

**LEGEND**



Rezoning Site



Designated Pima County Trail from Pima County Regional Trail System Master Plan



Public Park



Designated Pima County Trailhead from Pima County Regional Trail System Master Plan



Tucson Audubon Society

Jim Portner, Agent for Owner  
 PROJECTS INTERNATIONAL, INC.  
 10836 E. ARMADA LANE  
 TUCSON, ARIZONA 85749  
 520 850-0917



**Red Point Development, Inc.**  
 SOUTH SIDE HARDY RD, EAST OF THORNYDALE RD  
 (Ownership Entities: Hardy-Thornydale I Associates, Fidelity National Title Trust #10760)  
 REZONING: SR to CR-5

EXHIBIT I-H.1  
 RECREATION AND TRAILS  
 PAGE 39

## **I. CULTURAL RESOURCES, ARCHAEOLOGICAL & HISTORIC SITES**

### **1. Records Check and Letter Report**

A cultural resources records review was completed for subject property by SWCA Environmental Consultants in October, 2014. The search reviewed the existing records in the AZSITE database, as well as the National Register of Historic Properties (NRHP). These sources indicate that no archaeological sites had been previously documented on the subject property. The summary findings from the SWCA records review is included here as Exhibit I-I.1.

#### **a. Prior Field Surveys**

Per the above, the only prior archaeological survey that included the property was the Northern Tucson Basin Survey (NTBS) conducted by the Arizona State Museum (ASM) and the University of Arizona (UA) in the early/mid 1980's.

#### **b. Previously Recorded Archaeological or Historic Resources**

No archaeological or historic sites of significance were found in the aforementioned records review.

#### **c. Probability of Buried Resources**

There is a low probability of buried resources based upon the aforementioned records review.

#### **d. Recommendation as to Future Surveys**

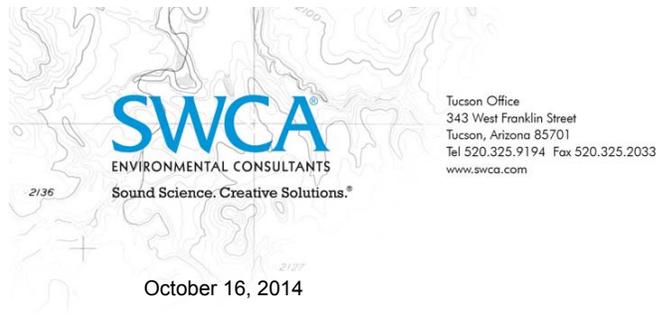
Due to the fact that the prior NTBS survey methodology would not be considered adequate by current State Historic Preservation Office (SHPO) standards, the SWCA study recommends that a new survey, meeting currently accepted survey standards and protocols, be completed for the property. It is the developer's intent to complete this survey at the time of subdivision platting.

### **2. On-Site Archaeological or Historic Resources**

Not applicable per the above findings.

**Exhibit to Follow**

## Section I - Site Inventory



Larry Kreis  
Red Point Development  
8710 North Thornydale Road, Suite 120  
Tucson, Arizona 85742

Re: Cultural Resources Records Review for the Casa Hermosa Property, Unincorporated  
Pima County, Arizona

Dear Larry:

On behalf of Red Point Development, Inc., SWCA Environmental Consultants (SWCA) has completed a cultural resources records review of the Casa Hermosa property (Parcels 225-29-009D and 225-29-009F) located on West Hardy Road, east of Thornydale Road, in unincorporated Pima County, Arizona. The purpose of the study is to provide information on whether the property has been previously surveyed for cultural resources, to identify any known archaeological or historical resources on the property, to assess whether the property may contain buried archaeological resources not visible from the surface, and to make an informed recommendation as to whether archaeological survey of the properties is warranted. We understand that this study is a required component of the Site Analysis report that is to be provided to Pima County as part of an application to rezone the property.

The 30-acre Casa Hermosa property is a privately held parcel in Section 29, Township 12 South, Range 13 East, Gila and Salt River Baseline and Meridian, Pima County, Arizona, and can be found on the Jaynes, AZ 7.5-minute U.S. Geological Survey topographic quadrangle (Figure 1).

SWCA consulted the AZSITE database for previously conducted surveys and previously recorded sites within the subject property. The National Park Service National Register Information Systems Database was also consulted for National Register of Historic Properties (NRHP)-listed properties or districts. The records search showed that no archaeological sites have been previously documented in the project area.

The only archaeological survey of the property took place as part of the Northern Tucson Basin Survey (NTBS), which was conducted by the Arizona State Museum (ASM) and the University of Arizona in the early to middle 1980s, and consisted of a 1,800-square kilometer (695-square mile) study area that stretched from the northern edge of the Tucson Mountains to Picacho Peak.<sup>1</sup> The description of NTBS field methods states that "In obtaining large-scale patterns, speed and efficiency in the field observation occasionally required compromise with precision and detail."<sup>2</sup> Although much was learned about the regional archaeology as a result of the

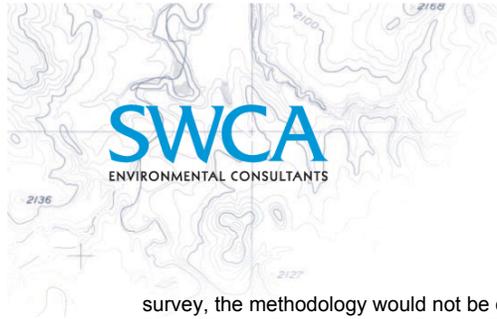
<sup>1</sup> Madsen, J.H., P.R. Fish, and S.K. Fish (eds). 1993. *Northern Tucson Basin Survey: Research Directions and Background Studies*. Archaeological Series No. 182. Tucson: Arizona State Museum, University of Arizona.

<sup>2</sup> Madsen et al., 1993, pp. 13.

**Exhibit I-I.1 (Page 1 of 2)**  
**SWCA Records Review Summary Letter of Findings**

## Section I - Site Inventory

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survey, the methodology would not be considered adequate to rely on for current review by the State Historic Preservation Office (SHPO)<sup>3</sup> and most other review agencies. Although the Casa Hermosa property is within the portion of the NTBS area that was subject to full-coverage survey, the transect spacing for survey was 30 meters,<sup>4</sup> and the ASM currently specifies a maximum spacing of 20 meters for full-coverage survey. The crews were equipped with topographic maps and aerial photographs, but not more modern mapping technologies (e.g., global positioning system [GPS] units), and the project was not focused on evaluating the historical significance (i.e., NRHP eligibility) of individual sites.

