Precedent:
low perimeter and area walls: match primary house materials, plaster over masonry
entry gates: iron; wood

Suggested Adaptations
perimeter walls**
-match primary house materials
-plaster over masonry
-3'-0" max front yard
-4'-0" max rear yard

entry gates
-steel
-wood
-combination


portal in garden wall


decorative steel gate


garden wall opening to the street


perimeter retaining wall with integrated stairs

I. Landscape

Precedent:
gravel; native vegetation
grass; gravel; stones; imported vegetation

Suggested Adaptations
vegetation
-native or adapted arid climate vegetation (no palms)
-low, crawling ground cover

pavement**
-cast-in-place concrete with weathered finish
-local stone, split
-decomposed granite
-stabilized, decomposed granite
-pavers set in mortar or sand


arid climate adapted ground plantings


arid climate adapted trees


desert wildflowers


scored, stained concrete

THE CODE: PRIVATE REALM

CATEGORY 4:

MAIN STREET COMMERCIAL

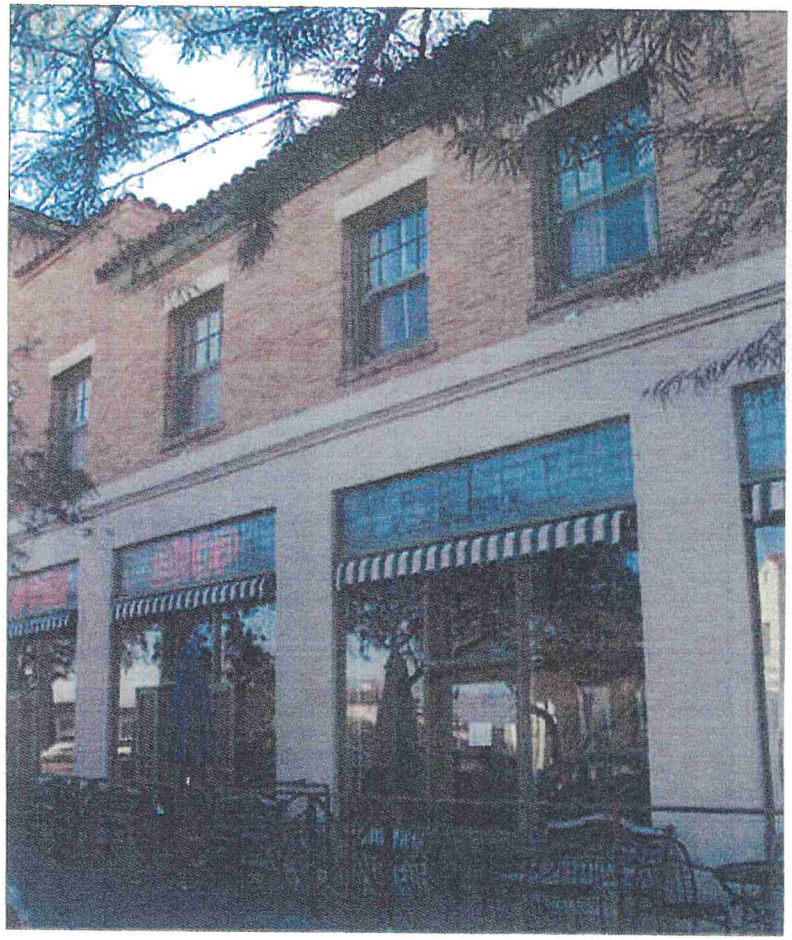
This category pertains specifically to those structures along Congress Street and Avenida del Convento where commercial activity and higher density residential patterns are planned. Precedent for this scale and programmatic diversity are not prolific in Tucson and are very few in number. As a result, a wider net must be cast to get a sense of how this pattern has been approached historically. Although there are not specifically suggested building materials and methods of assembly for structures in this category, there are physical and phenomenal qualities that should be considered in the design of all buildings in this category.

Qualities that surface as being of greatest importance to the success of the Mercado District as a pedestrian-oriented neighborhood are humanistic at their core and speak of a vital and rich urban life in the desert. The list that follows is meant to be a beginning for discourse on what these qualities might be.

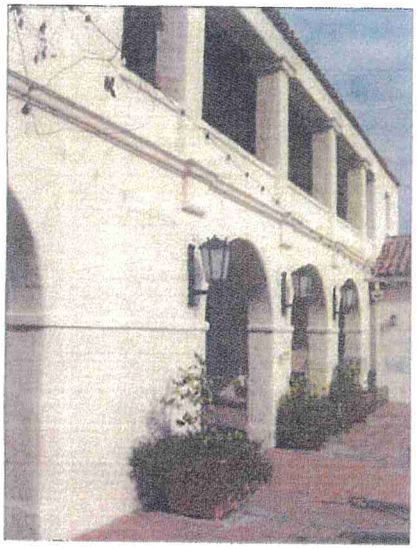
First, the focus of energy for each site should be towards the primary street frontage. where possible, commercial frontage and primary residential egress should be oriented towards the public realm. It is considered very important that a strong connectivity between Public and Private realms be maintained. commercial establishments that have the ability to some of their business in an exterior space adjacent to the primary street are encouraged. Additionally, residential units that have exterior space in the form of balconies having controlled visual and acoustic connection to the street are also encouraged. A hierarchy of exterior spaces should be developed in which degrees of intimacy are sequenced. Courtyards accessed off the main streets can provide spaces for smaller, more private gathering. A richly designed sequence of exterior spaces of varying levels of intimacy can add the desired experiences of surprise and intrigue to the built environment.

Second, adequate shading should be provided along pedestrian routes for activity to take place comfortably throughout the year. This suggests the integration of trees, arcades, awnings and canopies into the overall fabric of the Town Center.

Third, and possibly most importantly, the Town Center must suggest a sense of permanence and civic identity unique to the region. an understanding of both formal and material elements will be critical in achieving a strong and expressive spatial envelope. It is essential that all Town Center buildings anchor to the streetscape with the desert pedestrian securely in mind. Mass predominant base walls and colonnades incorporating unit or monolithic masonry are considered essential in establishing the quality of the Mercado District experience. Implicit in this quality is the notion that all forms and materials beyond being durable, be crafted with long term care in mind. Beyond this longevity, sound craftsmanship, and mindful attention to detail and proportion will ensure the bond between built form and the community that will inhabit the resulting spaces.



THE CODE: PRIVATE REALM
CATEGORY 4:
MAIN STREET COMMERCIAL



A. Base (Ground Floor)

Precedent:
Material
Monotlithic Base w/ unit masonry above; -unit masonry or local stone base w/ unit masonry above; -precast concrete banding; -plaster over masonry; -massive sills or lintel possible; -storefront glazing and entrances

Configuration
Columns or pilasters w/ storefront infill; -colonnade w/ arcade; -solid neutral piers w/ storefront infill

Suggested Adaptations

columns w/ storefront infill or colonnade
-monolithic base w/ unit masonry or plaster above
-unit masonry base w/ unit masonry or plaster above
-plaster over masonry
-massive lintel and/or sills possible

arcade interior
-monolithic base w/ unit masonry or plaster above
-unit masonry base w/ unit masonry or plaster above
-plaster over masonry
-storefront glazing and entrance infill

B. Primary Walls (Middle Floor[s])

Precedent:
-Multiple Wythe Brick, Brick Patterning typical at fenestration and formal transitions; -Plaster over masonry

Suggested Adaptations
plaster over masonry
-precast concrete structure, cmu

exposed unit masonry veneer
-local stone, sun-dried brick, asphalt stabilized adobe, cement stabilized adobe, integral color slump block

C. Roof-Wall Connections (Top Floor)

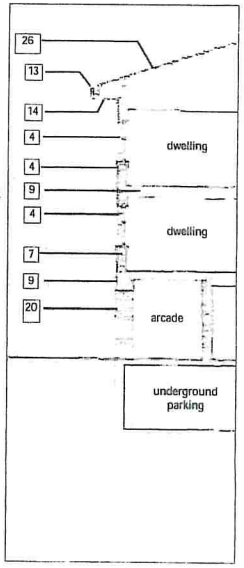
Precedent:
Parapet-w/ unit masonry or plaster cap;
Sloped Roof-plaster or unit masonry to underside of roof assembly, alternate masonry capital possible

Suggested Adaptations
parapet
-w/ masonry cap
-w/ articulated plaster cap
-w/ metal plate cap (does not include sheet metal coping)

overhang w/ plaster or masonry to underside of fascia
-overhang w/ exposed rafters
-overhang w/ soffit (w/ or w/out gutters)

no overhang w/ plaster or masonry to underside of fascia (w/ or w/out gutters)

Details



Materials Legend

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31 Steel Canopy
32 Steel Column
33 Steel Railing
34 Steel Window
35 Stone
36 Storefront Glazing
37 Storefront Framing
38 Tile Cap
39 Tile Roofing
40 Transom
41 Wood Fascia
42 Wood Frame
43 Wood Window

Built Exemplars


massive elements rendered in plaster


rusticated, battered brick of multiple colors

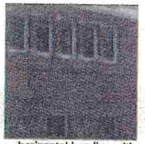

plaster with stone caps

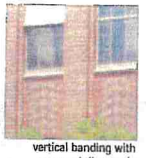

concrete with stratified brick work

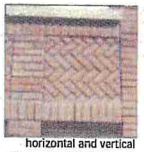

local stone, concrete band and precast plaster

Built Exemplars

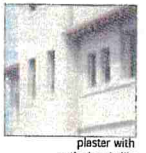

vertical banding with inset, articulated panels


horizontal banding with articulated columns

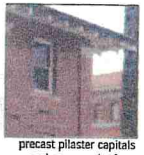

vertical banding with recessed tile panels


horizontal and vertical biases expressed through brick patterns


multiple stories liked by singular expression


plaster with articulated sills

Built Exemplars


precast pilaster capitals and expressed rafters

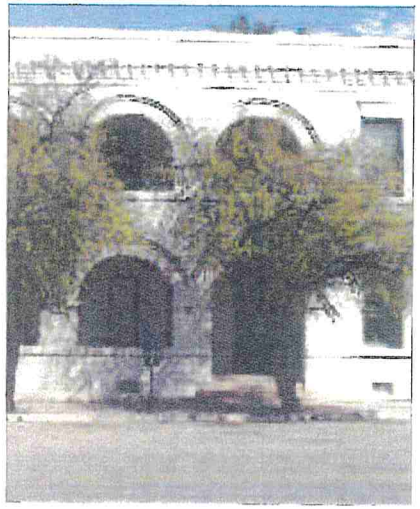

concrete horizontal banding


articulated brick with masonry cap


material shift creating horizontal banding


overhang with exposed rafters

THE CODE: PRIVATE REALM
CATEGORY 5:
TOWN CENTER BUILDINGS



D. Fenestration

Precedent:
Windows-Wood Double Hung; -wood casement; -steel casement; -ganged vertically or horizontally; -punched opening; -plaster jams and head w/ articulated sill; -brick jams and head; -brick arch header; -sloped brick sill; steel, wood or aluminum storefront frames

Doors-wood, steel or aluminum w/ single or divided lights; wood, steel or aluminum frames; single leaves; french doors; storefront entrances; plaster jams and head; brick hams and head; arched brick head

Suggested Adaptations

windows*
-deep set, square or vertical
-wood, painted, stained or clad; steel; aluminum, large section, double hung or casement; header, match primary wall finish, shallow brick arch, exposed steel lintel if structural; jamb, wood or steel trim, match wall material; sill, sloped brick, precast concrete steel plate; storefront glazing system

doors*
(similar to windows)
single leaf, french doors, side lites possible, full or divided lites, storefront entrances

*all windows and doors subject to review

E. Roof

Precedent:
Flat-built up
Sloped-gable; hip; shed; low profile metal; tile

Suggested Adaptations
flat
-built up w/ ballast

sloped (gable, hip, shed)
-multi-directional possible
-multiple types possible
-tile
-steel
-copper
-slate
-integrated photovoltaic

F. Covered Exterior Areas

Precedent:
Arcades w/ colonnades, fabric or metal canopies, ramada, trellis

Suggested Adaptations
arcade w/ colonnade
colonnade-classical, masonry, structural steel

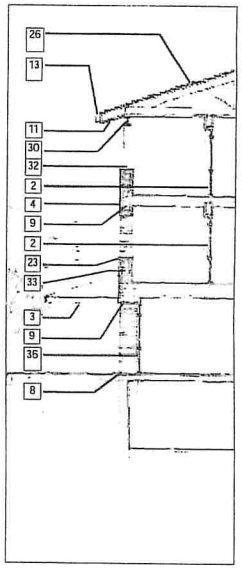
arcade-match primary and secondary building materials, storefront glazing

canopies-fabric awnings, steel awnings

ramada-masonry, wood or steel structure w/ wood or steel canopy

trellis-wood, steel, aluminum members or a combination

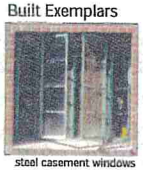
Details



Materials Legend

1 Adobe Veneer
2 Aluminum-clad French Doors
3 Awning
4 Brick Veneer
5 Built-up Roofing
6 Built-up Roofing with Ballast
7 CMU
8 Concrete Base
9 Concrete Building Structure
10 Concrete Cap
11 Exposed Rafters
12 Frame and Skin
13 Gutter
14 Horizontal Soffit
15 Masonry
16 Metal Roofing
17 Parapet
18 Plaster
19 Plaster Column
20 Post and Beam Structure
21 Precast Concrete Lintel
22 Primary Roof
23 Precast Sill
24 Primary Wall System
25 Rammed Earth
26 Roofing
27 Rastra
28 Shed Roof
29 Shingle Roofing
30 Steel Beam
31 Steel Canopy
32 Steel Column
33 Steel Railing
34 Steel Window
35 Stone
36 Storefront Glazing
37 Storefront Framing
38 Tile Cap
39 Tile Roofing
40 Transom
41 Wood Fascia
42 Wood Frame
43 Wood Window

Built Exemplars


steel casement windows


doublehung wood windows


storefront entrance

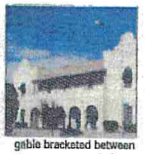

ganged windows


french doors with railing

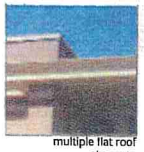
Built Exemplars


storefront infill with entrances


combination gable, flat, and hip


gable bracketed between end pieces


ganged windows with french doors and balcony

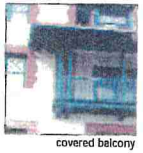

multiple flat roof elements


tile hip

Built Exemplars


arcade along street


fabric canopy


covered balcony


arcade along court


metal canopies


varied columnar expressions

THE CODE: PRIVATE REALM
CATEGORY 5:
TOWN CENTER BUILDINGS

G. Streetscape

Precedent:
Paving-concrete sidewalk; concrete pavers; tile pavers; brick; stone
Planting beds-at grade; raised in planters; potted plants; flowers; shade trees; Places for pause

Suggested Adaptations
paving*
-concrete sidewalks
-concrete pavers
-tile pavers
-brick pavers
-stone cobbles
-unique detail elements

plantings
-shade trees & flowers at grade
-ornamental planting in raised beds or pots

places for pause
-benches
-planters w/ integral seating
-fountains w/ integral seating

H. Street Frontage

Precedent:
windows on the street, clearly defined street edge, awnings/canopies, colonnades w/ arcade balconies

Suggested Adaptations
windows on the street

clearly defined street edge
-primarily vertical facade
-building at or near lot line
-surface relief

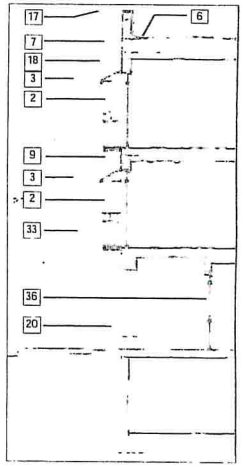
awnings/canopies
-fabric
-metal

colonnades w/ arcade
(refer to covered exterior spaces)

balconies
-w/in primary building volume
-cantilevered from building
-secondary structural system

shaded pedestrian paths
-arcades
-canopies
-shade trees

Details



Materials Legend

1 Adobe Veneer
2 Aluminum-clad French Doors
3 Awning
4 Brick Veneer
5 Built-up Roofing
6 Built-up Roofing with Ballast
7 CMU
8 Concrete Base
9 Concrete Building Structure
10 Concrete Cap
11 Exposed Rafters
12 Frame and Skin
13 Gutter
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20 Post and Beam Structure
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Built Exemplars

Built Exemplars

THE CODE: PRIVATE REALM
CATEGORY 5:
DRAWING FORWARD

Previous categories were an attempt to delineate those periods in Tucson history that yielded structures indicative of, and appropriate to, the specifics of this place. This category challenges the creation of an expression that is without direct precedent. What is an appropriate urban architecture for Tucson today? The Mercado District provides a unique opportunity with higher densities, specifically pedestrian environments, and an agenda favoring environmentally sensitive solutions. Within this context we challenge designers to seek to both re-establish and generate anew an identity that is specific to this generation living together in the Sonoran desert.

