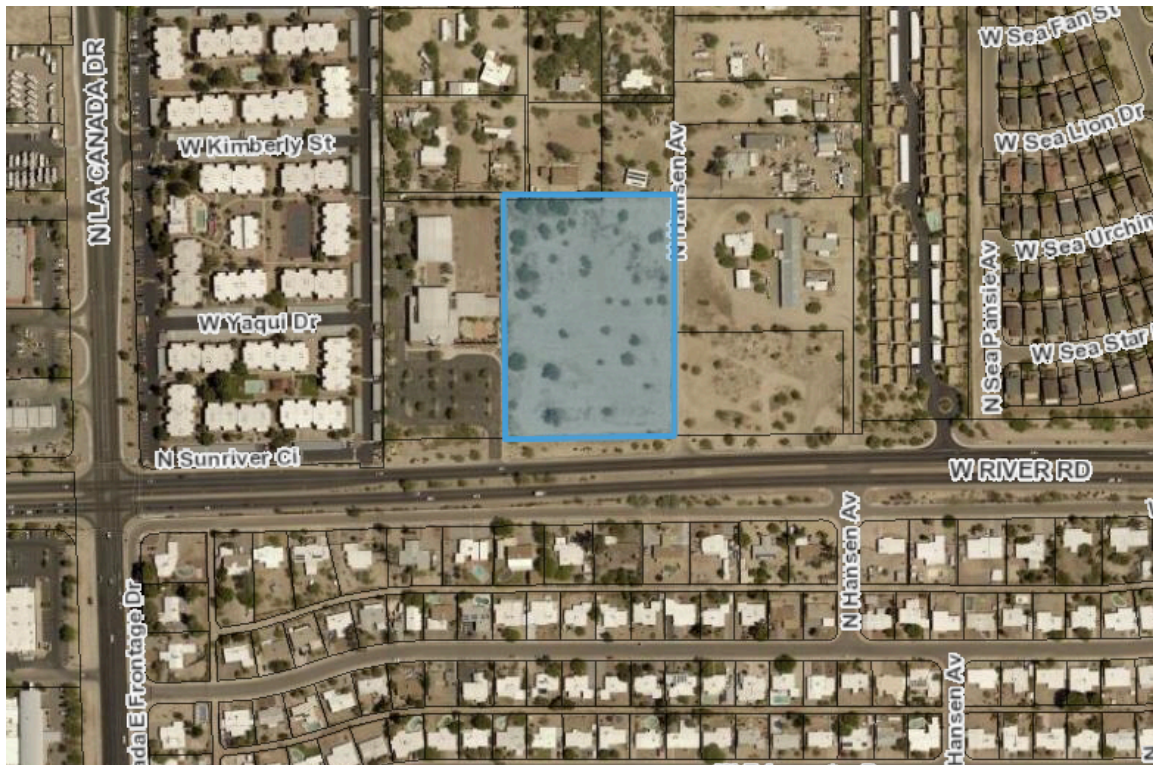

Planning & Zoning Commission Draft

P21RZ00005
Site Inventory & Land Use Proposal

**River Road east of La Canada Drive
(Rezoning Application from SH to TR)**



Property Owners:

**Pinetree Properties
c/o Lawrence Leung & Redpoint Development, Inc.**

Pima County Case No. P21RZ00005

May, 2021

P21RZ00005
Pinetree Properties
River Road Rezoning

Rezoning Request from SH to TR
Pima County, Arizona

Submitted to:

Pima County Development Services Department
Planning Division
201 N. Stone Avenue – 2nd Floor
Tucson, Arizona 85701

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May, 2021

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SECTION I:
Site Inventory

A. EXISTING LAND USES

1. Site Location and Regional Context

The subject rezoning property is a portion of the SW $\frac{1}{4}$ of Section 14, T13S, R13E, and is more particularly located on the north side of River Road, approximately one-quarter mile east of La Canada Drive. The rezoning site consists of one (1) parcel (Assessors Tax Code No. 105-07-016E) and comprises 5.6 acres in gross area.

The property sits within the well-established and urbanized River Road corridor, which is a major east-west arterial and a designated “Major Street” on the *Pima County Major Streets & Routes Plan (MSRP)*. Medium to high-density residential uses are in close proximity to the west, south and east, and long-standing commercial/retail and other non-residential uses populate the corridor, especially at its major street intersections.