Based on Arizona Geological Survey maps, the Casa Hermosa property lies upon middle to late Pleistocene Piedmont alluvium.<sup>5,6</sup> The potential for intact buried archaeological resources not visible on the surface is low.

Given that the one previous survey of the Casa Hermosa parcel was part of a project which would not adequately meet SHPO requirements, we recommend that an archaeological survey that meets the currently accepted survey standards be conducted of the property.

Thank you for providing us with the opportunity to work with you again. Please contact me at (520) 325-9194 if you have any questions at all regarding this work.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Jerome Hesse', is written over a light blue horizontal line.

Jerome Hesse  
Cultural Resources Lead, Tucson

Attachment A: Figure 1

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<sup>3</sup> State Historic Preservation Office (SHPO). 2004. *SHPO Position on Relying on Old Archaeological Survey Data*. Guidance Point 5. Phoenix: Arizona State Parks.

<sup>4</sup> Madsen et al., 1993, pp. 21.

<sup>5</sup> McKittrick, M.A. 1988. *Surficial Geologic Maps of the Tucson Metropolitan Area*. Open-File Report No. 88-18. Tucson: Arizona Geological Survey.

<sup>6</sup> Pearthree, P.A., and T.H. Biggs. 1999. *Surficial Geology and Geologic Hazards of the Tucson Mountains, Pima County, Arizona*. Open-File Report No. 99-22. Tucson: Arizona Geological Survey.

**J. AIR QUALITY**

**1. Proposed Industrial Facilities**

Not applicable; there are no Industrial facilities planned or proposed for this development.

**K. COMPOSITE MAP**

**1. Description of Major Characteristics**

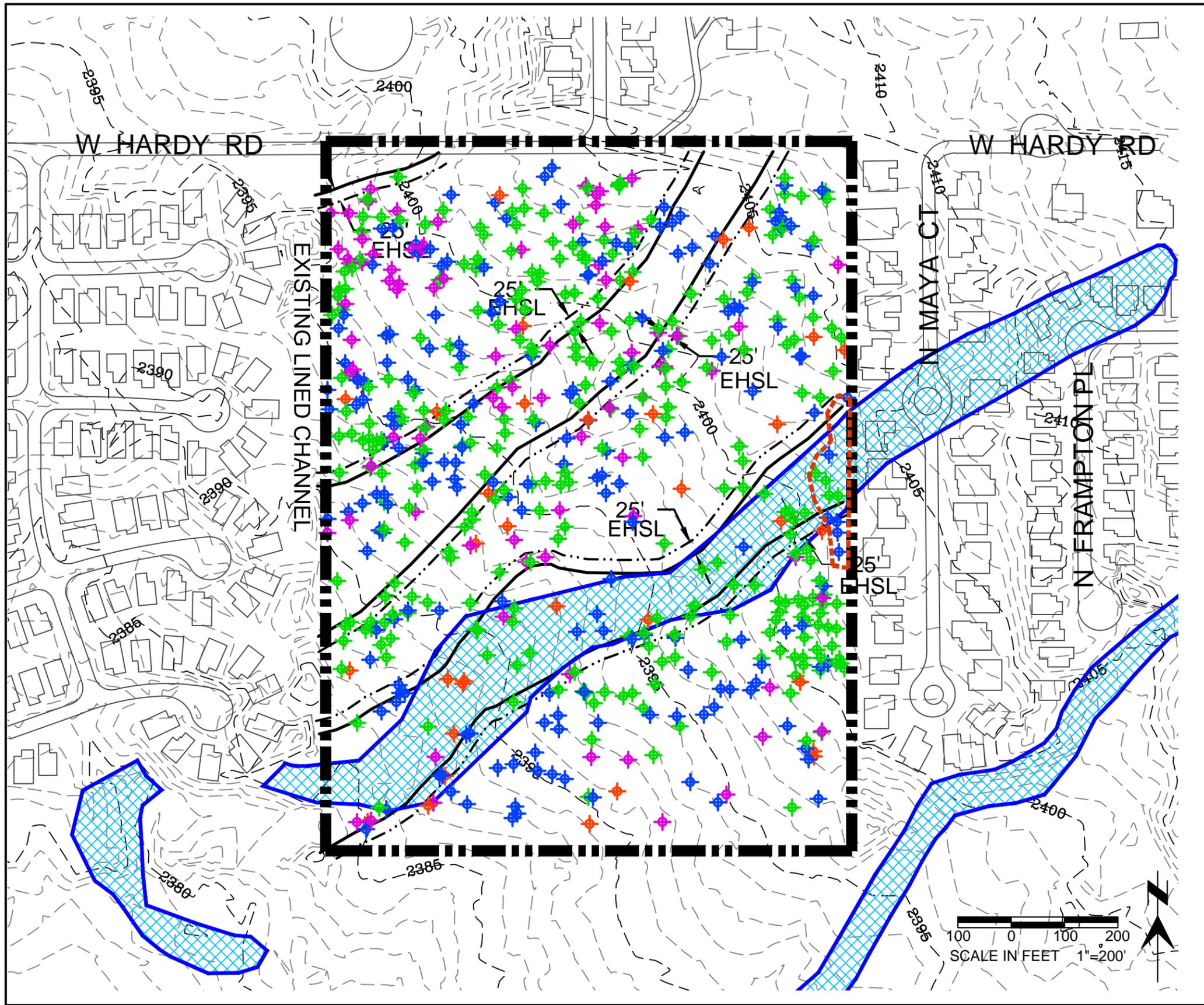
The site is generally unremarkable in terms of landform or significant features, except for the fact that it possesses a rich stand of natural desert vegetation and designated riparian habitat. The specific characteristics cited in the Site Analysis Guidelines are respectively addressed on Exhibit I-K.1-3 (Composite Map) as follows:

- 1. Topography.** There are no restricted peaks and ridges, rock outcrops, talus slopes, or slopes of 15% or greater. As such, none of these topographic features are depicted on the Composite Map exhibit. The Exhibit will contain only the 1' contour interval mapping of the site.
- 2. Hydrology.** The Composite Map exhibit will contain the following identified items from the checklist: (a) the 100-year regulatory floodplains traversing the site in the existing condition; and (d) the regulated riparian habitat areas.

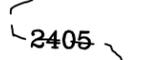
The following items from the checklist do not exist on the property and so will not be depicted on the Composite Map: (b) sheet flow areas; (c) federally mapped floodplains and floodways; and (e) lakes, ponds, springs, wetlands, etc.