Projects undertaken in this category must be made with passion for change, based upon a deeply experiential knowledge and understanding of the Sonoran desert and it's cultural heritage. This challenge should not be taken lightly. To engage this category, each design team must be prepared for an extended review process - one that invites vigorous discussion. At a minimum, the following questions must be addressed:

- Where have we been historically (a review of the previous categories is recommended as a primer), and what is it that binds us to those that have come before us, and the artifacts that survive them?

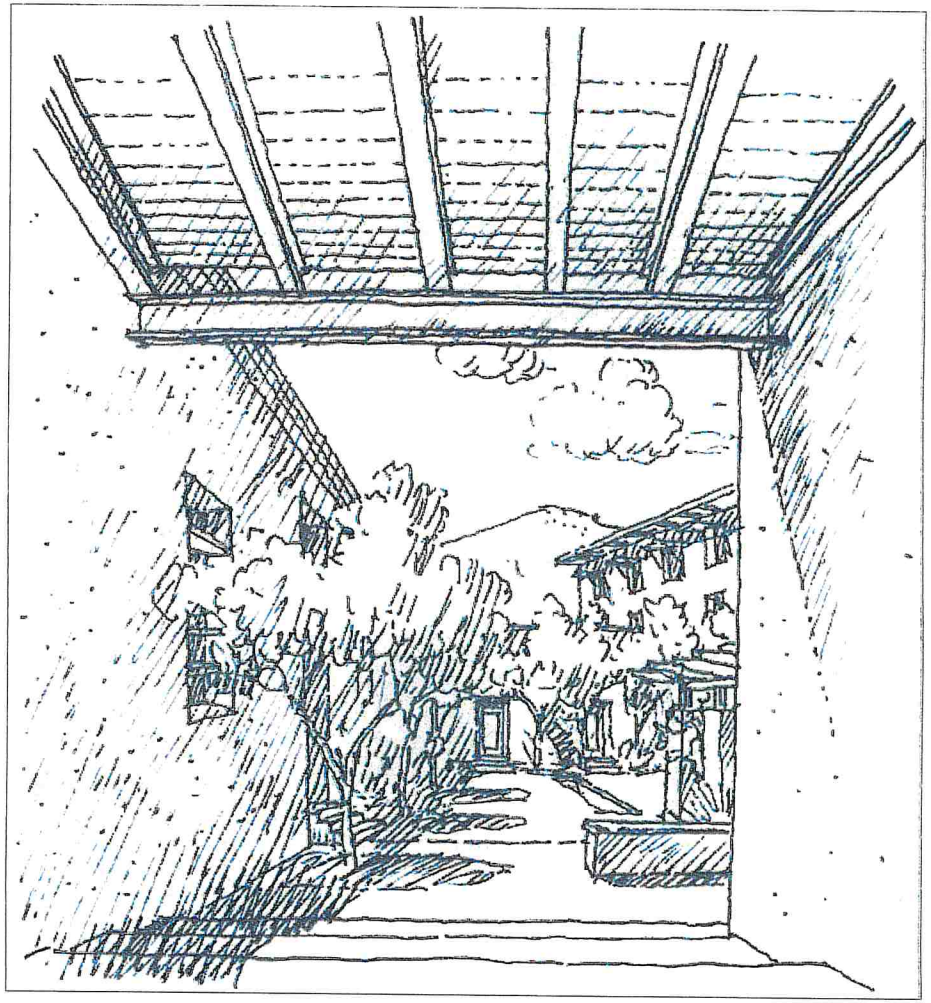
- What materials, elements, patterns, rhythms, and spatial configurations contribute to establishing regional character?

- What does it mean to be contextually appropriate in environmental terms?

- Are there "eyes on the street" or is there a sensitivity to the intended interconnectedness between public and private spaces within the Mercado District?

What is to be our new direction, and what is it that separates us from those who have come before us?

This category is established with the highest of expectations and a prevailing optimism. It is the view of the design team that cities are made by multiple voices and through significant investments of time and energy. The ultimate goal of the Mercado District is to be inclusive, expressive, and harmonious within the larger, evolving organism that is Tucson.



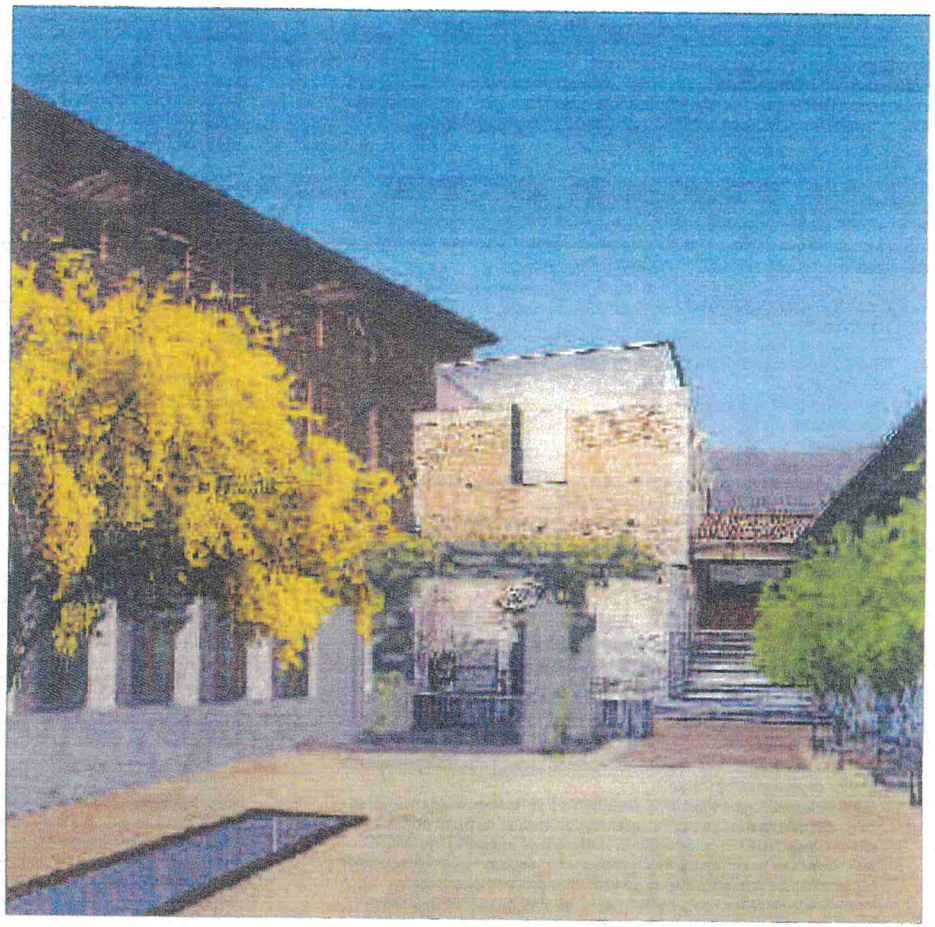
THE CODE: PRIVATE REALM
CATEGORY 5:
DRAWING FORWARD

Mercado Montage

This image was composed as a sketch for a hypothetical outdoor space within the Mercado District. It is not intended as a formal prescription for future design. It does however, attempt to articulate principals that will be important when thinking about architectural designs that embrace the character of the region.

For example, the edges of the public space are clearly defined, varied and surface relief is favored. The scale of the enclosed space is large enough to allow adequate air movement, but not so large as to be dehumanizing. Circulation is along two shaded edges with more static activity taking place in the remainder of the space. Opportunities to be in shade in the warmer months invites use of the space throughout the year. Connection to the larger context is provided with views to the landscape beyond.

The images is made up of several pieces, taken from a variety of sources. To the left is a computer generated rendering of a multi-story, mixed use building. Having an arcade at the base and exterior terraces shaded by an operable screen wall for living units above, this structure provides a positive edge to the space that is both sheltering and alive. The building in the center is a recently adapted medieval ruin in Girona Spain, The importance of this piece here is not its historical depth. It is of interest in this case as a structure made of locally derived material, both durable and capable of developing a rich patina, in addition to having a centralizing, communal character. The wing to the right is part of the same structure, appropriated to help define a strong edge to the open space while providing rhythm and relief through the repeated individual entrances. The vegetation is locally appropriate to the Sonoran desert and has been arranged to soften the edge of the space and transition between interior and exterior realms. The groundscape is a mixture of paved and unpaved areas, which affords multiple uses and allows rain water to be absorbed into the ground. The pool of water has a strong psychological function as a cooling element , and as a valuable reference to the nature of life in the desert. Lastly the central trellis was added to provide the opportunity for shaded outdoor gathering.



Moule & Polyzoides, Architects and Urbanists
Oscar A. Machado, Architecture and Urbanism
Paul Weiner, Architect: DesignBuild Collaborative

THE CODE: PRIVATE REALM

ARCHITECTURAL GUIDELINES-GENERAL

Purpose
The general purpose of this document is to provide guidance for the site and developments within the Mercado District in order to maintain a cohesive and sustainable community. The Development code, and specifically The Private Realm section, developed for the Mercado District is intended to be used for two purposes: first, as a design aid by developers, builders and designers, and, second, as an evaluation tool for the administering body known as the Mercado Design Review Committee.

Applicability
The provisions of these sections (The Private Realm) of the Development Code apply to all proposed subdivision, development, and new land uses within in the Mercado District Planned Area Development (PAD) approved by the City of Tucson.

Administration of Code
The Private Realm section of the Development Code shall be administered by the Design Review Committee. Decisions by this body regarding property within the PAD plan area shall comply with all applicable provisions of The Private Realm section of the Development Code. The process for demonstrating compliance with said section are as follows in the Design Review Process & Requirements.

A. Base and Primary Wall Systems
A.1. Stone veneer
A.1.1. Deeply recessed mortar joints, not to exceed 1/2¾"
A.1.2. Naturally occurring local stone (stone subject to review)
A.2. Exterior plaster
A.2.1. Steel Trowel or 30 silica sand minimum
A.3. Mud plaster
A.3.1. 'Fine' finish
A.4. Exposed, stabilized adobe
A.4.1. Cement reinforced / sandblasted surface (sample subject to review)
A.5. Concrete masonry units (sample subject to review)
A.6. Concrete slump block (block and mortar limited to adobe color)
A.7. Steel Framing
A.7.1. Minimum 8" thickness at exterior walls unless otherwise approved.

B. Roofs
B.1. Metal roof
B.1.1. Low-profile metal roofing, not to exceed 1" in depth.
B.1.2. Colors and finishes: terra cotta, grey, galvanized, oxidized, or approved alt.
B.2. Clay tile, slate, asbestos-free concrete tiles
B.3. Gutters and downspouts
B.3.1. No standard rolled aluminum
B.4. Beaded board soffit
B.5. Material, color, texture, and patterns- All roofs shall be of a material, texture, and color approved by the DRC.
B.6. Rooftop accessories and objects- No mechanical equipment of any kind shall be visible on the roof, except for solar energy devices, or those devices, which are designed to be compatible with the roof as judged by the DRC. This statement is not intended to preclude the construction of water harvesting cisterns that are visible when viewing the roofscape of a building.
B.7. Access- Access to flat roofs is encouraged where they can act as a sleeping porch in summer, without infringing on the privacy of neighbors' courtyards.

C. Utility and service equipment
C.1. General- All exterior mounted air conditioning and heating equipment, soft water tank, and trash containers must be located within walled and gated service yards and will not be Visible from the street.
C.2. HVAC equipment- All heating and cooling equipment including ductwork must be located on the ground or concealed from the street. Cooling systems shall have a minimum SEER rating of 15.
C.3. Waste management- Areas designated for waste disposal and recycling bins shall be properly screened so as not to be visible from the street.
C.4. Electrical / Gas service- The electrical service meter panel and gas meter shall be painted to match the color of the surface from which it projects.
C.5. Antenna and satellite- Antenna or satellite equipment installations will only be considered on a design specific basis by the DRC. Any installation of such equipment must be concealed so that the equipment will not be viewed from any other lot or common area.

D. Sustainable systems
D.1. General- The design of each house should show evidence to the satisfaction of the Design Review Committee that a significant effort has been made towards incorporating energy-conservation and water saving techniques
D.2. Solar
D.2.1. Solar access- Each building shall have roof or yard area designated to be used for solar hot water devices. Solar access of this area shall be maintained from 9 am to 3 pm year round. Building Integrated Solar Devices are encouraged. The area shall be connected to the water heater by two insulated ¾" copper lines and a 0.5" diameter conduit.
D.2.2. Natural lighting- Homes should be designed and located to take maximum advantage of natural lighting.
D.2.3. Passive Solar- Homes should be designed and located to take maximum advantage of passive solar heating (space and water). Design is encouraged to allow passive solar gain during the heating season and shading during the warmer months. Thermal mass should be incorporated in the passive solar design strategies.
D.2.4. Energy Production- Photovoltaics are encouraged for production of electrical energy to be used for domestic use, landscape lighting, fountains, etc.
D.3. Water
D.3.1. Passive Water Harvesting- Berming, trenching and other landscaping modifications are encourage to maintain and direct site stormwater for irrigation of existing vegetation.
D.3.2. Active Water Harvesting- Active on site stormwater harvesting is encouraged for future irrigation. While it is accepted that water harvesting containers will be visible, consideration should be given to the design and location of these elements.
D.3.3. Gray Water- Code approved gray water systems are encouraged for site irrigation.

E. Finishes
E.1. Colors- There are no restrictions on natural building materials, such as rammed earth, brick, or adobe. The Mercado District requires that the paint used for interior surfaces be classified as low or no volatile organic chemical (VOC) paint and contain no more than 120g/1. High VOC paints produce ground level ozone and photochemical smog, both of which are known to cause adverse health effects. All excess paint & washing must be disposed of properly.
E.2. Reflectivity- Highly reflective finishes are discouraged, but may be approved on a design specific basis by the DRC

F. Miscellaneous elements
F.1. Window coverings- Window coverings on street side elevations shall be professional quality, non-reflective, off white (no white allowed) or lighter shades of colors.
F.2. Awnings- Awnings for windows will be considered on a design specific basis by the DRC and are encouraged for use on south-facing windows to counteract excess solar heat coming in these windows in late spring and early fall.
F.3. Fireplace Chimneys and Flues- Fireplace chimney heights and forms must compliment the Structure's overall design. Chimney heights (including any cap, cover, or canopy) shall not extend more than 3 feet above the applicable building code minimum height criteria. Chimneys materials and colors should be appropriate to the building style.

Design Review Process & Requirements
The Design Review Committee (DRC) is charged with the responsibility of insuring that the Architectural Code (AC) is carried out in all phases of development. The DRC shall consist of representatives from each of the following: the developer, the builders, and an architect. Each of the three groups will contain one voting member per group.
In general, the design review process is progressive and divided into two phases as follows:
1. Schematic Design Phase
2. Construction Document Phase

It is suggested that a builder retain an architect or design professional to provide competent professional design services for any project in Mercado District. Clear comprehension of the AC, a thorough analysis and understanding of a particular Lot, understanding of holistic design, the potential owner's needs and living patterns, as well as the ability to convey to the DRC, through drawings and other submittals, the concept and design of a proposed residence or other improvement, are all important elements of the design review process.