In addition to these highly urbanized characteristics, the immediate site context also features a handful of unsubdivided, residentially-zoned properties (mostly occupied, some vacant) to the immediate north, northeast and east. Protective setbacks and buffer elements are incorporated into the project’s *Preliminary Development Plan (PDP)*, presented in Section II.B of this Site Analysis, so as to appropriately respect these lower-density properties.

2. Existing On-Site Land Uses

The Tucson Chinese Cultural Center abuts the site to the west and has apparently used the subject property on occasion for overflow and/or event parking. As a result, the site has generally been cleared and only a handful of desert tree specimens and small areas of scrub vegetation remain.

3. Existing Easements or Encumbrances

Fidelity National Title Report No. AZ-FCOP-IMP-N/A-120.51011596, dated September 23, 2020 lists no Schedule “B” items that impact the subject property or otherwise constrain its development. The Schedule “B” items listed pertain to:

- an archaic federal government patent, a mortgage deed, a 20’ x 20’ electrical easement that lies outside the subject property,
- a resolution for the Department of Interior to route a regional electric transmission line along and across various Pima County public roads (including a nearby portion of River Road), and
- a non-exclusive right-of-way easement (off-site to the subject property) for a fiber optics communication line.

None of the above constrains the subject property nor in any way limits or hampers its development as intended.

The provision of new easements with all servicing utility companies will be negotiated and arranged at the time of final engineering and can be considered routine.

4. Comprehensive Plan (Pima Prospers) Designations

The rezoning site is designated as *High Intensity Urban (HIU)* by Pima Prospers. The surrounding properties are designated as follows:

To the North:	LIU 1.2
To the South:	HIU and MLIU
To the East:	HIU
To the West:	HIU and NAC

No (0) rezoning or special-area policies apply to this rezoning site.

5. Surrounding Land Uses

The properties surrounding the subject site are a mixture of developed residential and vacant land:

To the North:	Unsubdivided residential properties (combination of manufactured and site-built homes)
To the South:	Developed/platted residential subdivision
To the East:	Unsubdivided properties (one with an existing residence, one which is vacant), further east are rental apartments
To the West:	Tucson Chinese Cultural Center; beyond that is a rental-home complex and then a neighborhood shopping center

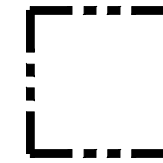
6. Pending Rezonings, Plats & Development Plans

The 2.05-acre property abutting to the immediate east (and fronting on River Road) was conditionally rezoned to TR under Case No. Co9-99-43. The original approval was for a garden office project. On August 26, 2020, modifications to this rezoning were approved by the Board of Supervisors, at the owner/applicant's request, to now proceed with a multi-family townhome development.

Exhibit To Follow



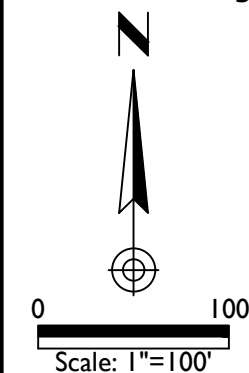
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Rezoning Site

EASEMENT NOTES:

1. Fidelity National Title Report No. AZ-FCOP-IMP-N/A-120.51011596, dated September 23, 2020 lists no Schedule "B" items that impact the subject property or otherwise constrain its development.
2. Those Schedule "B" items listed pertain to an archaic federal government patent, a mortgage deed, a 20' x 20' electrical easement that lies outside the subject property, a resolution for the Department of Interior to route a regional electric transmission line along and across various Pima County public roads (including a nearby portion of River Road), and a non-exclusive right-of-way easement (off-site to the subject property) for a fiber optics communication line.
3. No Schedule "B" items constrain the subject property nor in any way limit or hamper its development as intended.
4. The routine provision of new easements with all servicing utility companies will be negotiated and arranged at the time of final engineering.



B. TOPOGRAPHY & GRADING

1. Topographic Characteristics

The rezoning site is, for all intents and purposes, flat. It slopes generally (and minimally) from south to north, falling approximately three feet (3') over its entire length.

See Exhibit I-B for existing conditions contours and topographic features.

a. Restricted Peaks & Ridges

There are no restricted peaks or ridges on the property.

b. Rock Outcroppings, etc.