- 3. Biological Resources.** The Composite Map exhibit will contain only the following three (3) identified items from the checklist: (a) all saguaros, mapped and categorized based their height; (b) ironwood trees; and (e) areas of significant or important vegetation.

The following items from the checklist do not exist on the property and so will not be depicted on the Composite Map: (c) pima pineapple cactus; and (d) needle-spined pineapple cactus.



**LEGEND**

-  Rezoning Site
-  Existing Condition Topographic Contour (1' Interval)
-  Erosion Hazard Setback Limit (EHSL)
-  Approximate 100-Year Floodplain Limit
-  Mapped Riparian Habitat -- Xeroriparian "C"
-  Saguaro ≤ 6' in height
-  Saguaro >6' - 18' in height
-  Saguaro >18' in height
-  Ironwood Tree
-  Vegetation of Special Note for Scenic Value or Buffering

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 STRATEGIC GUIDANCE  
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**GRS**  
 LANDSCAPE ARCHITECTS, LLC

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**EXHIBIT I-K.1-3**  
 COMPOSITE MAP  
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**SECTION II:**  
**Land Use Proposal**

## A. PROJECT OVERVIEW

The proposed rezoning can rightly be viewed as an infill development that will fit well within its surrounding established residential context and will make efficient use of the existing public and utility infrastructure that is already in-place.

### 1. Requested Zoning Designation

Because the Project is not proposed to include multiple zoning districts, the Site Analysis requirements of Section II-A.1. do not apply. The requested zoning designation for the entire rezoning site is CR-5.

### 2. Characteristics of Proposed Development

The site will be developed as a single-family residential subdivision, the intent of which is to be generally consistent in density and character with the existing subdivisions already in place to the east, south, and southeast. There is, however, one notable distinction between the present proposal and these past subdivisions. The latter were subdivided and constructed in the 1980's and 1990's, when far less restrictive regulations were in place to protect natural drainage features and wildlife habitat areas. As a result, many of these prior subdivisions were entirely mass graded and their natural drainages either narrowed and channelized or realigned altogether. The residential subdivision proposed under this rezoning will essentially preserve the on-site natural drainageways in their natural state, except for necessary street crossings, as well as fully honor the Conservation Lands System (CLS) thresholds for the site through a combination of on-site and off-site set-asides.

Beyond this basic premise, the following particulars apply:

#### a. Project Design & Response to Site Constraints

The site's major constraints are natural and environmental ones, most notably pertaining to habitat conservation and the presence of the natural washes that traverse the property.

The entire site is designated as *Multiple Use Management Area (MUMA)* under the Maeveen Marie Behan Conservation Lands System (CLS), with portions of it classified as *Xeroriparian "C" Riparian Area* (a non-CLS category). The property further subject to the CLS Special-Species Management overlay, thereby requiring that an 80% preservation threshold be met for the site.

Beyond these habitat considerations, the site contains numerous saguaros and ironwood trees, thereby necessitating special care in applying and executing the Native Plant Preservation Ordinance (NPPO).

Lastly, the site is traversed by an established natural drainages which is regulatory in nature (i.e. possessing flows greater than 100 cfs in the 100-year event).

The Preliminary Development Plan (PDP) presented below in Section II.B responds to these natural constraints by employing significant set-asides for both the CLS and regulatory-floodplain constraints identified above. The residential lots are clustered in a way that respects the 100-year regulatory floodplains while also employing supplemental on-site set-asides that buffer the adjacent residents to the adjacent west and east and which accrue towards overall CLS compliance.

In the end, the proposed subdivision design for the project serves as a relative contrast to the existing nearby subdivisions that were developed under older, less restrictive preservation and protection regulations.

b. Conformance with Comprehensive Plan (Pima Prospers), etc.

This Project, as proposed, will comply with Pima Prospers (the Pima County Comprehensive Plan) and all applicable Rezoning Policies.

***This Project complies with its Designated Land Use Intensity Category.***

The Property is designated as Medium Intensity Urban (MIU) per approved Case No. Co7-13-06 and Resolution No. 2014-117. The complete rezoning policies attendant to this approval have been provided in Section I.A.2.c (on p. 2) of this Site Analysis. The Project will provide a single family residential subdivision of the same basic character and intensity of those already adjacent to it and within the larger Thornydale Road corridor. The proposed CR-5 zoning request for the residential subdivision is permitted under the MIU category and, further, is consistent with the established zoning construct surrounding the property.

***This Project complies with the County's Pima Prospers Use of Land (Chapter 3) and Physical Infrastructure Connectivity (Chapter 4)***

***policies.*** The pertinent policies are as follows: Land Use Element (Section 3.1), Environmental Element (Section 3.4), Housing & Community Design Element (Section 3.5), and Transportation Element (Section 4.1).

Land Use Element (Section 3.1)

The proposed project works substantially toward the established Goal 1 objective (p.3.2) of integrating land use with physical infrastructure and resource conservation to insure long-range viability of the region. The requested rezoning integrates with the existing, established, or already-planned transportation, wastewater, potable water, and recreational infrastructure resources present adjacent to the property and within the larger Thornydale Road corridor. It represents a quintessential infill development that, by definition, works off of this existing infrastructure rather than requiring the further expansion of it. The continued residential densification of the Thornydale Road corridor through infill projects such as this one takes advantage of these available efficiencies and enhances the opportunity for expanded multi-modal transportation and transit options.

Environmental Element (Section 3.4)

The proposed project is in full compliance with the Conservation Lands System (CLS), its stated Goal 1 (p.3.23) objective of conserving and protecting natural resources, together with its enumerated Policies (pp. 3.23 thru 3.31). The subject property was part of an extensive exercise, during the comprehensive plan amendment phase, to establish site-specific thresholds for on-site and off-site CLS mitigation so as to insure full compliance with all established thresholds associated the Special Species Management overlay of the System. Four (4) separate properties (including the subject site) were evaluated in holistic fashion to integrate both CLS parameters and neighborhood concerns into a global solution that recognized and addressed both. The proposed rezoning is the next step in effectuating this holistic solution and bringing it to fruition.