Four copies of the required documents shall be submitted. All submittals shall be coordinated through the office of Rio Development, acting on behalf of Mercado District. All submittals should be sent to the attention of the Design Review Committee. Submittal deadline dates are at least 7 calendar days prior to the review meeting date. Monthly review meeting dates shall be set by the DRC in November of each year for the following calendar year. Additional meetings, as required, may be called with the consent of at least one representative from each group.

No construction activity related to any proposed Improvement shall be allowed to commence on any Lot until the design review process is completed and approved by the DRC.

Submittal Fees
The following schedule of fees has been established to cover the cost related to reviewing a new home and commercial development design and their related construction & is subject to periodic adjustment as determined by the DRC. All checks should be made payable to "Mercado District DRC" and must be submitted along with the design review application:

1) Residential Design Review: $200 per unit (non-refundable)
2) Commercial Development Design Review: $400 (non-refundable)

Reviews of Submittals
The DRC shall conduct reviews of submittals during its regular scheduled monthly meetings or at such other times, as it deems appropriate. The builder or their representative is requested to attend the review meeting of their projects. The DRC will respond in writing within 7 calendar days after the review is completed by the DRC, provided that the submittal is in accordance with the requirements outlined.

THE CODE: PRIVATE REALM
ARCHITECTURAL GUIDELINES-GENERAL

Schematic Design Phase
A Pre-Submittal meeting with members of the DRC can be requested and scheduled at the Builder,s request to help ensure compliance with the review procedure and the AC. Builders are therefore encouraged to develop initial schematic plans at moderate cost prior to initial submittal to DRC to engender a genuine forum for collaboration.

Step 1 - Submit for review:

In order to effectively communicate the design intent and compliance with the AC, the following drawings and documents are required (unless otherwise approved by the DRC):

1. Site Plan: (scale of 1/16 inch)
a) Show and label all building envelope(s).
b) Show and label all setbacks.
c) Show and label all boundary lines, bearings, and lot dimensions.
d) Show and label all existing & proposed utility service locations or stub outs and related screening treatments.
e) Show and label the adjacent street or other common areas.
f) Show and label all driveway(s) & treatments.
g) Show and label all major site drainage treatments, if any, including water harvesting, drainage patterns or permaculture techniques.
h) Show and label all parking spaces including related screening treatments.
i) Show and label all patios, courtyards, terraces, etc.
j) Show and label all patio & perimeter wall conditions.
k) Landscaping strategies, if any.
l) Solar strategies, if any, and solar hot water stub out location including solar access.

2. Floor Plans (scale of 1/8 inch)
b) Label all major room names.
c) Show and schedule all enclosed living area square footage totals.

3. Elevations (scale of 1/8 inch)
a) All major exterior building elevations shall be represented.
b) Show and label all finish floor elevation(s) lines and values.
c) Show and label all top-of-wall and top-of-roof elevation call-outs or dimensions for all major building components.
d) Show and label all major exterior materials and include a general concept statement of proposed material color schemes.
e) Show and label all top-of-wall elevation call-outs and material specifications for all utility and service equipment screening treatments.

4. Streetscape if multiple residences are being built contiguously. (scale of 1/8 inch)

5. Building Sections (scale of 1/8 inch)
   a) Wall system components.
   b) Roof system components.
   c) Window and Door components.
6. Sustainability Checklist.

Step 2
DRC will review submittals and present comments or written approval to builder within 7 working days

Step 3
Builder will respond to comments within 7 working days.

Step 4
The DRC will respond in writing to re-submittal within 7 working days.

Step 5
Process to be repeated until approval is given. The applicant is encouraged to attend all meetings in order to minimize or eliminate the need for re-submittals.

Step 6
The DRC approval letter must be submitted along with the plans to the City of Tucson for the plan to be accepted by the City for their review process.

Construction Document Phase
During this phase the Builder's refined submittal package is reviewed by the DRC to insure consistency with the previously approved Preliminary Design Submittal and the AC. Specific submittal requirements of this phase include:

1. Complete plans as submitted to the City of Tucson for permitting purposes.

2. General Landscaping Plan or Approach or deferred submittal

3. Exterior Lighting Plan (scale of 1/8 inch)
a) Show and label all exterior lighting to be developed in conjunction with the proposed structure or other related improvements.
c) Schedule all proposed lighting fixtures by type, location, description, shielding, and ramping retirements.

4. ResCheck printout or other documentation allowed by The City of Tucson showing compliance with local energy codes if not included in (1) above.

5. Exterior Materials & Samples (single boards showing alternate samples may be submitted for model homes or multiple connected units)
a) Samples must be presented on an 18" x 24" board (at least 1/8 thick) clearly marked with builder's name, filing date, and Lot number(s). All samples must be identified with manufacturer's specification including name, product number, color, and light reflectance value.

b) Specific material samples and colors shall be made for (as applicable) the main body material, trim, roofs, window frames, doors, and accents. In addition, include manufacturer's specification of window glazing.

Upon receipt of a submittal package that meets the above outlined minimum submittal requirements, the DRC will then review the final design submittal and provide a written response to the Builder within 7 working days of the monthly review meeting date.

THE CODE: PRIVATE REALM

SIGNAGE AND LIGHTING

The following standards and provisions apply to all property, buildings and activity in the Mercado District.

A: Sign type and materials limitations. Only the signs expressly allowed by this Section may be installed within the specific plan area.

1. Allowable sign types. The only types of signs allowed within the specific plan area shall be the following:

a. Wall-mounted (a sign mounted on a building wall surface, with the message area of the sign parallel to the wall surface);

b. Projecting (a sign mounted on a building wall surface, with the message area of the sign projecting perpendicularly from the wall surface);

c. Suspended (a pedestrian-oriented sign suspended from an arcade, awning, or other structure over a sidewalk or walkway accommodating pedestrians);

d. Window (a sign painted on the glass of a display window in a non-residential structure); and

2. Allowable sign materials. A sign other than a wall-mounted sign may consist only of painted, carved, or cast panels with no internal illumination. A wall-mounted sign may consist of: painted, carved, or cast panels with no internal illumination; or individual letters mounted on a wall surface, in which case the individual letters may be internally illuminated.

3. Prohibited signs and sign materials. The following signs shall be prohibited within the specific plan area, in addition to the signs prohibited by the Tucson Zoning Ordinance:

a. Pole and pylon signs (signs with the message area of the sign elevated above grade by means of one or more poles or pylons);

b. Internally illuminated "can" signs (a sign consisting of a metal or wood box or framework, with the sign message painted on, or otherwise affixed to, a translucent glass, plexiglass, and/or plastic background panel mounted within the box or framework, with one or more light sources placed behind the translucent panel);

c. Monument signs; and

d. Any other sign not listed as allowable above.

C. Sign placement and height limitations. Each sign shall comply with the following limitations on sign placement and height.

1. Wall or projecting signs. A wall or projecting sign may be mounted on a building wall surface. The top of a wall or projecting sign shall not be higher than 12 inches below a building eave, the top of a parapet, or the sill of a second-floor window. If there is a walking surface under a projecting sign, the lowest portion of the sign shall be at least eight feet above the walking surface under the sign.

2. Suspended signs. If there is a walking surface under a suspended sign, the lowest portion of the sign shall be at least eight feet above the walking surface under the sign.

D. Sign area and number limitations. All signs on private property within the specific plan area shall comply with the following limitations on the total number of signs allowed and the maximum area of all signs on a site, provided that street addresses not exceeding a total area of one square foot are exempt from these requirements.

1. Sign area measurement. The measurement of sign area to determine compliance with the sign area limitations of this Subsection shall occur as follows.

a. The surface area of a sign shall be calculated by enclosing the extreme limits of all framing, writing, logo, representation, emblem, or other display within a single continuous perimeter composed of squares or rectangles with no more than eight lines.

b. Supporting framework or bracing that is clearly incidental to the display itself shall not be computed as sign area.

c. The area of only one side of a double-faced (back-to-back) sign shall be calculated as a sign face if the distance between each sign face does not exceed 24 inches and the two faces are parallel to one another.

d. Where a sign consists of one or more three-dimensional objects (i.e., balls, cubes, clusters of objects, sculpture or statue-like trademarks), the sign area shall be measured as their maximum projection upon a vertical plane.

e. The area of any time and/or temperature device incorporated into a sign shall not be included in the calculation of total sign area.

2. Sign standards by zone.

a. TC zone. Each building within the TC zone may have a maximum of any two of the signs listed as allowable for each business within the building, with their total aggregate area not to exceed one square foot of sign area for each linear foot of business street frontage, up to a maximum total sign area of 100 square feet. Window signs may be allowed in addition to the 100 square foot total sign area limitation, provided that the total area of all window signs for a single business shall not exceed 10 percent of the sign area otherwise allowed for that business.

b. NG zone: Each parcel within the NG zone may have a single sign with a maximum area of two square feet, subject to the other sign requirements of this Section.

E. Address signs. All homes and businesses shall prominently display a street address readable from the center of the street in front of the home or business. Each number in the displayed street address shall have a minimum height of six inches, and a maximum height of eight inches. An address sign may be internally illuminated.

THE CODE: PRIVATE REALM

LAND USES FOR MERCADO DISTRICT

The following land uses are permitted or prohibited as indicated. The list is not exhaustive as it is intended to convey the types of land use activity to be allowed or prohibited. In the event of the need for an interpretation for a land use or activity, the City Planning Director shall make a determination subject to the City's policies and regulations.

Town Center Zone: Permitted Land Uses

The TC Zone is based on the City's OCR-1 Zone as modified below:

A. Commercial Services Use-Group
1. Administrative and Professional Offices
2. Alcohol Beverage Services subject to TMC Sec. 3.5.4.19.c
3. Communications subject to TMC Sec. 3.5.4.20. B, C, D1, D2
4. Day Care subject to provisions of the TMC
5. Entertainment subject to TMC Sec. 3.5.4.4 A, B, C, D and 3.5.19 C
6. Financial Services
7. Food Service
8. Medical Service-Outpatient, Extended Health Care
9. Parking subject to the TMC Sec. 3.5.4.12
10. Personal Service
11. Research and Product Development subject to TMC Sec 3.5.4.14 A
12. Technical Services
13. Trade Services and Minor Repair subject to TMC Sec. 3.5.4.27
14. Transportation Service
15. Traveler's Accommodations, Lodging

B. Retail Trade Use-Group
1. Food and Beverage Sales
2. General Merchandise Sales

C. Civic Use-Group
1. Civic Assembly
2. Cultural/Civic/Religious uses
3. Educational: Pre-School, Elementary and Secondary subject to TMC Sec. 3.5.3.7
4. Post-secondary Institution and Instructional, subject to TMC Sec. 3.5.3.7 A, D
5. Membership Organizations
6. Postal Services

D. Recreation Use-Groups
1. Recreation

E. Residential Use-Group
1. Multi-Family Dwelling subject to TMC Sec. 3.5.7.1 E
2. Mercado Home Occupation
3. Residential Care Service subject to TMC Sec. 3.5.7.8 B1, C2, C4, D and H per TMC Sec. 5.4.3.5

F. Utilities Use-Group
1. Distribution Systems
2. Generation Systems

G. Industrial Use-Group
1. Craftwork
2. General Manufacturing subject to TMC Sec 3.5.5.1 A, D, E, F and G
3. Perishable Goods Manufacturing subject to TMC Sec. 3.5.5.2 E and F
4. Precision Manufacturing subject to TMC Sec. 3.5.5.1 A, D, E, F and G

Neighborhood General Zone: Permitted Land Uses

A. Home Occupation-General and Day-Care
1. Administrative Process per TMC
2. A Home Occupation is conducted in such a manner that it is compatible with the residential character of the neighborhood in which it is located.
3. No more than 50% of all square footage of all buildings on the lot, attached and detached, may be devoted to the home occupation.
4. Persons other than those residing in the dwelling(s) shall not be employed in the home occupation except that two (2) non-residents of the premises may be employed in the Neighborhood General Zone.
5. Goods related to the home occupation may be visible from the street
6. Goods may be sold on the premises
7. The Mercado District Design Review Board shall approve architectural features that are not typically residential in character
8. Signs shall conform to the Mercado District sign requirements
9. No restriction on the number of clients each day
10. No restriction on medical services if other State Health Dept. requirements are met.

B. Home Occupation-Traveler's Accommodations
11. All above provisions (in section A) apply
12. Accommodation up to six (6) for a maximum of thirty (30) days. No more than three (3) sleeping rooms may be used to accommodate guests.
13. Minimum lot size: 2,500 square feet
14. Parking for guests is not required. It is included in the Mercado District parking supply.