There are no rock outcroppings, etc. on the subject property.

c. Slope of 15% or Greater

The project site contains no slopes of fifteen percent (15%) or greater that are both longer than fifty feet (50'), when measured in any horizontal direction, and higher than seven and one half feet (7.5') when measured vertically.

d. Other Significant Topographic Features

There are no other significant or remarkable topographic features.

e. Existing Grading and/or Ground Disturbance

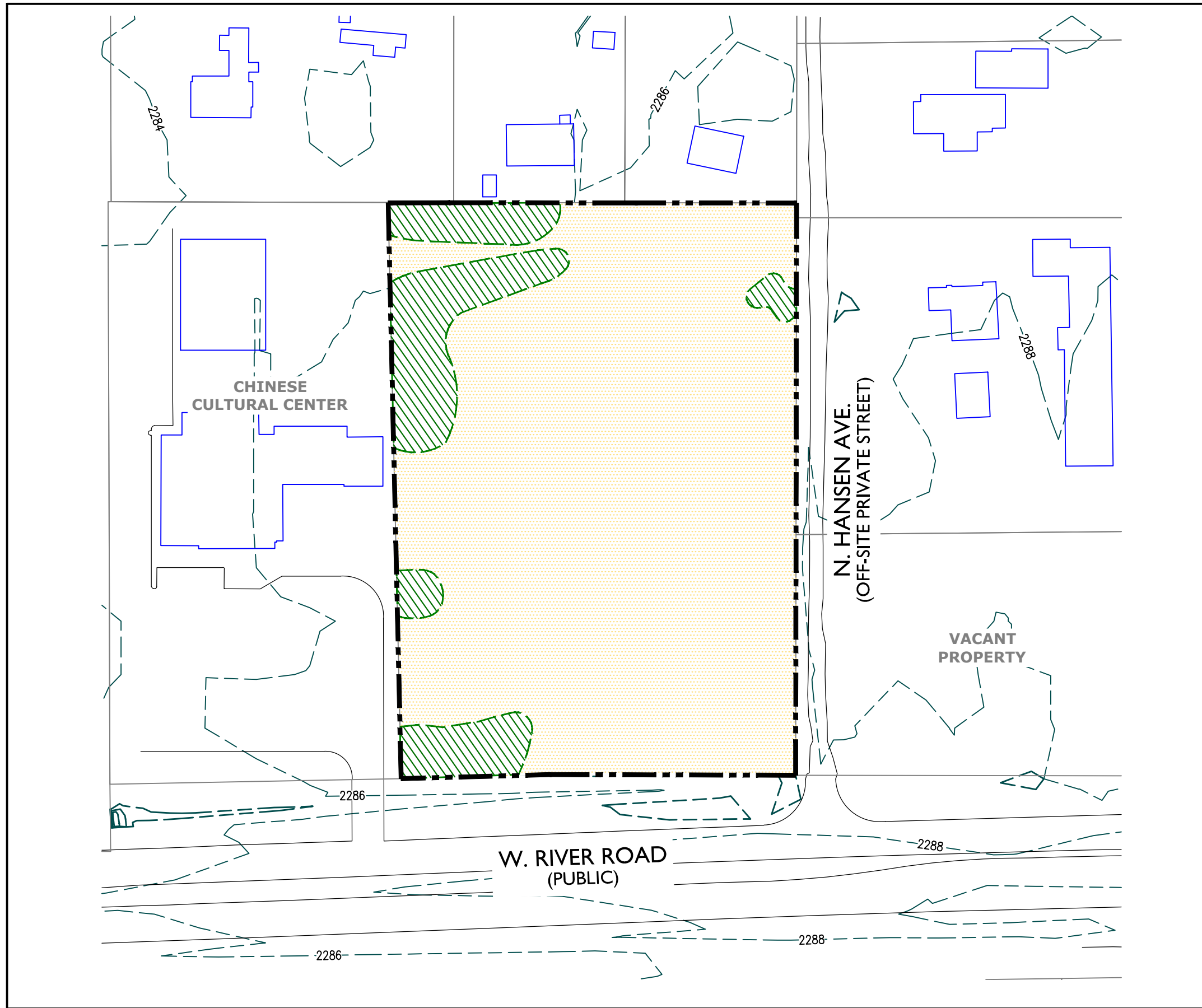
The site has been significantly impacted by past usage and evidences substantial ground disturbance. The Tucson Chinese Cultural Center abuts the site to the immediate west and has used the subject property, on occasion, for overflow and/or event parking. This usage has resulted in surface impact only; no grading of any kind was done.