Housing and Community Design Element (Section 3.5)

The proposed project furthers the Goal 8 (p. 3.45) objective of providing new development that is generally compatible and scale-appropriate, as well as the Goal 10 (p. 3.46) objective of ensuring development that reflects the character and sense of place of its given area. This infill project has, from the onset, pursued a very simple goal: provide a single-family residential use that, as best as possible, general fits within, respects, and essentially mirrors the type, character, and density of the existing residential development that already surrounds it. While the actual residential component of the proposed project will satisfy this basic objective, the overall development will represent a significant enhancement over the established surrounding residential context. While the existing adjacent subdivisions were often entirely mass-graded and employed channelized drainages, today's more restrictive preservation and regulatory policies yield subdivisions with significant natural features, open space elements, and significant perimeter buffering, thereby creating a more respectful and sensitive siting of the new project within the established suburbanized context.

Transportation Element (Section 4.1)

The proposed project furthers the Goal 1 (p. 3.45) objective of promoting a comprehensive and multi-modal transportation system. The Thornydale Road corridor is clearly one of the most significant north-south transportation arteries within the overall County transportation system. Multi-modal objectives can only be met by fostering the growth, intensification, and residential densification of such corridors. At present, this important corridor is, somewhat remarkably, served by one and only one public transit route. And this route is only a Sun *Shuttle* service, i.e. not a full-size Sun Tran bus. One's personal views on growth and development notwithstanding, it is simple fact that achieving truly multi-modal, transit-

rich corridors can only be achieved by significant densification and intensification of use. The proposed rezoning is one small step in that direction, with the need for many more in the future.

***This Project complies with the County's applicable Rezoning Policies.*** As mentioned in Section I.A.2.c (pp. 1-2) of this Site Analysis, the subject property was approved for a combination of Neighborhood Activity Center (NAC) and Medium Intensity Urban (MIU) under Case No. Co7-13-06. Four (4) rezoning policies were stipulated for the site via this approved amendment. The proposed residential use for the project, its design and its open space/habitat set-asides are all in accordance with the prescribed policies.

c. Neighbor Issues & Response

The current property owner and applicant (Hardy-Thornycroft Associates and Red Point Development, Inc.) heard and accommodated neighboring property owner concerns during the recent Comprehensive Plan Amendment process for this property (Case No. Co7-13-06), the application of which was ultimately approved by the Board of Supervisors in February, 2014. The conditions of approval attached to that amendment (which were enumerated in Section I.A of this Site Analysis) and have been reflected in this rezoning proposal and attendant PDP through the use of substantial natural buffers to protect the adjacent residential subdivisions, as well as the set-aside of significant on-site areas and the commitment to supplemental off-site mitigation, so as to fully satisfy all applicable CLS thresholds.

The rezoning applicant is committed to further working further with neighborhood representatives and leaders so as to fully inform them of the proposed rezoning application and the specifics of the residential subdivision planned for the property. These discussions and interactions will be on-going through the rezoning process and we will insure that Pima County staff is kept abreast of their progress.

d. Impact on Existing Land Uses in the Surrounding ¼ Mile Area

The proposed Preliminary Development Plan (PDP) depicts a residential subdivision that is generally similar in type and character to the existing neighborhoods that are already in place to the east, south, and southeast. As alluded to above, however, the degree of on-site habitat protection and the preservation of existing natural washes inherent in the proposed PDP exceeds that which characterizes the prior adjacent subdivisions.

e. Contribution to Smart Growth Principles

The proposed rezoning is consistent with, or furthers, several of the Smart Growth Principles as identified by the Smart Growth Network (SGN). These are individually discussed below:

Mix of Land Uses

Given the emerging urbanization trend in the area and taking into account the property's immediate context, the site is best developed as a residential subdivision. The riparian, and drainage constraints impacting the property have carefully been incorporated into the subdivision design to insure that it will coexist well with its existing residential neighbors to the north, west, and east as well as with the established charter school to the south.

Take Advantage of Compact Building Designs

The project will promote higher density and intensity within the Thornydale Road corridor and locate the proposed residential lots in a clustered, compact spatial arrangements that afford opportunities for efficient on-site infrastructure while, at the same time, creating significant open space elements and CLS set-asides that are meaningful in both size and continuity.

Multi-Modal Transportation Opportunities

Higher density development always contributes to larger regional opportunities for multi-modal transportation. The Thornydale Road corridor functions as important north-south transportation artery and is suitable for future bicycle routes and public transit. Higher density development is essential in creating the demand needed to support and further such multimodal opportunities.

Rational Infrastructure Expansion and Improvements

The proposed rezoning and residential subdivision adheres closely to this principle. Intelligent and efficient growth demands the intelligent and efficient use of established infrastructure. The proposed rezoning site represents an important infill opportunity that will utilize existing public utility and planned transportation infrastructure, while contributing its fair share of costs that might be needed to expand same to serve the proposed development.

Conservation of Natural Resources

The rezoning site falls within the *Multiple Use Management Area (MUMA)* classification of the Conservation Lands System (CLS), with portions of the property classified as *Xeroriparian "C" Riparian Area*. In addition, the Special-Species Management aspect of the CLS also applies, thereby increasing the CLS's established conservation and mitigation guidelines.

As part of the aforementioned approved Comprehensive Plan Amendment (Case No. Co7-13-06), specific performance measures were established for the set-aside of both on-site and off-site areas so as to insure full compliance

with all CLS thresholds. The CLS topic is discussed further below in Section 3.b (Open Space Element, Environmental Element) and Section 3.f (Compatibility with Conservation Lands System).

In addition to the above CLS considerations, the proposed subdivision design and PDP effectively preserves all regulatory 100-year floodplains on the property and disturbs them only for essential street crossings.

**3. Applicability and/or Conformance with the Pima County Zoning Code**

This Project does not require compliance with the Buffer Overlay Zone, Gateway Overlay Zone, Hillside Development Zone, Cluster Development Option, Historic Zone, or Airport Environs Zone. The Project will be in compliance with the Native Plant Preservation Ordinance (Chapter 18.72).

a. Buffer Overlay Zone

Not applicable.

b. Gateway Overlay Zone

Not applicable.

c. Hillside Development Overlay Zone

Not applicable.

d. Cluster Development Option

Not applicable.

e. Native Plant Preservation

The project will comply with Pima County Zoning Code Section 18.72 (Native Plant Preservation).

f. Historic Zone

Not applicable.

g. Airport Environs Zone

Not applicable.

## **B. PRELIMINARY DEVELOPMENT PLAN (PDP)**

### **1. PDP Map and Overlay**

A Preliminary Development Plan (PDP), in accordance with Section II-B.1a-p of the Site Analysis Checklist, is provided as Exhibit II-B.1a-p (an acetate overlay of same is also included). This PDP illustrates a proposed residential subdivision that effectively confines the developed portions of the property to those areas not otherwise impacted by existing drainage and riparian constraints.