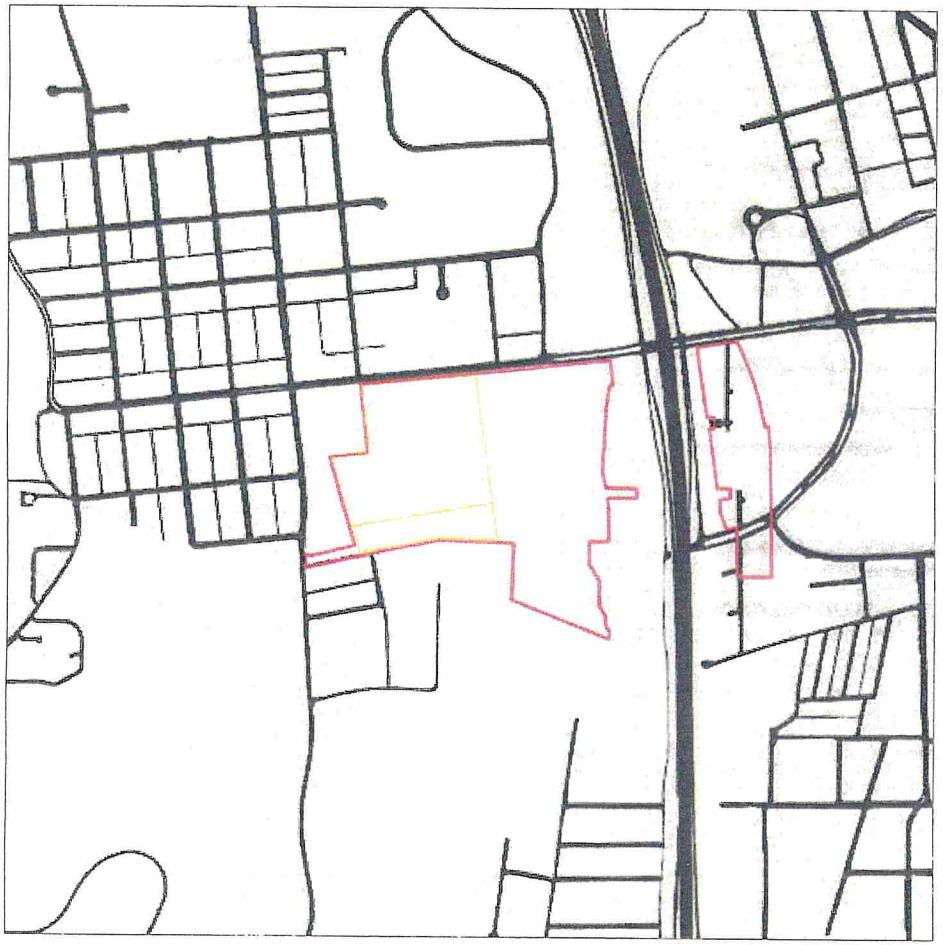
Prohibited Uses

15. Bars and Dance Halls over 18,000 square feet
16. Repair (e.g., upholstery, burglar alarms, car stereos)

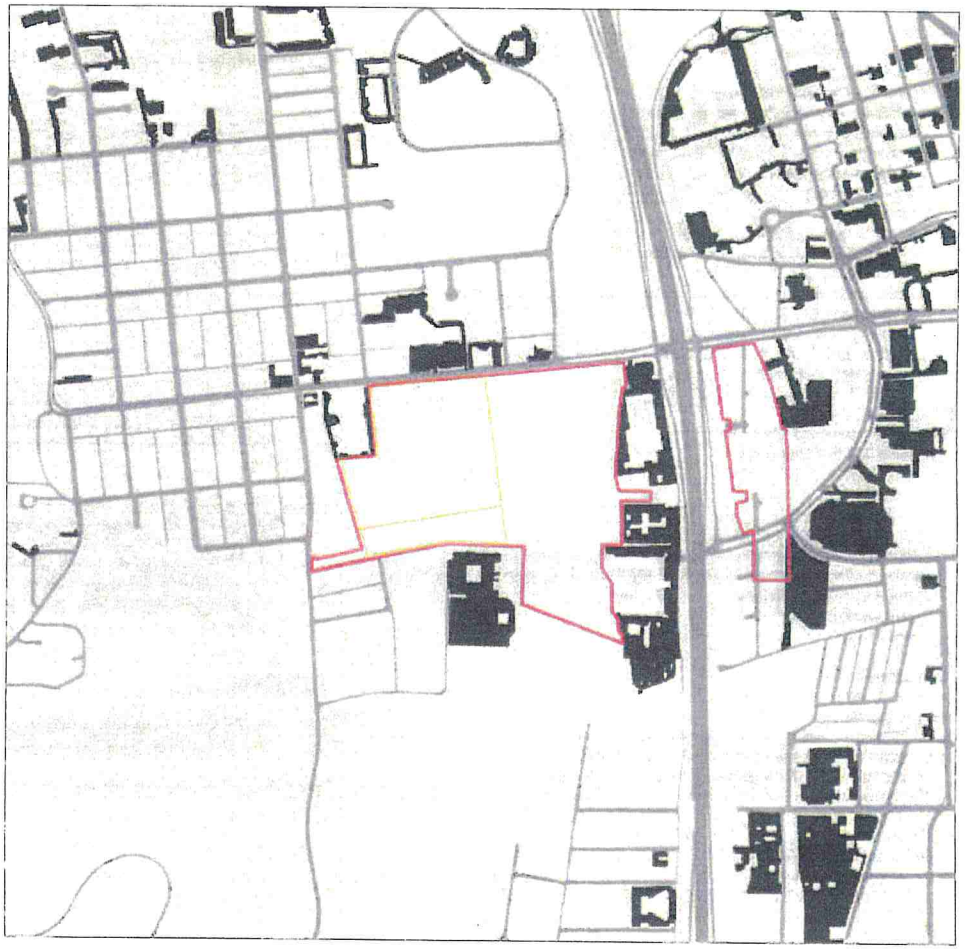
'TMC' means City of Tucson Municipal Code

APPENDIX

ANALYTICAL DIAGRAMS: EXISTING CIRCULATION & PAVING NETWORKS



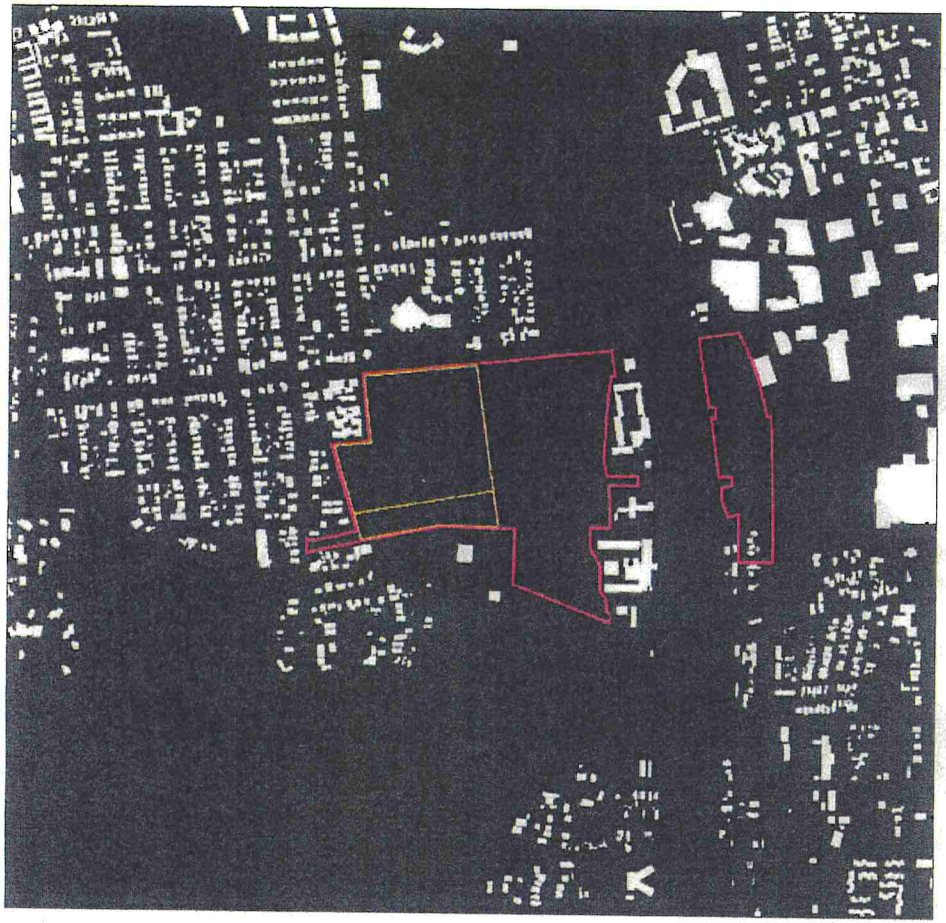
Circulation Network



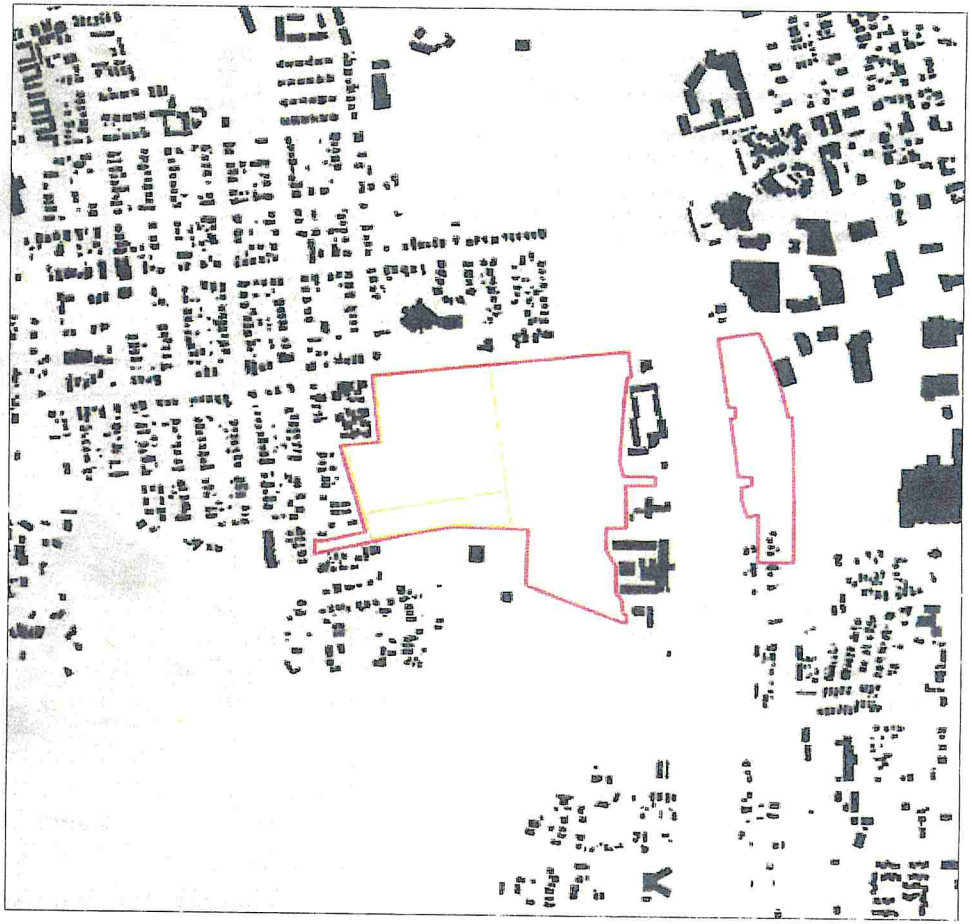
Paving Network

APPENDIX

ANALYTICAL DIAGRAMS: EXISTING FIGURE FIELD DRAWINGS



Space-Positive Figure Field



Building-Positive Figure Field

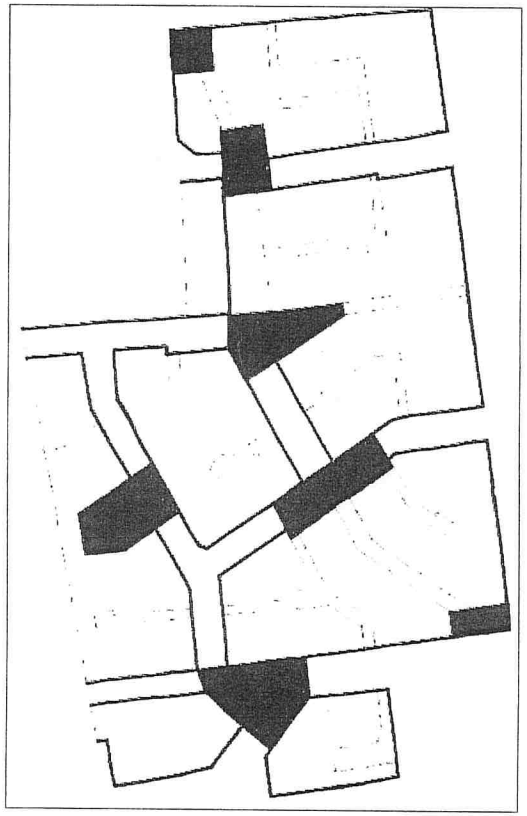
APPENDIX

ANALYTICAL DIAGRAMS: PLAZAS AND JARDINES

The Plan is based and formed upon the southwestern tradition of well-defined places. Within each plaza is a garden or, jardin, in spanish. Each plaza and its jardin expresses its own character, reflecting its particular position and function.

As shown at right, these spaces are evenly distributed throughout the plan, providing easy and pleasant access to people walking through the neighborhood.

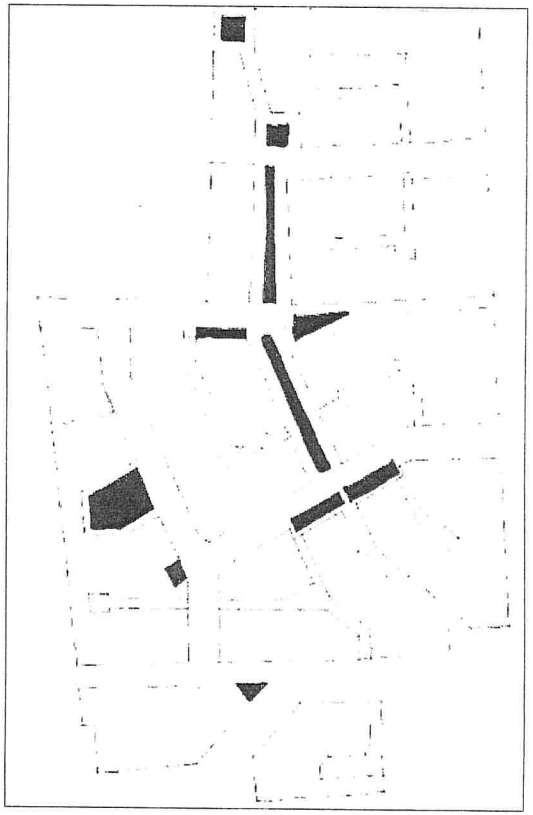
This strong practice of providing well-defined and well-located public space offers people the opportunity to be outdoors in a community setting while punctuating the public realm with recognizable and personable spaces.



Plazas

Within the project site, 7 plazas emphasize the importance of community life by providing places for people to gather and interact in public.

Total Acres: 1.12



Civic and Green Spaces

The associated jardines accent 6 of the 7 plazas. The additional 3 jardines shown are in the form of pockets of landscape and significant water swales that can be planted with shade trees.

Total Acres: 0.42

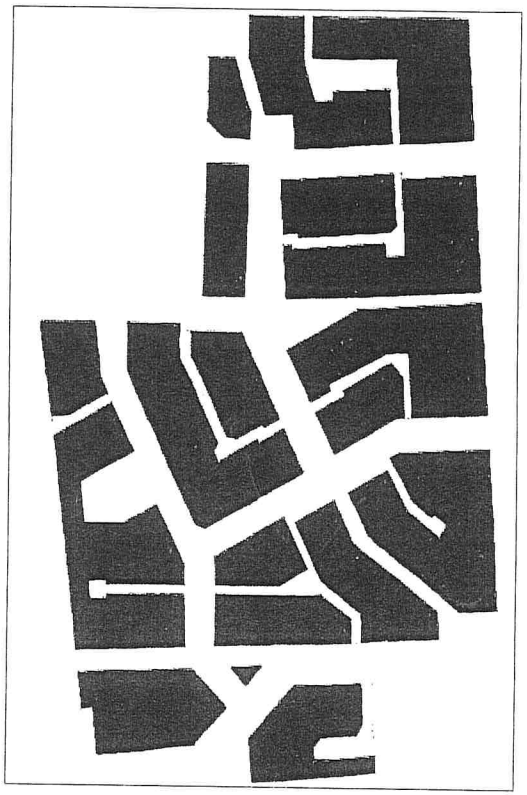
APPENDIX

ANALYTICAL DIAGRAMS: BLOCKS AND STREETS

As shown at right, the pattern of blocks and streets borrows from the proud local patterns of Tucson's barrio prior to its removal in the 1960's by urban renewal.

This pattern is completely responsive to the desert climate in that it defines streets and public spaces while providing meaningful shade from the intense summer heat. Travelling through this area, one is treated with the visual rewards of this ancient pattern of settlement: terminated vistas, interesting streetscapes formed by buildings that are not dependent upon planting and, memorable public spaces.

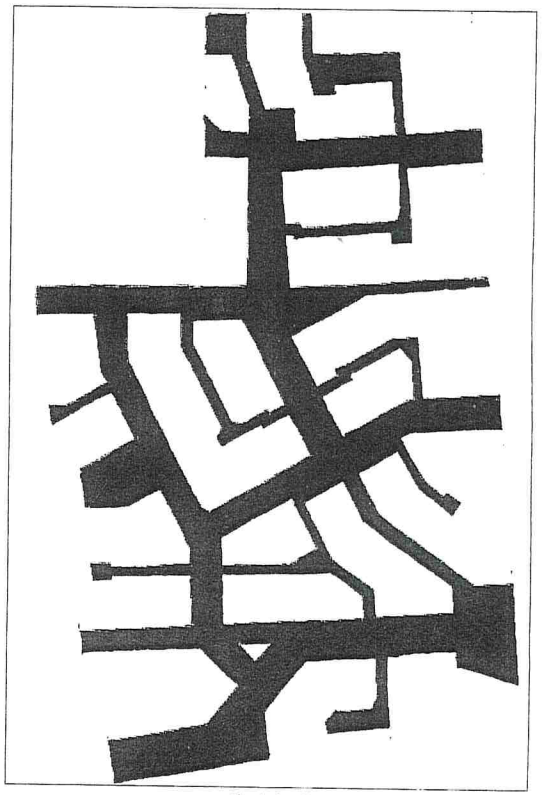
The corresponding network of streets, alleys and paseos provides convenient and pleasurable access. There are numerous options for automobiles, bicycles and pedestrians to use on their way through or to the neighborhood. This lessens the burden of circulation on neighboring parcels while giving people more mobility choices and a more interesting environment in which to live.