2. Pre-Development Average Cross-Slope

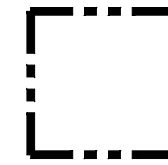
The average cross-slope calculation for the subject property, in accordance with Chapter 18.61 (Hillside Development Zone), is as follows:

$$\frac{(1' \text{ Contour Interval}) \times (1,650 \text{ Total Length of Contours}) \times (0.0023 \text{ Conversion})}{(5.6 \text{ AC Total Site Area})}$$

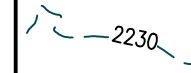
The resultant Average Cross Slope (ACS) = 0.68%.



LEGEND



Subject property



Existing Condition Topographic Contour (2' Interval)



Existing Ground Disturbance (apparently for use as overflow parking during Chinese Cultural Center special events)



Areas where the understory has been cleared, but which still contain some native tree materials



Existing Buildings

Average Cross Slope = 0.68%

(I) Contour Interval = 1'

(L) Contour Length = 1,650 LF

(A) Parcel Area = 5.60 acres

Source Topography: Pima Association of Governments (2015)



0 100
Scale: 1"=100'

C. HYDROLOGY

EPS Group, Inc. has completed a preliminary drainage assessment for the subject property (Assessors Parcel No. 105-07-016E) in accordance with the County's adopted Site Analysis guidelines. The findings of same are presented below.

1. Off-Site Watersheds & Hydrology

Exhibit I-C.1 illustrates the single off-site watershed draining into the subject property, along with its respective point of concentration, and provides a Summary Table indicating its drainage area and 100-year discharge. The upstream watershed is localized and limited in size within the adjacent properties to the east. This watershed enters the subject site via surface flow on its east property line.

2. On-Site Hydrology

The rezoning site consists of former natural desert that has been almost entirely disturbed; it has no existing drainage improvements. Refer to Exhibit I-C.2 in support of the following:

a. Flood Control Resources.

Flood control resources used to prepare this report include topography from PAG, the Pima County Regional Flood Control District website, Pima County MapGuide (GIS), City of Tucson Drainage Manual, and the FEMA Maps website.

Hydrologic Computation Procedures. The Pima County hydrologic computation procedure, as presented within the "PC-HYDRO User Guide" (Arroyo Engineering, March 2007), was used to compute the peak discharges. PC-Hydro, Version 7.1, was used to estimate the flows affecting this site. PC-Hydro is a web-based computer program developed per the Pima County Hydrology Procedures, which uses a Rational Method based algorithm and utilizes rainfall depth information from the intensity-duration-frequency data from NOAA Precipitation Atlas 14 of the Western United States (Volume I, Version 4, NOAA National Weather Service, Silver Spring, Maryland; G. M. Bonnin, et al., 2006). Specific watershed parameters were estimated per the Pima County Hydrology Procedures and based on local topography, recent aerial photography, and field verification.

Hydrologic soil groups (HSG) for the existing and proposed condition drainage areas were determined from the Pima County Mapguide Map, which is a GIS system that includes various digital mapping layers for Pima County, Arizona. Soils information for this report is based off of the NRCS (Natural Resources Conservation Services) line work within Pima County Mapguide Map, effective October 1, 2016.

PC-Hydro computations, similar to the Rational Method, assume that rainfall is uniformly distributed over the entire watershed, uniform rainfall intensity occurs with a duration of at least the time of concentration, the peak rate of runoff is proportional to rainfall intensity and rainfall depth averaged over the time period is equal to the time of concentration, the return period of the runoff event is the same as the return period of the precipitation event, and that channel storage is negligible. It is noted that the Pima County Hydrology Procedure as presented in PC-Hydro can be used for watersheds up to 10 square miles, with further notation that it tends to be valid for watersheds with homogenous areas up to 1 square mile (Arroyo Engineering, March 2007).

b. Concentration Points & 100-year Discharges

The existing on-site site watersheds were divided into two (2) areas, annotated as EON-1, and EON-2 on Exhibit I-C.2, with their respective areas and discharge rates shown in Table 1 below.