In terms of timing and phasing, it is most desirable and intelligent that the project be developed concurrently with the planned RTA comprehensive street improvements to Thornydale Road.

### **2. Support Data**

The following support data is provided here and is also reflected in notes on the PDP as appropriate:

a. Gross Floor Area of Structures.

Not applicable; this is residential subdivision project. The formerly-envisioned commercial component has been eliminated from the project.

b. Building Heights

The subdivision will contain both one-story and two-story residences in response to market demand. The maximum building height would not exceed that allowed under the requested CR-5 zoning, i.e. thirty-four feet (34').

c. Dwelling Units

The PDP illustrates eighty-four (84) individual residential lots. The typical lot size anticipated is 55' x 115'. This lot size is subject to change at the time of final subdivision platting and the prevailing market conditions then in force.

d. Maximum Residential Densities

The gross residential density of the proposed project is inherently limited by the significant set-asides devoted to riparian, habitat, and natural-drainage preservation. Under the proposed PDP, the effective gross density for the project is approximately 2.8 residential units per acre (2.8 RAC).

e. Total Number of Parking Spaces

Parking for this project will be in accordance with Zoning Code Section 18.75, to be verified at the time of subdivision platting.

f. Type of Landscaping

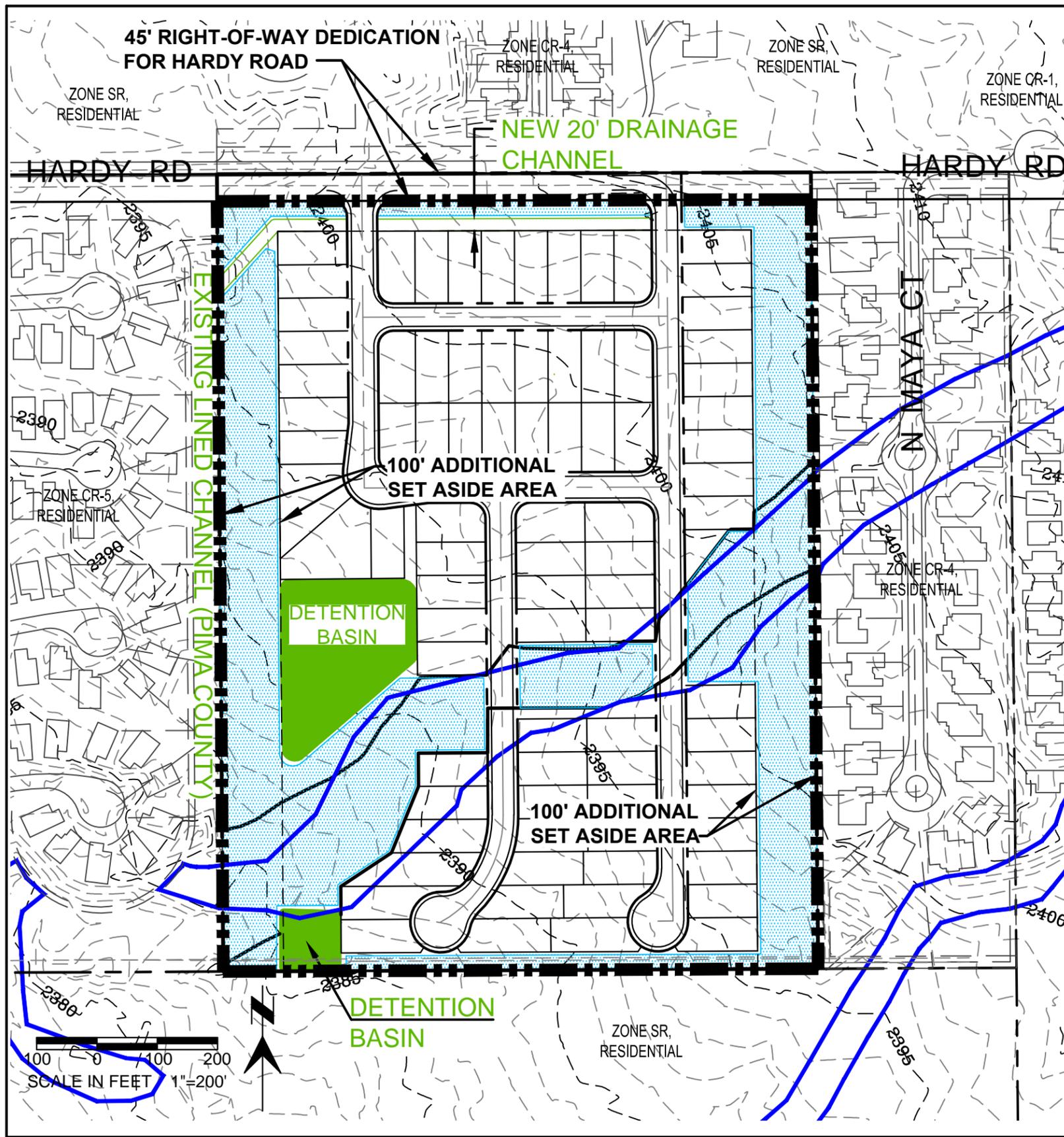
Landscaping will be a mixture of native preserved desert and xero-riparian landscape species. The proposed landscape program for the site is described more fully in Sections II.E. (Biological Resources) and II.F (Landscape & Buffer Plan).

g. Size & Description of Recreation Areas, Natural/Functional Open Space

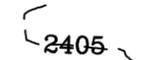
The project's most significant open space element is the substantial natural area set-asides throughout the site for riparian, habitat, and natural-drainage preservation. These areas are illustrated on the PDP and described more fully in Sections II.E. (Biological Resources) and II.F (Landscape & Buffer Plan).

h. Other Supplemental Information – Safe Streets

In keeping with the objectives of providing safe streets to schools, all new streets within the proposed subdivision will provide concrete sidewalks such that there is a continuous pedestrian system throughout the neighborhood and connecting directly to Hardy Road. While there are presently no public sidewalks within the Hardy Road right-of-way, the provision of sidewalks within the subdivision provides an opportunity for continuity and direct linkages at whichever time public sidewalks are constructed along Hardy Road.