Developable Blocks

Within the 13-acre project site, the above diagram identifies the developable blocks that are produced. These acres are exclusive of all rights-of-way and are fully useable for lotting of building sites.

Total Acres: 8.52



Circulation Network (vehicular and pedestrian)

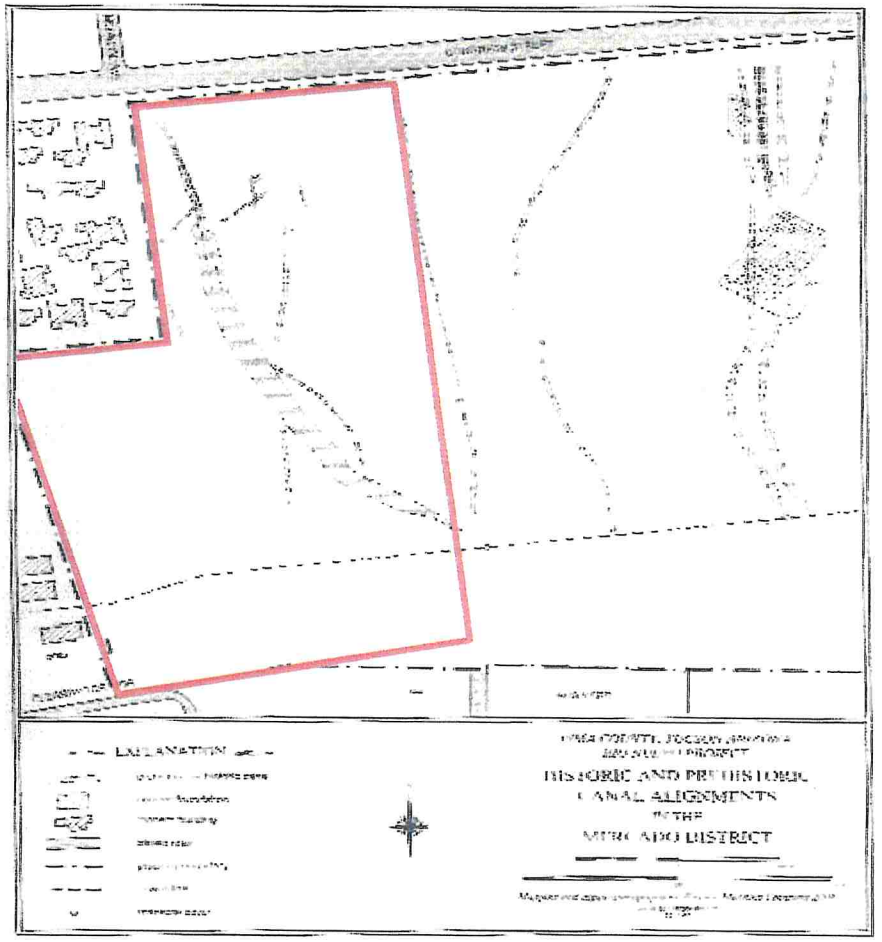
The above diagram identifies the full rights-of-way necessary to carry out the plan. In addition to including all land for sidewalks, parkways, and travel lanes, these rights-of-ways include all plazas, jardines and pedestrian paths.

Total Acres: 3.56

APPENDIX

ARCHAEOLOGICAL RESOURCES

For most of the last 4,000 years, the reliable springs, river flow, and high water table in this location sustained an oasis that was the focus of habitation and agriculture. Attesting to Tucson's long agrarian past are numerous irrigation canals found on the Rio Nuevo West site by archaeologists, the earliest dating to 2,500 years ago and representing the oldest known canals north of central Mexico. Several canals were built by farmers of the Hohokam culture between about A.D. 1000 and 1200. The latest canals in this location date to the 19th-century, and include the "Acequia Primera" shown on an 1862 map.



The most significant canal in size and length traverses the project site. This alignment remains in the proposed plan.

source: Jonathon B. Mabry, PhD

APPENDIX

NATIVE PLANT LIST

TREES

Common Name; Latin Name	General Info	Water Use	Seasonality	Winter Deciduous	Human Uses	Animal Relationships	Location Considerations	References to presence, uses
Arizona ash, Velvet ash; Fraxinus pennsylvanica, var. velutina	2000'- 7000'; Tree to 30'; Deciduous Bloom Mar-Apr, flowers appear before leaves	med	Bloom Mar - Apr	yes	Firewood, Building materials	Seeds: birds and animals; Pacific coast red-naped sapsucker	Seldom appropriate due to high water needs. Not applicable for R.O.W. plantings	Thornber's 1909 list; Sonora 1756-1767, Pfefferkorn
Arizona black walnut; Juglans major	3000' to 7000'; Tree to 30'; Deciduous	high	summer	yes	Nut meat edible; Firewood, Building materials	Seeds for birds, rodents, javelina; Shelter and nesting for birds	Seldom appropriate due to high water needs. Not applicable for R.O.W. plantings	Thornber's 1909 list; Sonora 1756-1767, Pfefferkorn
Blue palo verde; Cerdidium floridum	500' to 4000'; Tree to 30'; Moderate age; Winter and drought deciduous	low	Bloom: April-May Fruit: May-June	Yes, but due to dense growth it does not act as a winter deciduous tree	Seeds eaten raw or ground	Nectar and insects in flowers attract verdins, orioles; seeds for food, branches for nesting: finches, mockingbirds, mourning dove, hummingbirds; Seed for ground squirrels, kangaroo rats, antelope, javelina; Host plant for mistletoe is food for phainopeplas; Fodder for bees; Fallen flowers: desert tortoise eat; Nest sites: doves; Nighttime roosting by many birds		Hodgson, 2001; Tucson, Glebner
Catclaw acacia; Acacia greggii	Below 5000'; Shrubby tree to 20'; Age over 100 years; Semi-Deciduous in winter, extreme drought	low	Bloom: April-October	yes	Seeds ground for eating	Seeds attract doves, verdins, sparrows, pyrrhuloxias, quail, woodrat; Blooms: butterflies; Attracts ants which attract horned lizards; Attracts bees and beneficial wasps; Shelter: wildlife.		Thorber's 1909 list; Hodgson 2001; Sonora 1764 Nentvig; Tucson, Glebner
Coyote willow Salix exigua	To 9500'; Tree usually shrubby from 15 to 20'	high	Bloom: April-May	yes		Browse for livestock and wildlife	Seldom appropriate due to high water needs. Not applicable for R.O.W. plantings	Thornber's 1909 list
Desert willow Chilopsis linearis	1500' to 5000'; Tree to 25'; Moderate life; Deciduous	low	Bloom: April-August or September	yes-the most dependable of the recommended desert trees for winter leaf drop		Spring and fall flowers: hummingbirds, verdins bees (including bumble bees and carpenter bees); Ruby-crowned kinglets in winter look for insects. Provides caterpillar food for pollinating moths; Shelter and nesting: birds; Insects on plant eaten by birds		Tucson, Glebner
Foothills palo verde; Cerdidium microphyllum	500' to 4000'; Tree to 26'; Slow to medium growth	low	Blooms: March - May; Seeds: June - July	yes, but due to dense growth it does not act as a winter deciduous tree	Seeds eaten raw or ground; preferred by some over blue palo verde	Jackrabbits like flowers; seeds eaten by birds & small mammals. Branches used for nesting & roosting; bee fodder; host for mistletoe providing food for phainopepla. Javelina like dried seeds.		Hodgoson, 2001
Fremont cottonwood; Populus fremontii	150' - 6000'; Grows to 100'; Long lived; Deciduous	high	Bloom early spring	yes	Firewood, building materials	Twigs and foliage: deer & beaver; Buds and catkins: birds	Seldom appropriate due to high water needs. Not applicable for R.O.W. plantings.Not applicable around building due to tendency of branches to break and fall.	Thornber's 1909 list; Sonora 1756-1767, Pfefferkorn; SDCP; Tucson, Glebner
Goodding willow; Salix gooddingii	Below 7000'; Tree to 45'; Bloom spring	high		yes		Buds and twigs: birds; Twigs and foliage: deer; Bark: beaver	Seldom appropriate due to high water needs. Not applicable for R.O.W. plantings	Thornber's 1909 list

APPENDIX

NATIVE PLANT LIST

Common Name; Latin Name	General Info	Water Use	Seasonality	Winter Deciduous	Human Uses	Animal Relationships	Location Considerations	References to presence, uses
Ironwood; Olneya tesota	Below 2500'; Tree to 26'-30'; Long lived; Bloom May-June; Seed June-July	low		No evergreen	Seeds eaten raw, parched, steamed, ground; wood used for tools, tool handles	Seeds: mammals, game birds; Nesting: cactus wren; Flowers: hummingbirds, bumble bees, carpenter bees, honeybees; Browse for bighorn sheep, mule deer; Insects on plant eaten by birds		Hodgson, 2001; Sonora 1756-1767, Pfefferkorn; Tucson Giebner
Mexican elderberry; Sambucus mexicana, (Sambucus caerulea var. mexicana)	1000' - 4000'; Tree to 30'; Drought deciduous; Bloom Mar-Jun; Fruit May-Oct	med		No - the elderberry is the lushest in winter, and often drops its leaves in summer	Edible fruit; ceremonial wine; poultices, Niethammer	Fruit attracts doves, phainopepla, orioles, cactus wrens, and many other birds; Foliage: deer and livestock		Thornber's 1909 list; Sonora 1764, Nentvig; Hodgson, 2001; Tucson Giebner
Netleaf hackberry, canyon hackberry; Celtis reticulata	1500' - 6000'; Tree to 35'; Long lived; Deciduous; Bloom Mar-Apr	med	Fruits available June to November	yes	Fruits, dry or fresh, Niethammer	Berries: birds, javelina, coyotes, fox; Foliage: deer, snout butterfly; Cover & nest: quail, white-winged dove, small mammals	Wonderful canyon tree. Grows vertically from a single trunk and can work well in narrow spaces	Thornber's 1909 list; Hodgson, 2001
Screwbean mesquite; Prosopis pubenscens	Below 4000' Tree to 15'-20'; Bloom May-Aug, Moderate life; Deciduous	low	pods in summer to fall	yes	pods soaked, dried, pounded to make flour; wood used for tools	Pods eaten by desert animals	Wonderful garden tree as it acts as a fertilizer factory though nitrogen fixation on roots. Plant to the west of north of gardens	Thornber's 1909 list; Hodgson, 2001
Velvet mesquite; Prosopis velutina	1000'-5000'; Tree to 30'; Long-lived; Deciduous; Bloom Apr-May, again in Aug ; Fruit June-Sept	low to med	summer, fall	Yes, but often retains half of its leaves through winter	Raw pods sucked for nutrition; dried pods ground-used in variety of foods, steeped for drink; major source of firewood, building matl's; Niethammer	Seedpods:dove, quail, raven, big horn sheep, sparrows, finches; Seedpods, leaves, bark: rabbits, coyote, groundsquirrel. kangaroo rats, antelope, skunk, wolf; Twigs & foliage: deer; Flowers: 60 species of native bees, wasps, butterflies; Nectar, larval plant: butterflies; Nesting: white winged doves, mourning doves; Host plant for mistletoe: phainopepla; Insects on plant eaten by birds.	Wonderful garden tree as it acts as a fertilizer factory though nitrogen fixation on roots. Plant to the west of north of gardens	Thornber's 1909 list; Sonora 1756-1767, Pfefferkorn; Sonora 1764, Nentvig; Hodgson, 2001; Tucson Giebner
Whitethorn acacia; Acacia constricta	2500' - 5000'; Shrubby tree to 10'-15'; Deciduous; Bloom May-Aug/Sept	low		Yes, but often retains half its leaves in winter		Insects and nectar: verdins; Seeds: dove, verdins, sparrows, finches, pyrrhuloxias, quail, woodrat; Foliage: deer; young growth: jackrabbits feed on; Nesting: verdins; Larval plant: butterflies; Shelter: wildlife, birds		Hodgson, 2001; Tucson, Giebner
Agritos; Berberis trifoliolata	2,000' - 4,000'; Grows 3 - 6' tall. Spiny, holly-like leaves	low	Blooms in spring	yes	Berries eaten; ;medicinal properties	Birds love the fruit and shelter		
All-thorn; crucifixion-thorn; Koeberlinia spinosa	2500-5000 ft; blooms May - July; 6 - 15 ft. tall; hardy to 0°F	low	summer	Yes, but appears evergreen	berries eaten	Birds eat berries and use thorny plant for shelter		Thornber's 1909 Tumamoc plant list; Hodgson, 2001
Beargrass; Nolina sp.	3000-6000 ft			evergreen	fiber from leaves			Hodgson, 2001
Brittlebush; Encelia farinosa	Below 3000'; Shrub to 3'; Evergreen;	low	Bloom Nov-May in frost free areas	no	exudate on stems used as incense	Flowers pollinate by butterflies, moths and small bees; Seeds: sparrows, and wildlife in general; Browsed by bighorn		

APPENDIX

NATIVE PLANT LIST

Common Name; Latin Name								
Chiltepine	Below 4,000'; Grows to 3'	Low to med		no	Makes hot chiles! Medicinal properties		Place in warm microclimates due to frost intolerance	
Chuckwallas' Delight; Bebbia juncea	Below 4,000';Grows to 4'	low	Blooms throughout the year	Semi-evergreen		Butterflies and chuckwalla lizards love the flowers		
Chuparosa; Justicia californica	1000'-2500'; Bush to 4'-6'; Cold and drought; deciduous	low	spring/summer; Bloom on & off through year	yes	small amounts of nectar in flowers sucked for fun	Flowers: Rufous hummingbirds, butterflies, black carpenter bees; Insects on plants eaten by birds	Wonderful outside window for a view of hummingbirds and easy access to flowers; likes warm microclimates	Hodgson, 2001; ethnographic records of use
Creosote; Larrea tridentata	Below 4500'; Shrub to 11'; Extremely long lived; Bloom Mar-Apr, and Nov-Dec	low		evergreen	Rheumatism, internal parasites, stomach aches	Seeds: blackthroat and white-crowned sparrows, pocket mice, kangaroo rats, other small mammals; Plant: jackrabbits attracted to it		Sonora 1756-1767, Pfefferkorn; Sonora 1764, Nentvig; Tucson Giebner
Datura, sacred, jimsonweed; Datura sp.	1000-6000 ft.	low	May to Oct; to 4 ft. high			bees & moths visit flowers		Thornber's 1909 Tumamoc plant list
Desert milkweed; Asclepias subulata	Below 3,000'Grows to 4'	low	Blooms April - October	no	Medicinal, beads can be made from stalks	Attracts butterflies		
Desert hackberry; Celtis pallida	1500 - 3500'; Shrub to 10'-20'; Lives 90+ yrs; Semievergreen;	low	late spring to fall; Bloom summer; Fruit June-Oct	Semi-evergreen	Fruits, dry or fresh, Niethammer	Fruit: pyrrhuloxia, cardinals, mockingbirds, others, javelina, coyotes, fox; Foliage: deer and snout butterflies; Cover and nesting: quail, white-winged dove, small mammals, pyrrhuloxia; Shaded leaf litter foraged by birds looking for insects; Insects on plant eaten by birds		Hodgson, 2001
Desert honeysuckle; Anisacanthus thurberi	2500-5500'; Upright shrub to 6'; Blooms primarily in spring	med		yes		Flowers: hummingbirds and solitary bees, plant browsed by sheep and cattle		
Desert Mock-Orange	1,500' - 4,000'; Grows from 3 - 8'	low	Blooms February to May	yes	Very fragrant blooms			