## LEGEND

-  PDP Boundary
-  Existing Condition Topographic Contour (1' Interval)
-  CLS Set-Aside Area (Natural Open Space)
-  Approximate 100-Year Post-Development Floodplain Limit
-  Detention Basin
-  Mapped Riparian Habitat -- Xeroriparian "C"

### PROJECT AREA

Gross Area: 29.8 AC (Approximate)  
 Net Area (Post R.O.W. Dedication): 28.8 AC (Approximate)

### PROJECT PARTICULARS

Existing Zoning: SR  
 Proposed Zoning: CR-5  
 Comprehensive Plan: MIU

### PROPOSED USE(S)

Single-Family Residential Subdivision (84 Lots)  
 Typical Lot Size: 55'x115' (6,325 SF)

### BUILDING HEIGHT

Maximum 34' Permitted; Project will contain both 1-Story and 2-Story Residences.

### ON-SITE STREETS

Proposed Right-of-Way Width: 50'  
 Travel Lanes: Two (2) 12' Lanes  
 Total Pavement Width: 36'  
 On-Street Parking: Allowed Both Sides  
 Sidewalks: 5' Sidewalks Both Sides

### PARKING

Parking will be in accordance with Section 18.75

### BUFFER YARDS

Bufferyard "A" required along Hardy frontage. Bufferyard "C" required along east and south boundaries.

### CONSERVATION LANDS SYSTEM (CLS)

Natural Open Space per this PDP: 9.2 AC

Jim Portner, Agent for Owner  
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EXHIBIT II-B.1a-p  
 PRELIMINARY DEVELOPMENT  
 PLAN  
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**C. TOPOGRAPHY & GRADING**

Please refer to Exhibit II.C.1-5 (Topography and Grading) for an illustration of the various grading and design features of the proposed development. In addition, the following required information is also provided:

**1. Development Features on Slopes of 15% or Greater**

There are no slopes greater than 15% located anywhere on the proposed development; no special measures are therefore necessary.

**2. Natural Areas Used for HDZ Allowances**

There are no areas being set aside as natural open space for average cross slope, HDZ calculation, or any other purposes on subject property.

**3. Mapped Areas & Associated Site Percentages**

The site is characterized by the following topography/grading facts:

a. Natural Open Space

More than thirty percent (30%) of the site will be natural open space.

b. Revegetated Areas

No revegetation areas are proposed for this project, other than the landscaping of the new residential lots and streetscapes throughout the subdivision.

c. Graded/Disturbed

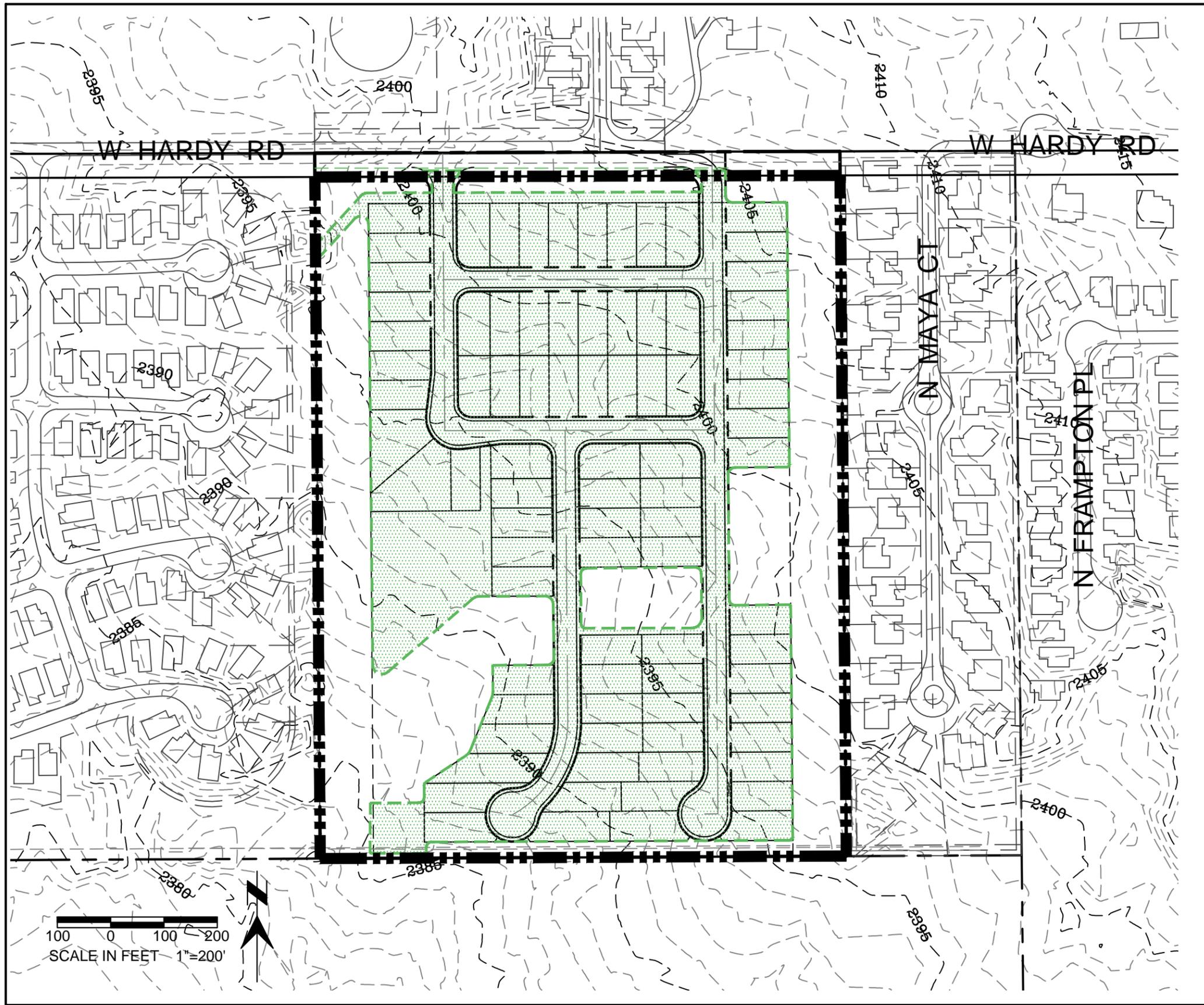
Owing to the significant amount of on-site set-aside areas devoted to riparian, habitat, and natural-drainage preservation, approximately one-third of the site will be preserved, while approximately two-thirds of it will be graded to accommodate the proposed subdivision lots and attendant streets.

**4. Maximum Grade Change; Areas By More than 5' of Cut or Fill**

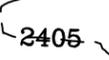
No areas of the site will be cut or filled more than 5' from existing grade.