APPENDIX

NATIVE PLANT LIST

TREES	Common Name; Latin Name	General Info	Water Use	Seasonality	Winter Deciduous	Human Uses	Animal Relationships	Location Considerations	References to presence, uses
	Ephedra, Mormon tea; Ephedra sp.	Up to 4,500 ft; 1 - 3' tall; blooms Feb. - Mar.	low	Tea year round; "nut" in summer	evergreen	Stems used for tea; edible "nut" roasted and ground for flour, or bitter mush. Medicinal properties	Deer, sheep may browse; quail eat seeds; bees collect pollen		Hodgson, 2001; Prehistoric, historic
	Fairy duster; Calliandra eriophylla	5,000' and below; Grows to 3.5'	low	Blooms October to May	yes		Attracts hummingbirds and butterflies		
	Four-winged saltbush; Atriplex canescens	2000'-8000'; Shrub to 8' tall, 8' wide; Evergreen	low	Bloom Jul-Aug; Seed Apr-Sep	evergreen		Seeds: quails, doves, finches, towhees, and small mammals; Plant provides good cover and nesting sites; Great browse plant; Insects on plants eaten by birds		Thornber's 1909 Tumamoc plant list
	Graythorn; Ziziphus obtusifolia	1000'-5000'; Bush to 10': Deciduous; Bloom May-Sep; Fruit Aug-Jan	low	fruits August to January	yes	berries eaten	Nests for birds such as Abert's Towhee; Berries: birds, specifically white-winged dove, and Gambel's quail; Flowers: honeybees, native bees, tarantula hawks; Insects on plant eaten by birds		Hodgson, 2001
	Jojoba; Simmondsia chinensis	1000'-5000'; Shrub to 7'; Evergreen; deciduous; Females bloom Dec-Jul; Fruit May-Jul	low		evergreen	Nut edible fresh or parched; relieves stomach aches, makes a coffee-like drink, reduces swelling; Niethammer	Foliage: deer, bighorn sheep; Fruit: small mammals		Sonora 1756-1767, Pfefferkorn; Sonora 1764, Nentvig; Hodgson, 2001
	Limberbush; Jatropha cardiophylla	2,000' - 3,000';Grows to 3'	low		yes	Roots used for dyeing and tanning; Medicinal properties	Attracts butterflies		
	Native cotton; Gosypium thurberi				yes				
	Ocotillo; Fouquieria splendens	Below 5000' 20' tall; Bloom Mar-Jun; drought deciduous	low	spring, summer		Flower, nectar eaten; seeds ground & eaten; reduce swelling caused by crushing			Sonora 1756-1767, Pfefferkorn
	Oreganillo;Aloysia gratissima	1,000'-6,500'	low	Blooms spring and summer	yes	Eaten as a wild oregano	Attracts native pollinators and butterflies		

APPENDIX

NATIVE PLANT LIST

	Common Name; Latin Name	General Info	Water Use	Seasonality	Winter Deciduous	Human Uses	Animal Relationships	Location Considerations	References to presence, uses
	Quail bush; Atriplex lentiformis	Below 4000'; Dense shrub, to 8' high 12' wide; Semi-deciduous; Bloom Feb-Apr	low		evergreen	seeds edible in a pinch, roasted, parched, made into mush	seeds edible in a pinch, roasted, parched, made into mushSeeds: quail; Cover plant for quail; Twigs and foliage: deer, bison, big horn sheep; Bee pollinated		Hodgson, 2001
	Red Justicia;Justicia californica	1,000'-2,500'; Grows to 4'	low	Blooms on and off throughout the year	somewhat		Attracts hummingbirds	Plant in a warm microclimate due to sensitivity to frost	
	Seep willow; Baccharis salicifolia	2000'-5500'; Bloom Mar-Dec; Tall shrub or small tree to 12'	med	seeds in summer to fall		Seed pods ground for food	Nectar for butterflies, attracts wasps and beneficial bees		Thornber's 1909 list
	Trixis; Trixis californica	Below 5,000'; Grows to 3.5' tall	low	Blooms February to October		Medicinal properties			
	Triangle leaf Bursage (forb); Ambrosia deltoidea	1,000-3,000'; To 2' tall; Blooms Dec-Apr.; Perennial shrub	low		Drought deciduous				
	Warnock's snakewood; Condalia warnockii (var. Kearneyana)	2500-4500 ft.; blooms in spring; to 5 ft high		late spring, summer	evergreen	small fruits eaten raw	sweet berrier used by wildliife		Thornber's 1909 Tumamoc plant list; Hodgson, 2001
	White Ratany; Krameria grayi	500-4,000'; Grows to 2'	low	Blooms April to May		Medicinal properties	Attracts native pollinators	Best to plant nest to composite plants such as triangle-leaf bursage or brittle-bush	
	Wolfberry; Lycium fremontii	Below 2500', Shrub to 5'-9' tall; Drought deciduous; Bloom year round, primarily Jan-Mar; Fruit year round	low	can produce fruit year-round; reliable in spring/ summer	Drought deciduous	Fruit, dry or fresh; made into beverage, pinole, in stews	Fruits used by wildlife	The best and biggest fruit producer of the local wolfberries	Thornber's 1909 Tumamoc plant list; Hodgson, 2001
	Wolfberry, Anderson thornbush; Lycium andersonii	Below 5500 ft.; blooms February - April; 3 - 6 ft. tall	low	fruits late spring to summer		Fruit, dry or fresh; made into beverage, pinole, in stews	fruits used by wildlife		Thornber's 1909 Tumamoc plant list; Hodgson, 2001
VINES	Arizona wild grape, Canyon grape; Vitus arizonica	2000' - 7500'; Grows to 30' long; Deciduous; Bloom Apr - Jul; Fruit Jul - Aug	med		yes	Vinegar & wine	Vines and fruit attract javelina, many birds including cardinals, and mourning, doves; Flowers: bees; Bark: birds use it for nests		Thornber's 1909 Tumamoc plant list; Hodgson, 2001

APPENDIX

NATIVE PLANT LIST

	Common Name; Latin Name								
TREES	Coyote gourd; Cucurbita digitata	Below 5000 ft.;trailing vine; yellow blooms June - Oct.; perennial root, vine dies back	low	seeds in fall?	yes	seeds sometimes eaten; used to make soap (root; fruit)	Javalina eat it; squash gourd bees pollinate the flower		Hodgson, 2001; ethnographic evidence
	Old Man's Beard; Clematis drummondii	Below 4,000'	low	Blooms March to September	somewhat				
	Slender janusia; Janusia gracilis	1,000' to 5,000'.; Grows to about 3 - 5' in length. Very delicate	low		somewhat		Attracts native pollinators and butterflies	Plant with a saguaro or cholla cactus it can climb	
	Snapdragon vine; Maurandya antirrhiniflora	1,500' to 6,000'; Grows 8 to 10' long. Delicate	low	Blooms April - October			Attracts hummingbirds		
	Tumamoc globeberry; Tumamoca macdougalii	Below 3000 ft; trailing vine difficult to see	low	fall		small fruit is edible	Bird seek out small watermelon-like fruits; javalinas dig up and eat the perennial tuber		Hodgson, 2001
CACTI, AGAVES & YUCCA	Buckhorn cholla; Opuntia acanthocarpa	500' - 3500'; 3' - 9' tall; Bloom Apr - May	low	summer		buds & fruit, Niethammer	Fruits: deer javelina, cactus wren; Seeds: mourning dove, gamble quail; Flowers: bees; Nesting sites: cactus wren, curved bill thrasher, other birds; Fruits: deer javalina, cactus wren. Seeds: mourning dove, gamble quail. Flowers: bees; Nesting sites: cactus wren, curved bill thrasher, other birds		Hodgson, 2001
	Cane cholla; Opuntia spinosior	1000' - 6000'; Grow to 8'; Bloom May - Jun	low	summer		buds & fruit, Niethammer			Hodgson, 2001
	Christmas cholla; Opuntia leptocaulis	1000' - 5000'; Grow to 4'; Bloom May-June; fruit remains on stem much of winter	low	summer		buds & fruit, Niethammer	Fruits: deer javalina, cactus wren, other birds; Seeds: mourning dove, gamble quail; Flowers: bees, hummingbirds; Nesting sites: cactus wren, curved bill thrasher, other birds		
	Desert agave; Agave deserti	Low deserts, Leaves 12-15 long	low	Spring		roasted the crown, fiber, medicinal; raw agave is poisonous	Many agaves' flowers attract pollinators (insects, & either birds or bats), & attracted insects may attract insect-eating birds.		

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NATIVE PLANT LIST

Common Name; Latin Name	General Info	Water Use	Seasonality	Winter Deciduous	Human Uses	Animal Relationships	Location Considerations	References to presence, uses
Fish hook barrel cactus; Ferocactus wislizenii	1000' - 5600'; Cactus to 8' but 4' more common; Evergreen;	low	Spring & fall; Bloom Jul-Sep; Fruit through yr		fruit, seeds & flower buds eaten	Fruits/seeds: white-winged & mourning dove, quail, cactus wren curved bill thrasher, coyote, jackrabbit, cottontail, squirrel, kangaroo rat, mule deer, javalina. Flesh: bighorn sheep, javalina. Flowers: native solitary bees		Hodgson, 2001
Hedgehog cactus; Echinocereus engelmannii	Up to 5000 ft.; bloom March - April; often clumps	low	summer		fruit is sweet, juicy; used raw or in jams or other foods	fruit & seeds eaten by a variety of wildlife		
Jumping cholla; Opuntia bigelovii	Up to 4000'; Grow to 15'	low	Bloom May - Aug; Fruit: all year		buds & fruit, Niethammer	Fruits: deer javalina, cactus wren. Seeds: mourning dove, gamble quail. Flowers: bees; Nesting sites: cactus wren, curved bill thrasher, other birds		Hodgson, 2001
Murphey's or Hohokam agave; Agave murphyi	1500-3000', blooms Mar-Apr.; leaves 20-30 long	low	Late winter; must be observed to see if flower stalk is preparing to emerge; use only those		May be agave species cultivated by Hohokam & other prehistoric societies. Leaves cut with "agave knife." "heart" long-roasted in pit; also a fiber source	Many agaves' flowers attract pollinators (insects, & either birds or bats), & attracted insects may attract insect-eating birds. Agave murphyi matures faster and blooms earlier than other agaves.		Hodgson, 2001
Pencil cholla; Opuntia arbuscula	1000' - 4000'; Grow to 9'; Bloom May - Jun	low	summer		buds & fruit, Niethammer	Fruits: deer javalina, cactus wren. Seeds: mourning dove, gamble quail. Flowers: bees; Nesting sites: cactus wren, curved bill thrasher, other birds		Hodgson, 2001
Prickly pear; Opuntia engelmannii	1000'- 6500'; Cactus to 5' tall; Evergreen; Bloom Apr-Jun; Fruit: July-Aug,Sept	low	fruit in summer		Fruit & young pads	Flowers: solitary bees, sap beetles. Fruits and seeds: white-winged doves, mourning dove, gambel quail, cactus wren, curve-billed thrasher, finches, woodpeckers, coyote, rabbits, ground squirrel, kangaroo rat, javelina, desert tortoise; Pads: javelina, black-tailed jackrabbit. Cochineal scale insects feed on pads; insects on plant eaten by birds		Sonora 1756-1767, Pfefferkorn; Sonora 1764, Nentvig; Hodgson, 2001
Purple prickly pear; Opuntia violacea var. santa-rita	Below 4000 ft.;	low	blooms in spring; summer		fruit	cochineal scale insect host		Hodgson, 2001
Saguaro; Carnegeia gigantea	600'-3600' 30'-50' tall; Bloom May-June	low	fruit available June & July		Fruit & seeds, tools, ceremonial wine	Young plant: tortoises, insects, Flowers: bats, moths, bees, white-winged dove, ants. Fruits: birds, ants, javelina, coyotes, fox, skunks, tortoises, squirrels, rodents, rabbits, deer; Nesting: woodpeckers, hawks, purple martins, kestrels, doves, owls, bats. Dead saguaro: arthropods, insects.		Sonora 1756-1767, Pfefferkorn; Sonora 1764, Nentvig; Hodgson, 2001;
Soap tree yucca; Yucca elata	1500' - 6000'; Grow to 15'; Bloom May - Jun; Evergreen	low	buds spring to summer; fruits summer		Buds, stems, fruits & flowers were eaten, fibers. Roots used as soap, ceremonial, Niethammer.	Flower stalks: mule deer, javalina; Seeds: mourning dove, gambel quail; Larval plant for butterflies; Pollinated by symbiotic yucca moth		Sonora 1764, Nentvig; Hodgson, 2001
Staghorn cholla; Opuntia versicolor	2000 '- 3000'; grow to 3' - 15', Blooms May	low	summer		buds & fruit, Niethammer	Fruits: deer, javalina, cactus wren; Seeds: mourning dove, gamble quail; Flowers: bees; Nesting sites: cactus wren, curved bill thrasher, other birds		Hodgson, 2001

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NATIVE PLANT LIST

TREES	Common Name; Latin Name	General Info	Water Use	Seasonality	Winter Deciduous	Human Uses	Animal Relationships	Location Considerations	References to presence, uses
	Banana Yucca;Yucca bacata	3,000'-8,000'Grows to 4' tall and 6' wide, Blooms April-June	low			Ripe fruits eaten raw or cooked. Flowers eaten cooked	Larval food plant of butterflies		Lancaster,2003
	Thornber's yucca; Yucca thornberi	3,000'-8,000'Grows to 4' tall and 6' wide, Blooms April-June	low			Ripe fruits eaten raw or cooked. Flowers eaten cooked			Hodgson, 2001
GROUNDCOVERS AND WILDFLOWERS	Bladderpod; Lesquerella gordonii	100-5000'; To 16" tall; Blooms Feb-May; Annual	low				Forage for cattle		
	Coulter's Globemallow; Sphaeralcea coulteri	Below 2,500'; 100-2600'; to 2' tall; Bloom July - Nov	low						
	Chia; Salvia columbariae	Below 3000 ft.; blooms March - May; to 20" high		Seeds available in summer		Seeds whole or ground used to make pinole or mixed with ground corn or wheat; dried seed heads used for tea; sprouts edible			Hodgson, 2001; Major prehistoric/ ethnographic food source
	Desert globemallow; Sphaeralcea ambigua	Below 3500'; Flower to 3' tall; Woody base; Perennial; Bloom throughout year; sow seeds in fall & winter	low				Flowers: native bees; Larval food plant for butterflies; Brows for bighorn sheep		
	Desert marigold; Baileya multiradiata	Below 5000'; Flower to 2' tall; Short lived perennial; Bloom Mar-Oct	low				Seed: Inca dove and other birds, ants; Insects on plant eaten by birds; sheep and goats poisoned by feeding on plant		
	Desert senna; Cassia covesii	1000-3500'; to 2' tall; blooms Apr-Oct	low						
	Desert Tobacco; Nicotiana trigonophylla	100 - 6000'; Nightshade family; Perennial; Up to 3' tall	low			Ceremonial, smoking, medicinal	Flowers: moths; Seeds: ants		Sonora 1756-1767, Pfefferkorn; Sonora 1764, Nentvig

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NATIVE PLANT LIST

Common Name; Latin Name	General Info	Water Use	Seasonality	Winter Deciduous	Human Uses	Animal Relationships	Location Considerations	References to presence, uses
Desert zinnia; Zinnia acerosa	2000' - 5000'; Flower to 6" tall; Evergreen; Bloom Mar-Oct	low				Flower petals: quail, finches, sparrows; Seeds: harvester ants, which in turn attract horned lizards; Insects on plant eaten by birds		
Devil's claw; Proboscidea althaeifolia	Below 3500 ft.; Blooms August-September	low	seeds available summer to fall		Seeds could be ground for food			Thornber's 1909 Tumamoc plant list
Dune evening primrose; Oenothera deltoides (O. albicaulis)	Below 2500', Flower to 16" tall; Bloom Mar-Aug	low				Javalina love it; Flowers used by hawk moths (Hyles lineata)		
Gooding's verbena; Verbena goodingii	Below 5000'; 2' tall, 4' wide; Perennial; Bloom Feb-oct	low				Flowers: butterflies and moths		
Ground cherries; Physalis longifolia, Physalis angulata			spring-fall		fruit raw, cooked, preserves, dried			
Indian wheat; Plantago insularis	Below 3000'; forb; Grows 3" and up	low	winter/spring; Bloom Jan-May		Seeds soaked to make drink	Seeds: birds; Leaves and capsulres: rabbits and kangaroo rats		
Lamb's-quarter; Chenopodium berlandieri	2500-9000 ft.;		Spring/ sum. annual; blooms June - Sept.		summer greens; seeds parched & ground into flour	larval foodplant of butterflies		Hodgson, 2001; prehistoric, ethnographic
Line-leaf whitepuff; Oligomeris linifolia			summer		seed ground, boiled			
Mexican Gold Poppy; Eschscholtzia mexicana	Below 4,500'; To 16 " tall	low	Blooms mid Feb to May; Annual					
Parry penstemon; Penstemon parryi	1500-5000'; to 4' tall;		Blooms Mar-July; Perennial			Flowers: hummingbirds, bees, and other insects		