**5. Engineering & Design Features for Cluster Projects**

Not applicable; this is not a Cluster Project.



**LEGEND**

-  PDP Boundary
-  Existing Condition Topographic Contour (1' Interval)
-  Approximate Limit of Grading

Jim Portner, Agent for Owner  
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**EXHIBIT II-C.1-5**  
 TOPOGRAPHY AND GRADING  
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## **D. HYDROLOGY**

The proposed subdivision will be a combination of natural area and developed area. The developed area will be mass-graded, as described in Section II.C.3.c (p. 54) and as illustrated on Exhibit II-C.1-5 (p. 55). Please refer to Exhibit II-D (Proposed Hydrology) in conjunction with the following:

### **1. PDP Design Response to Hydrologic Constraints**

A combination of natural open space and setbacks will be used to address surface drainage for this subdivision development. The wash traversing the property between CP-10 (105 cfs) and CP-9 (188 cfs) will largely remain in its natural condition. Encroachment into the wash will be minimized or wholly precluded. Bank protection/fortification will be installed along any building pads where encroachments into the 100-year floodplain or erosion setbacks might occur. Flows will be released along the downstream boundary at the same location, depth and velocity of the existing condition. An all-weather access crossing will be provided where a proposed subdivision street crosses this wash.

The wash entering the property at CP-11 (139 cfs) will be channelized within a stabilized, 20' wide open drainageway and then routed westward along the north side of the proposed subdivision lots in that area to CP-12. This new channel will wholly contain the CP-11 100-year flow and the adjacent lots will be protected/fortified accordingly so as to eliminate the erosion hazard setback. There is an existing drainage channel along the west boundary of the subject site (within the adjacent Sunnyvale subdivision) that is owned and maintained by Pima County. This channel will accept the CP-11 and CP-12 flows (a total of 402 cfs). Both CP-11 and CP-12 currently drain to this channel in their natural condition, as does CP-9. As such, all onsite and offsite storm water runoff will continue to be conveyed into this existing Pima County channel, the same way it is now. Capacity of the channel is assured, in that the post-development discharges from the proposed subdivision will not be increased over the existing condition. All flows ultimately discharge at the extreme southwest corner of the property at CP-20 (534 cfs).

Onsite detention volume will comply with critical-basin requirements and is estimated to be approximately three (3) acre-feet. At least two detention basins are anticipated.

### **2. Explanation of Encroachments (Floodplains, EHS's, etc.)**

The land use plan for this property provides open space along the primary wash corridor. Slope protection will be provided where limited, minor encroachments into the floodplain fringes or erosion setbacks may occur. Mitigation measures to address the impacts, wash stability and downstream conditions will not be required. Channelization is only proposed along one small wash (CP-11) having a 100-year discharge of 139 cfs. This flow is wide, shallow, and essentially sheet-flow in nature, thus inundating a large area of the property with only a marginally defined channel. An energy dissipater will be provided along the downstream boundary of this channel to mitigate increased velocities and to disperse flow.

All proposed channelization structures and floodplain encroachments will be in accordance with the Pima County Floodplain and Erosion Hazard Management Ordinance, as well as with all applicable Tech Policies.

**3. Post-Development Discharges and Nature of Flows**

Post-Development discharges flowing onto the property will not change as a result of this subdivision development. Post-Development discharges exiting the property will be detained accordingly (see Item #4 below) and will not increase over the existing condition. In many respect, the major offsite flows will essentially pass through the property within a natural channel, except as described above. Floodplain encroachments will be limited and be in full accordance with the Pima County Floodplain & Erosion Hazard Management Ordinance. These will not result in any increase in water surface elevation or flow velocity on adjoining properties.

Post-development onsite storm water runoff from developed areas will be conveyed to detention basins. Post-development discharges of onsite storm water runoff will be reduced to comply with critical-basin requirements. On-site detention basins will discharge to the wash exiting the property at CP-9. The existing-condition and post-project discharge at CP-9 is 188 cfs. The wash at CP-9 combines with the flows exiting the existing channel (along the west property line) at CP-20, for a total discharge of 534 cfs.

**4. Engineering & Design Features to Mitigate Drainage Impacts**

This project will provide on-site detention in accordance with Pima County Regional Flood Control District policies and standards. Stormwater flows will be detained as necessary to comply with Critical Basin standards. It is anticipated that detention will be provided within a series of on-site basins to be located in open space areas.

The post-development onsite drainage plan will also comply with first-flush retention requirements. This will be accomplished through the use of small water-harvesting basins through the landscaped areas, as well as within the detention basins to be located within the developed area. All building pads will be designed to be a minimum of one foot (1') above adjacent 100-year flood elevations as determined by detailed engineering calculations to be conducted in conjunction with the final drainage report.

**5. Conformance with Applicable Basin Management Policies**

On-site generated stormwater will be conveyed to the on-site detention areas via the interior street network and by storm drains (if necessary), scuppers, curb openings, etc. These features will be designed and detailed during the subdivision platting process. Unless exceptions are agreed upon during subdivision platting, on-site stormwater conveyance will adhere to current Pima County Regional Flood Control District development standards and applicable basin management plans.



## E. BIOLOGICAL RESOURCES

### 1. Description & Mapping of Expected Impacts

#### a. Conservation Lands System (CLS) Compliance

The entire site (slightly less than 30.0 AC) falls within the CLS *Multiple Use Management Area (MUMA)* category, including approximately 3.7 acres of underlying Xeroriparian Class “C” habitat. The entire site is also subject to the *Special Species Management Area (SSMA)* thresholds of the CLS.

The proposed Preliminary Development Plan (PDP) preserves approximately 9.2 acres of the *MUMA/SSMA*, including approximately 2.8 acres of the *MUMA* with underlying Xeroriparian Class “C” habitat. Per the conceptual framework plan approved with the site’s comprehensive plan amendment (Case No. Co7-13-06) and the rezoning policies adopted with same, this site will comply with the CLS through a program of on-site and off-site mitigation. Final figures and calculations for the above on-site set-asides, together with the specific off-site mitigation lands, will be detailed and finalized at the time of future subdivision platting.

#### b. Native Plant Preservation Ordinance (NPPO) Compliance

The project will demonstrate compliance with the Native Plant Preservation Ordinance (NPPO) at the time of future subdivision platting. Compliance will be achieved through the use of both on-site and off-site natural open space areas. Final NPPO inventories and mitigation calculations will be provided at the time of future platting.

#### c. Saguaros

A total of three hundred twenty-two (322) saguaros were found on the property, of which one hundred five (105) are located within the proposed preservation. Of these preserved specimens, forty-two (42) are six feet (6’) tall or less in height, fifty (50) are more than six feet (>6’) up to eighteen feet (18’) tall, and thirteen (13) are 18’ or taller. See Exhibit II-E.1.b

#### d. Ironwood Trees

There are a total of three hundred two (302) Ironwood trees on the subject property, some of which are non-viable. Approximately one hundred twenty-two (122) fall within the proposed on-site preservation areas. See Exhibit II-E.1.b.

#### e. Pima Pineapple Cactus

No (0) Pima Pineapple Cactus have been located on the property. The site is not a Priority Conservation Area (PCA) for this species.

f. Needle-Spined Pineapple Cactus

No (0) Needle Spined Pineapple Cactus have been located on the property. The site is not a Priority Conservation Area (PCA) for this species.

g. Other Areas of Significant or Particularly Important Vegetation

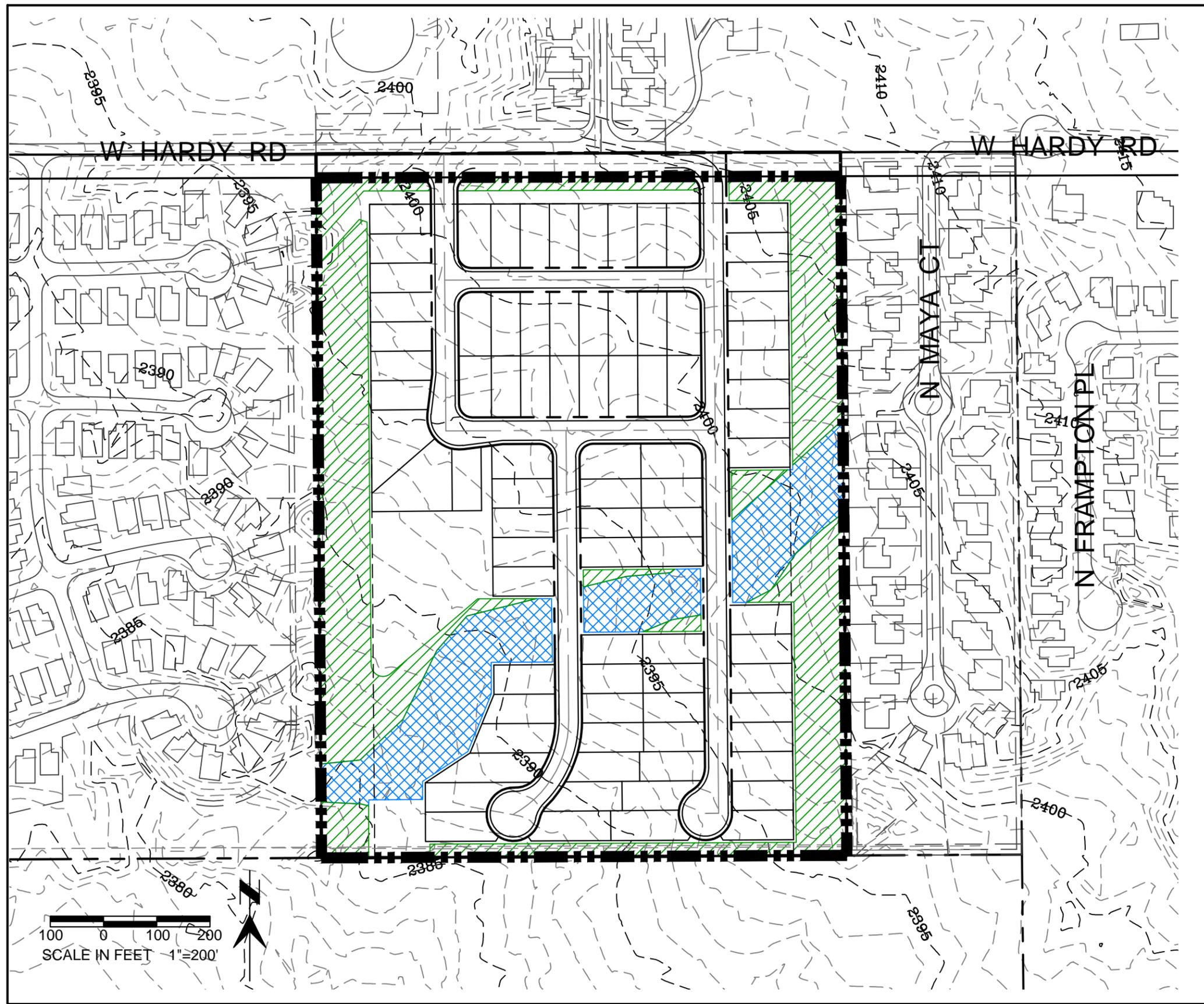
There are no other areas of significant or important vegetation on the site beyond the particulars provided above.

**2. Affect on CLS or Critical Landscape Linkages**

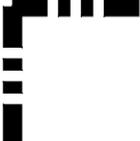
As mentioned earlier, there are no Critical Landscape Linkages in the vicinity of the rezoning site.

The project will fully comply with the applicable CLS preservation thresholds through a combination of on-site and off-site mitigation. Final figures and calculations for the satisfaction of these thresholds will be provided at the time of future subdivision platting.

**Exhibits to Follow**



**LEGEND**

-  PDP Boundary
  -  Preserved Multiple Use Management Area and Special Species Management Area with Underlying Xeroriparian "C" Area  
Approx. 2.8 AC
  -  Preserved Multiple Use Management Area and Special Species Management Area  
Approx. 6.4 AC
- Total On-Site Preservation:  
Approximately 9.2 AC

Jim Portner, Agent for Owner  
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**PROJECTS INTERNATIONAL, Inc.**  
 STRATEGIC GUIDANCE  
 ENTITLEMENT PROCESSES  
 LOCAL ADVICE & COUNSEL



**GRS**  
 LANDSCAPE ARCHITECTS, LLC

**Red Point Development, Inc.**  
 SOUTH SIDE HARDY RD, EAST OF THORNYDALE RD  
 (Ownership Entities: Hardy-Thornydale I Associates, Fidelity National Title Trust #10760)  
 REZONING: SR to CR-5

**EXHIBIT II-E.1a**  
 PIMA COUNTY CONSERVATION  
 LANDS SYSTEM  
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