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NATIVE PLANT LIST

GRASSES

Common Name; Latin Name								
Silverbells; Streptanthus arizonicus	1500'-4500'; Erect annual; Blooms Jan-Apr	low						
Sunflower (wild), girasol; Helianthus annuus	100-7000 ft.; grows 3-9 ft. tall	med	summer/fall		seeds, raw or parched, are eaten or ground and used in a variety of foods	Bird & bees love flowers		Thornber's 1909 list; prehistoric, ethnographic, historic
Alkali sacaton; Sporobolus airoides	2500' - 6500'; Grass 2 - 4' tall; perennial blooms May-Oct	low	warm season		seeds collected in summer	Foliage: mule deer, javalina, mourning dove, gambel quail; Herbiage: blacktail jackrabbit and cottontail rabbit		Hodgson, 2001
Arizona cottontop; Digitaria californica	1000' - 6000'; Grass 1.5 - 4' tall; perennial blooms Aug-Nov	low	warm season			Good food for livestock, fair for wildlife; valuable winter forage		
Arizona panic grass; Panicum arizonicum								
Big galleta; Hilaria rigida	Under 5500'; Grass 2' - 3' tall; Perennial; Bloom Feb-Sep							
Bullgrass; Muhlenbergia emersleyi	2000 - 7500'; 2-5' tall; warm season perennial bunch grass	low	warm season			Useful forage for grazers while green; poor when dry		
Bush muhley; Muhlenbergia porteri	2000' - 6000'; Grass 2'- 4' tall, 3' wide; perennial blooms Aug-Oct	low	warm season			Excellent forage for livestock, deer and pronghorn		
Cane Beardgrass; Andropogon barbinoides	1,000-5,800'; Well adapted to SW ranges;		Blooms Apr-Oct			Good forage when green		

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NATIVE PLANT LIST

Common Name; Latin Name	General Info	Water Use	Seasonality	Winter Deciduous	Human Uses	Animal Relationships	Location Considerations	References to presence, uses
Cane grass; Phragmites australis	mid to low elevations (below 5000 ft) in wet areas		spring/summer		sap, roots, shoots eaten; cane was also building material			Hodgson, 2001
Cattail; Typha domingensis (Typha angustifolia)	1000-5000 ft. in wet areas; blooms June-Sept.	high	spring/summer		Shoots, inner leaf tips eaten raw in spring; green bloom spikes (w/out husk) summer boiled; pollen used for mush; roots eaten raw, boiled like potatoes; rhizomes source of starch; leaves woven into mats; stalks for basketry			Hodgson, 2001
Deergrass; Muhlenbergia rigens	2000-7500'; 2-5' tall; perennial bunch-grass		warm season			Good forage when green; poor when dry		
Desert saltgrass; Distichlis stricta	Up to 7000' on alkaline an saline soil; 8-15" tall; perennial					Poor forage		
Fluffgrass; Erioneuron (tridens) pulchellus	Under 5500'; Less than 6" tall; Perennial grass grows in clumps; Bloom summer & fall	low				Forage plant: desert tortoise		
Giant Dropseed; Sporobolis giganteaus	4,000-6,000'; Tall, coarse perennial; 3-6' tall; Blooms Jul-Oct				Seeds eaten, Niethammer			
Giant sacaton; Sporobolus wrightii	2000 - 5000'; 3 - 6.5'; bunch grass	med	warm season		Bloom Jun-Oct			1909 Tumamoc Hill survey
Pappas grass; Pappophorum mucronalatum	2000' - 4000'; Grows to 2' - 3' ; Perennial bunchgrass		Bloom Mar - Oct; Winter growth					1909 Tumamoc Hill survey
Plains bristlegrass; Setaria macrostachya	2000 - 5000'; tufted perennial bunch-grass; 1 - 4' tall		warm season Bloom May-Oct			Seeds and foliage: birds and small mammals		Thornber's 1909 list
Purple & red threeawn; Aristida purpurea vars. purpurea & longiseta	1000-5000'; clump grass; to 3 feet tall; Perennial		warm season, Bloom Mar-Sept (more Apr-May)			Poor forage for wildlife, only grazed in early growth stages; worthless in winter		

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NATIVE PLANT LIST

TREES

Rothrock Grama (grass); Bouteloua rothrockii	2,300-5,500'; 10-36"tall; Small clumps	low	warm season			low palatability as forage		
Sand dropseed; Sporobolus cryptandrus	Grass family; 150 - 7000'; bunchgrass grows to 2'	low	warm season, Bloom Apr-Sep		seeds collected in summer	Seeds: numerous birds including wild turkey, small mammals; Plants: deer		Hodgson, 2001
Sideoats grama; Bouteloua curtipendula	large elev. range; 1-2' tall; perennial bunchgrass	low	warm season			Important forage for grazers		
Six-week grama; Bouteloua barbata	100 - 6000'; 12" tall annual bunch grass	low	Blooms mostly July - Oct					
Slender grama; Bouteloua filiformis	2500-5000'; 1-1.5' tall; perennial bunchgrass	low	warm season			good forage for grazers		
Small-flowered Fescue; Vulpia microstachys		low						
Spike dropseed; Sporobolus contractus	1500 - 6500'; 1.5 - 4' tall; bunchgrass; Bloom Aug-Oct	low	warm season					
Tanglehead; Heteropogon contortus	1000 - 6000'; 8 - 30" tall; short-lived perennial bunch-grass	low	warm season					

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NATIVE PLANT LIST

Common Name; Latin Name	General Info	Water Use	Seasonality	Winter Deciduous	Human Uses	Animal Relationships	Location Considerations	References to presence, uses
Tobosa; Pleuraphis mutica (Hilaria mutica)	2000 - 6000'; 2 - 3' tall; perennial sod-forming grass	med	warm season			Poor forage for wildlife, becomes unpalatable when mature		

EXOTIC EDIBLES
Domesticated Fruit Trees

Common Name; Latin Name	Suggested Cultivars	Water Use	Comments
White Sapote Casimiroa edulis	-May-Suebelle-Vinmar	med	
Carob Ceratonia siliqua	-Casuda-Santa Fe-Sfax	med	Only females produce carob pods. Male is needed for pollintion unless self-fertile variety is planted
Lime Citrus aurantifolia	-Mexican-Bearss	Med to high	Must plant in warm microclimate
Tangelo Citrus	-Minneola-Orlando	Med to high	
Grapefruit Citrus paradisi	-Marsh-Ruby Red	Med to high	Grapefruit grows taller than some citrus and can make a good shade tree when pruned
Quince Cydonia oblonga			
Loquat Eriobotrya japonica	-Big Jim-Gold Nugget-Tanaka-Champagne	high	
Pineapple Guava Feijoa sellowiana	-Beechwood-Collidge-Nazmetz	med	Edible flowers and fruit

Common Name; Latin Name	Suggested Cultivars	Water Use	Comments
Lemon Citrus limon	-Eureka-Lisbon-Improved Meyer	Med to high	Citrus are great for irrigation by greywater since their evergreen nature enables them to utilize the water year round
Sweet Orange Citrus sinensis	-Valencia-Marrs-Moro Blood Orange-Sanguinelli blood orange	Med to high	Plant a diversity of cultivars that ripen at different times of the year to extend the harvest
Tangerine Citrus	-Kinnow-Honey-Fairchild-Encore	Med to high	Tangerines alternate fruit production, typically bearing fruit one year then little or none the next
Fig Ficus carica	-Black Mission-Conadria	med	All cultivars listed are self-fertile
Kumquat Fortunella margarita	-Meiwa-Nagami	Med to high	
Apple Malus pumila	-anna-dorsett golden	med	All cultivars listed are self-fertile
Date Palm Phoenix dactylifera			
Apricot Prunus armeniaca	-Royal-Blenheim-Katy	med	All cultivars listed are self-fertile

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NATIVE PLANT LIST

EXOTIC EDIBLES
Domesticated Fruit Trees

Primary information source:
Brad Lancaster, unpublished document: A Native Plant List for Multiple Uses, for use in the Tucson Basin and Foothills. Compiled and copyrighted, 1998. Assembled from 100 references (reference list available on request)

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Pfefferkorn, Ignaz. Sonora: A description of the province, 1989, The University of Arizona Press, Tucson
Tumamoc Plant List: Plants of the Santa Cruz River Flood Plain at Tumamoc Hill, City of Tucson, Arizona. Compiled by William T. Kendall with assistance from Dr. Charles Mason and Becky VanDevender, UA Herbarium, who updated the nomenclature for plants listed in "Vegetation Groups of the Desert Laboratory Domain", prepared by J.J Thornber, A.M. Professor of Botany at the Arizona Experimental Station, 1900, as taken from the Distribution and Movements of Desert Plants, by Volney M. Spalding, 1909.

Common Name; Latin Name	Suggested Cultivars	Water Use	Comments
Peach Prunus persica	-Desert Gold-Rio Grande	med	All cultivars listed are self-fertile
Plum Prunus domestica	-Santa Rosa-Beauty-Laroda	med	All Cultivars need a second plum tree as a pollinator
Pomegrante Punica granatum	-Wonderful-Fleishman	low	All cultivars are self-fertile
Pear Pyrus communis			
Chaste Tree Vitex agnus-castus		med	Medicinal properties
Chinese Jujube Ziziphus jujuba	-Lang-Li	low	
		high	
Pineapple Guava Feijoa sellowiana	-Beechwood-Collidge-Nazmetz	med	Edible flowers and fruit

EXOTIC EDIBLES
Vines

Common Name; Latin Name	Suggested Cultivars	Water Use	Comments
Domesticated Grape Vitis spp.	-Flame seedless-Ruby seedless-Lomanto-Thompson seedless-Black manukka	med	All cultivars listed are sweet table grapes.Works well for trellises
Queen's Wreath Antigonon leptopus		low	Deciduous vine with beautiful pink flowers. Native to Baja, Mexico
Hardenbergia Hardenbergia violaca		low	Evergreen vine from Australia with trumpet flowers. Leaves can be steeped for tea
Nopal Opuntia ficus-indica	-Burbank Spineless-Papaya-Honeydew melon-Orange-Quillota-Florida white		
Rosemary Rosmarinus officinalis	-Arp-Blue Spire-Gorizia-Trailing-Tuscan Blue	low	
Lemongrass			
Greek oregano		low	
Marjorum		low	
Chives		low	
Garden sage		low	

APPENDIX

HISTORY AND CONTEXT

The figures at right illustrate clearly, the slow and deliberate destruction of downtown Tucson in the mid 20th century. Through Urban Renewal in the 1960's, and in exchange for the finely-grained network of varied streets and plazas with human-scaled buildings defining the public realm, an impersonal and automobile-oriented environment was put in place. Much of the property that was subjected to this failed experiment has yet to see any true 'renewal' or the positive change that was envisioned then.

It is important to note that the features of the type of urbanism that was destroyed were based on local climate and culture. That is in stark contrast to the modernist, self-important and weak architecture and urbanism that replaced it.

For the reasons stated above, the historic patterns of Tucson's Barrio neighborhood were closely examined for their influence and application to the project site.

*A Tale of Two Cities: The Failed Urban Renewal of Downtown Tucson in the Twentieth Century by Juan Gomez-Novy and Stefanos Polyzoides Journal of the Southwest, Volume 45, Numbers 1 and 2, Spring/Summer 2003

1886

The historic pattern of buildings close to the sidewalk, defining the public realm, highlighting the voids that become plazas, providing shade and reserving the interior of the block or lot for private open space and/or utilitarian uses.

1919

The 1886 pattern still intact with larger and more intense buildings being accommodated within the historic grid and Congress Street becoming more important.

1960's

The literal erasure of a thriving, interesting and purposeful environment to make way for 'urban renewal'.

2004

Mega blocks and parking lot-oriented environment that destroy the idea of a traditional neighborhood and undermine the idea of the center of the city. Massive sub-urbanization results.

APPENDIX

DEFINITIONS

For the purposes of this Master Plan, the planning and urban design terms, architectural types, land uses, and other technical terms and phrases are defined as follows.

Allee: a row of trees planted along a Thoroughfare or Pedestrian Walkway.

Alley: a thoroughfare that provides vehicular access to parcels from the rear or side. Such thoroughfares are secondary to all other vehicular-oriented thoroughfares and are designed and detailed accordingly.

Accessory Dwelling: an apartment not grater than 500 square feet sharing ownership and utility connections with a principal building. An accessory dwelling may or may not be within an outbuilding.

Apartment: a dwelling sharing a building and a lot with other dwellings and/or uses. Apartments may be for rent or for sale as condominiums.

Arcade: a series of arches linked together, usually as an element of a building.

Awning: an ancillary lightweight structure of wood, metal or canvas, cantilevered from a building facade and providing shade to the fenestration and spatial containment to the pedestrian. Awnings, to be an efficient adjunct to a shopfront, must thoroughly overlap the sidewalk and be between 8 and 10 feet from the sidewalk at the front edge.

Bay Window: an opening which is within a mass that projects from the main building wall

Balcony: an uninclosed, habitable structure, usually cantilevered from a facade or an elevation, providing private outdoor space to an apartment. Balconies in great numbers, with excessive depth, tend to dematerialize the vertical plane of a facade, interfering with its role of spatial definition.

Bicycle Path: a dedicated area, paved in a variety of materials (e.g., asphalt to decomposed granite) that is non-traversable by vehicles and is often shared with pedestrians.

Bicycle Route: an identified area, usually by white lines, that is part of the vehicular roadway that allows bicycle use.

Block: the aggregate of private lots, passages, common drives and, lanes, circumscribed by Thoroughfares.

Block Face: the aggregate of all the building facades on one side of a block. The block Face provides the context for establishing architectural harmony.

Building Placement: the maximum envelope available for placing a building on a lot.

Building Function: the uses accommodated by a building and its lot.

Building Height: the vertical extent of a building measured in stories, not including a raised basement or a habitable attic. Height limits do not apply to masts, belfries, clock towers, chimney flues, and similar structures. Building Height shall be measured from the average grade of the enfronting Thoroughfare.

Building Type: a structure defined by the combination of configuration, placement and function (e.g., RearYard, SideYard, CourtYard, etc.).

Carriage Apartment. A Carriage Apartment is an auxiliary housing unit located above or adjacent to the garage of the primary housing unit on the lot, with the front door and access directed towards an alley.

Civic: the term defining not-for-profit organizations dedicated to arts, culture, education, government, transit and municipal parking facilities.

Civic Building. A building accommodating public services and/or public assembly. Land uses allowed within civic buildings include a post office, other small-scale government offices, public safety facilities (i.e., a fire station), schools, and religious facilities (i.e., churches, mosques, synagogues, etc.).

Civic Space: an open area dedicated for public use, typically for community gatherings. Civic Space Types are defined by the combination of certain physical constants defined by the relationship between their intended use, their size, their landscaping and their enfronting buildings.

Commercial: the term collectively defining workplace, office and retail functions. Sometimes referred to in this Plan as 'Non-Residential'.

Common Yard: the type of yard most associated with residential development, characterized by one yard visually connecting with the adjacent yard(s).

Context: the particular combination of elements that create a specific environment. A Context Zone (e.g., NG) is administratively similar to the land-use zones in conventional zoning ordinances, except that in addition to specifying the building use, density, height and setback, all the relevant elements and characteristics of the intended environment are integrated. The integration includes the characteristics of the private lot and building as well as those of the enfronting public streetscape. Their combination and the ratio of natural-urban intensity is determined by their location on the Neighborhood Transect Scale.

Court: a private exterior space partially surrounded by a building and also opening to a thoroughfare. It is often used as a vehicular entrance or drop-off, and its landscape may be improved with paving.

CourtYard Building: a building that occupies the boundaries of it slot while internally defining one or more private patios. This is the most urban of building types, as it is able to shield the private realm from all sides while strongly defining the public realm. In addition to the residential uses, it is recommended for workshops, lodging and schools because of its ability to accommodate incompatible activities, masking them from all sides. This type affords high security because of its continuous enclosure characteristics.

Curb: the edge of the vehicular pavement detailed as a raised curb or a swale. The Curb usually incorporates the drainage system.

Density: the number of dwelling units within a standard measure of land area, usually as units per acre.

Design Speed: the velocity at which a Thoroughfare can be comfortably driven without the constraints of signage or enforcement. there are 4 ranges of speed: Very Low: below 20mph, Low: 20-25mph, Moderate: 25-35mph and High: above 35mph. This factor determines the character and context for a particular segment of the Thoroughfare system.

Developable Area: those areas of a site that are not designated Open Space or right of way.
Driveway: a vehicular lane within a lot, usually leading to a garage. A Driveway may be used for parking providing that it is no more than 18 feet wide.

Elevation (Building): the exterior walls of a building not along a frontage. Also referred to as 'Facade' when the elevation is along a frontage line.

Encroachment: the projection of any building, element or activity into an identified area such as building setbacks on private property and public sidewalks in the right-of-way.

Enfront: the placement of an element along a frontage line, as in "orches enfront the street."

Entrance (Principal): the principal point of access of pedestrians to a building. In the support of pedestrian activity, the Principal Entrance should give to the frontage rather than to the parking.

Facade: the exterior wall of a building that is set along a frontage line. Facades support the public realm and are subject to frontage requirements additional to those required of elevations.

Flex Building. A flexible building type. Dwellings may be located above and/or behind retail stores which are allowed only on the ground floor. The land uses allowed within a flex building include: offices (accessory, business/service, professional, and temporary only, as defined under "Offices" below); multi-family residential, and home occupations within the multi-family units; retail stores; personal services; or a combination thereof. The uses within a flex building may change over time in response to then current market conditions.

Forecourt: a semi-public exterior space partially surrounded by a building and also opening to a thoroughfare. These spaces usually lead to a Court which is a private exterior.

Frontage Line: those lot lines that coincide with a public frontage line. One shall be designated as the Principal Frontage Line. Facades along Frontage Lines define the public realm and are therefore more highly regulated than the elevations that coincide with other lot lines.

Frontage Types. see page 32 of this Plan.

Habitable Space: Interior floor area of a building that is used for dwelling, office or other commercial purposes. Such space is subject to all applicable codes and regulations.

Home Occupation. The conduct of a business within a housing unit, employing only the occupants of the housing unit, with the business activity being subordinate to the residential use of the property.

Inside Turning Radius: the curved edge of a Thoroughfare at an intersection, measured at the inside edge of vehicular tracking. The smaller the Turning Radius, the smaller the pedestrian crossing distance and the more slowly the vehicle is forced to make the turn. Control of the Curb Radius is an important variable in the fostering of a pedestrian-friendly environment.

Lane Homes. A single-family dwelling on a small lot, accessed from a narrow (less than 20') lane running between streets with 3' to 6' setbacks to the land and a minimum 3' side setback to the lot line between the homes.

Layer: a range of depth of a lot within which certain elements are permitted.

Live-Work: a dwelling unit that contains, to a varying but limited extent, a commercial component. A Live-Work Unit is a fee-simple unit on a lot with the commercial component limited to the ground level. The size of the commercial component is limited by the NC Zone requirements.

Lot: a separately platted subdivision of land held privately, usually intended for the purposes of building.

Lot Line: the boundary that legally and geometrically demarcates a lot. Such lines appear graphically on a Tract Map or Development Permit Site Plan

Lot Width: the length of the Principal Frontage Line.

Meeting Hall: a building accommodating at least one room with an area equivalent to a minimum of 10 square feet per projected dwelling unit within the pedestrian shed in which the meeting hall is located.

Multi-Family Residential. The occupancy of a building with two or more housing units that share one or more common walls.

Net Developable Area: the area defined by blocks which are not to remain for public use such as Greens, Squares, Thoroughfares or Streetscapes.

Office: premises available for the transaction of general business but excluding retail, artisanal and manufacturing uses.

Outbuilding: an ancillary building (e.g., garage, storage area, crafts space, etc.), usually located towards the rear of the same lot as the principal building. It is sometimes connected to the principal building and sometimes occurs as a separate building.

"Park-Once" (Shared Parking Policy): an accounting for parking spaces that are available to more than one function. The requirement is reduced by a factor, shown as a calculation. The Shared Parking ratio varies according to multiple functions in close proximity unlikely to require the spaces at the same time. In this plan, this applies only to the TC Zone.

Pedestrian Shed: an area defined by the average distance that may be traversed at an easy pace from its Edge to its Center. This distance is used to determine the size of a Neighborhood. This dimension averages one quarter of a mile or approximately 1400 feet.

Personal Services. Establishments providing nonmedical services to individuals as a primary use.

Planter: the layer of the streetscape which accommodates street trees. Planters may be continuous or individual according to the Thoroughfare and Neighborhood location.

Porch: an open air room appended to the mass of a building with floor and roof, but no walls on at least two sides. For the purposes of this Plan, a porch shall measure at least 7 feet in depth from the inside of the post(s)/column(s) to the adjoining wall.

Private Frontage: the privately held layer between the frontage line and the principal building facade. The structures and landscaping within are held to specific standards. The variables of Private Frontage are the depth of the setback and the combination of architectural elements such as fences, stoops, porches and galleries. These elements influenced social behavior in the public realm. The Frontage layer may overlap the public streetscape in the case of awnings, galleries and arcades.

Public Frontage: the area between the frontage line and the curb of the vehicular lanes, and the type and dimension of curbs, walks, planters, street trees and streetlights.

RearYard Building: a building that occupies the full frontage, leaving the rear of the lot as the sole yard. This type, with it continuous facade, steadily defines the public thoroughfare. The rear elevations may be articulated for functional purposes. In its residential form, this type is the rowhouse. For its commercial form, the rear yard can accommodate substantial parking.

Recess Line: a horizontal line, the full width of a facade, above which the facade sets back a minimum distance from the facade below. This is identified in the Zone Requirements.

Residential: premises available for long-term dwelling

Retail: premises available for the sale of merchandise and food service.

Retail Frontage Line: Frontage Line designating the requirement for a shopfront, making the ground level available for retail use.

Single-Family Homes. A residential building designed for and/or occupied by one household.

Setback: the area of a lot measured from a lot line to a building facade or elevation that must be maintained clear of permanent structures excepting galleries, fences, garden walls, arcades, porches, stoops, balconies, bay windows, terraces and decks (that align with the frost floor level) which are permitted to encroach into the Setback.

Shopfront: the non-residential frontage of a building. These spaces are limited to the first floor and as such, have different building requirements than upper floors (e.g., large storefront windows, signage, etc.).

Sideyard Building: a building that occupies one side of the lot with the setback to the other side. The visual opening of the side yard on the street frontage causes this building type to appear freestanding. A shallow frontage setback defines a more urban condition. If the adjacent building is similar with a blank party wall, the yard can be quite private. This type permits systematic climatic orientation in response to the sun or the breeze.

Sidewalk: the paved layer of the public frontage dedicated exclusively to pedestrian activity

Stoop: a small porch or platform at the entrance of a house. This element is typically raised 1.5 to 3 feet from grade to correspond to the adjacent first floor. The building types that use this element do so to maintain the occupant's sense of privacy because of their short distance from the frontage line

Story: a habitable level within a building of no more than 14 feet in height from finished floor to finished ceiling. Attics and raised basements are not considered a story for the purposes of determining building height.

Streetscape: the urban element that provides the major part of the public realm as well as paved lanes for vehicles. A streetscape is endowed with two attributes: capacity and context. Capacity is the number of vehicles that can move safely through a segment within a given time period. It is physically manifested by the number of lanes and their width, and by the curb radius. Context is physically manifested by the appropriate Frontage types as determined by the Neighborhood Zone in which it is located.

Streetwall: an opaque, freestanding wall built along the Frontage Line, or coplanar with the facade, often for the purpose of masking a parking lot from the adjacent Thoroughare. The wall may be replaced by a hedge, subject to City Approval. Streetwalls may have openings no larger than necessary to allow automobile and pedestrian access.

Terrace: a level, paved area accessible directly from a building as its extension. A terrace is typically private and is most common as a rear yard in single-family development.

Thoroughfare: a vehicular way incorporating moving lanes and parking lanes (except alleys/lanes) within a right-of-way.

Townhouses. A single-family dwelling with common walls on the side lot lines, the facades reading continuously.

Transect: a system of classification deploying the conceptual range rural-to-urban to arrange in useful order, the typical context groupings of natural and urban areas. This gradient, when rationalized and subdivided into zones becomes the basis of the Regulating Plan and its Neighborhood Zones and Public Realm Plan.

Transition Line: a horizontal line, the full width of a facade expressed by a material change or by a continuous horizontal articulation such as a cornice or a balcony.

Type: a building form determined by function and confirmed by culture. A building Type is physically defined by its function, its disposition on the lot and its configuration, including frontage and height.

Variance: an administrative technique that includes both Warrants and Exceptions.

a) Warrant: (Warranted Variances)
This type of variance permits a practice that is not consistent with a specific provision of this Master Plan, but that is justified by its intent or by hardship. These variances are granted administratively and may not provide more than 25% relief from the applicable provision.

b) Exceptions (Exceptional Variances)
This type of variance permits a practice that is not consistent with a provision nor the intent of this Master Plan. Exceptions shall be granted only by the City Council upon receiving a recommendation on the request by the Planning Commission.

Yard: a private area that adjoins or surrounds a building, its landscape subject to the landscape requirements.

APPENDIX

TRADITIONAL NEIGHBORHOOD DESIGN CHECKLIST

These criteria were extracted from the basic principles of neighborhood design as described in the Charter for the New Urbanism. The particular design method that was followed was an adaptation of the TNT checklist published by DPZ Architects in their seminal book, "Suburban Nation".

THE REGIONAL CONTEXT

- Is the TND connected in as many locations as possible to adjacent developments and thoroughfares?
- Do highways approaching the TND either pass to its side or take on low-speed (25 mph maximum) geometries when entering the neighborhood proper?
- Does the TND provide a relatively balanced mix of housing, workplace, shopping, recreational, and institutional uses?

THE SITE CONTEXT

- Are lakes, ponds, wetlands, and other natural resources retained and celebrated?
- Are significant natural amenities at least partially fronted by thoroughfares or public tracts rather than privatized behind backyards?

THE PLAN STRUCTURE

- Is the neighborhood an average five-minute walk - a quarter mile - from edge to center?
- Does the neighborhood have a commercial center - not necessarily at the geographic center of the neighborhood - that is the location of retail space - a corner store is desirable and office space, ideally located in mixed-use buildings?
- Is there a civic space such as a plaza or green at the neighborhood commercial center?
- Does housing density increase from the commercial center to the edge?
- Does the neighborhood reserve at least one prominent, honorific site for a civic building?
- Are there small parks distributed evenly through the neighborhood, roughly within one-eighth mile of every dwelling?
- Are elementary schools and recreational facilities located within one mile of most dwellings, sized accordingly, and easily accessible on foot?
- Are lots zoned not by use but by compatibility of building type?
- Do most development code changes in allowable building type occur at mid-block rather than midstreet?
- Is the neighborhood edge bordered by either a natural corridor or the edge of an adjacent neighborhood across a pedestrian-friendly boulevard?
- Are any large areas of open space between neighborhoods connected into continuous natural corridors?
- Do all public tracts within the neighborhood correspond to commonly-understood open-space types, such as park, green, square, or plaza?
- Is there a variety of housing types on a given block?

THE THOROUGHFARE NETWORK

- Are streets organized in a comprehensible hierarchical network that manifests the structure of the neighborhood?
- Do blocks average less than 600 feet in length and less than 1,800 feet in perimeter?
- Are all streets fronted by public or private property, rather than serving as collector roads with no purpose other than handling traffic?
- Are cul-de-sacs avoided when natural conditions do not demand them?
- Are unconventional roadway geometries provided to calm traffic, such as forks, triangles, and staggered intersections?
- Are most street vistas terminated by a carefully sited building, a public tract, a view of a natural feature, or a curve in the street?
- Do most streets that curve maintain roughly the same cardinal orientation (except where steep grades dictate otherwise)?

THE STREETSCAPE

- Is there a hierarchy of streets, including:
- A parkway that moves traffic at significant volume but accommodates easy pedestrian crossing by providing a large landscaped median;
- Through streets that distribute traffic between parkways and neighborhood streets designed for slower traffic and pedestrian friendliness;
- Standard neighborhood streets that allow for children and bicycles and accommodate slow automobile traffic;
- Local streets designed for little through traffic, no more than one or two blocks long, very pedestrian friendly, accommodating one car passing at a time;
- Alleys, approximately 12 feet wide within a 20-foot right-of-way for access to garages and accommodating service vehicles?
- Do all streets other than alleys and lanes have a sidewalk on at least one side, 4 to 5 feet in width?
- Does every street include, between the roadbed and the sidewalk, a tree strip 4 to 10 feet in width, of indigenous shade trees planted approximately 30 feet apart, 10-foot minimum height at planting (located in grated sidewalk planters on commercial streets)?
- Are curb radii at intersections a maximum of 18 feet, with a typical measurement of 4 feet at local intersections?
- Are all parking lots located at the center of enlarged blocks, such that only their access is visible from adjacent streets?
- Are all parking lot aisles separated by a tree strip approximately 5 feet in width, planted with indigenous shade trees approximately 30 feet apart, 10-foot minimum height at planting?
- Are all unsightly transformers, lift stations, utility meters, HVAC equipment, and other machinery located not in the front streetscape but at the rear lane or alley?
- For neighborhoods that are located adjacent to nature, does the streetscape become more rural as it approaches the edge of the neighborhood, with curbs becoming open swales and trees becoming more informal in their placement?

THE BUILDINGS

- Is there a diversity of housing types located within close proximity to each other? Ideally, there should be a 5 percent minimum representation of at least four of the following six categories:
  - Apartments above commercial space;
  - Multifamily apartment buildings;
  - Row houses (25-30 feet wide);
  - Cottage house and small family house lots (30-45 feet wide);
  - Family houses on standard lots (45-65 feet wide);
  - Villas on large lots (over 65 feet wide).
- Is there a variety of housing types to meet a variety of incomes?
- Is each house lot 45 feet or wider permitted to contain a small ancillary dwelling unit in the rear yard, such as an apartment over the garage?
- Are residential buildings placed relatively close to the street, such that they are generally set back the equivalent of one-quarter the width of the lot?
- Do the front setbacks permit the encroachment of semipublic attachments, such as stoops, porches, bay windows, and balconies?
- Do all houses served by alleys have a 3-to-6-foot -tall privacy fence, wall, or shrubs on their rear property line?
- Do all row houses have 5-to-7-foot-tall privacy walls or fences on shared side property lines?
- Do all commercial buildings directly front the sidewalk, with all private parking lots located behind the buildings?
- Are buildings permitted to satisfy their parking requirements with spaces located both off-street and on-street within one eighth of a mile of the building itself?
- Does the transition from mid-block parking to main-street shopping take place in a pleasant pedestrian passage lined with shop windows?
- Do all commercial buildings have a second story (or more) for other uses?
- Are most residential buildings other than cottages and small family homes at least two stories tall?
- Does each house on a corner lot have its front door facing the larger street, the exceptions being end-unit row houses, which must always turn the corner, and houses against high-speed roadways?
- Do buildings have relatively flat fronts and simple roofs, with most wings and plan articulation set at the rear?

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