Table 1: Existing Conditions Onsite 100-year Hydrology Results							
Drainage Area ID	Watershed Area (acres)	Conc. Point	Cw	Tc (min)	i (in/hr)	q (in/hr)	Q (CFS)
EON-1	4.00	-	0.45	7.7	8.58	3.88	15.7
EON-2	0.62	CPX-2	0.45	5.0	10.32	4.67	2.9
EON-1, OFF-1,	6.75	CPX-1	0.48	8.2	8.41	4.03	27.4

* Figures shown above in green shading reflect onsite drainage contribution only

Concentration Point CPX-1 represents the point discharge where onsite watershed EON-1 and offsite watershed OFF-1 exit the site to the north. Concentration point CPX-2 represents the discharge where the onsite watershed EON-2 exits the site along the south boundary of the site. The above Table includes both the on-site portion of this discharge, as well as the combined on-site and upstream/offsite (OFF-1) drainage area and contributing discharge.

c. FEMA-Designated Floodplains.

The project area is covered in FEMA FIRM Panel 1686, Map Number 04019C1686L, with a revision date of June 16, 2011. As shown on the map, the project site is within Zone "X", which classifies an area of 0.2% annual chance of flood, areas of 1% annual chance flood with average depths of less than 1 foot, or with drainage areas less than 1 square mile; together with areas protected by levees from 1% annual chance of flood.

d. Regulatory Floodplain Delineations.

No regulatory floodplains affect this site; all flows are less than 100 cfs.

- e. Determination of Regulatory Sheet Flood Areas.
No regulatory sheet flood areas affect this site.
- f. Lakes, Ponds, Wetlands, etc.
There are no lakes, ponds, wetlands, springs, or other sources of perennial surface water on this site.
- g. Erosion Hazard Setbacks (EHS)
No Erosion hazard setbacks (EHS's) impact this site.
- h. Pima County Regulated Habitat
There are no Pima County Regulated Riparian Habitat areas within the project site.
- i. Flow Arrows for Non-regulatory Flows
Directional surface-flow arrows are provided on Exhibit I-C.2.
- j. Existing Drainage Easements.
There are no established or recorded drainage easements on this site.
- k. Existing Drainage Infrastructure.
The only existing drainage infrastructure in place lies off-site of the subject property and is comprised of a downstream drainage swale located within the River Road north right-of-way.

3. Hydrology

The subject property is disturbed (former natural) desert, wherein the entire understory of vegetation has already been removed and only a handful of desert trees remain (the property has been used for overflow parking for special events at the neighboring Chinese Cultural Center). The existing site drainage is nominal, with all flows impacting the property being less than 100 cfs in the 100-year event. Thus, there are no regulatory floodplains or erosion-hazard setbacks on the rezoning site. Refer to Exhibit I-C.2 for the following:

- a. Features of the Watersheds That May be Affected.
The subject property is currently composed of undeveloped land. Vegetation across the site is composed of small number of desert trees, with an approximate canopy-cover density of 20%. Soils across the site are comprised of two soil types: 1) Anthony sandy loam complex

soils with 0 – 1 percent slopes, which is classified as hydrologic soil group (HSG) A; and 2) Grabe loam, which are classified as hydrologic soil group (HSG) B.

Rainfall runoff enters the subject property from the east adjacent (vacant) parcel, crosses N. Hansen Avenue. The majority of this flow then exits the subject property to the north. A small portion of the on-site runoff conveys south to an existing drainage swale located within the River Road right-of way.

The existing on-site drainage of the subject property is divided into two (2) watersheds (see Exhibit I-C.2). The northern watershed drains to the north and discharges at along the north boundary of the site into the adjacent residential properties. The remaining, smaller watershed area drains to the south and also discharges at the south boundary into an existing drainage swale located within the River Road right-of-way.

Per the Pima County Regional Flood Control District (PCRFCD) *Critical Basins within Unincorporated Pima County Map* with an effective date of 3/15/2007, the subject property does not lie within a critical basin. As such, and as a requirement of the current PCRFCD Design Standards for Stormwater Detention and Retention, new developments must demonstrate appropriate measures to reduce post-development runoff rates to the existing pre-developed peak discharge rates at the project boundaries for the 2-, 10-, and 100-year storm runoff events.

Per the *Preliminary Development Plan (PDP)* presented for this rezoning in Section II-B of this Site Analysis, retention/detention basins are proposed for this subdivision as a method to reduce post-development peak discharge rates per the above Pima County design standards. The retention/detention basins will be equipped with storage volume and outlet structures consisting of appropriate weir/pipe outlet configurations so as to achieve the appropriate site outfall discharge rates.

b. Acreages and 100-year Peak Discharges of Upstream Watersheds.

The boundary of the offsite watershed contributing rainfall runoff to the subject site is shown on Exhibit I-C.1. The offsite watershed affecting this site parcel extends to the east and is relatively small in area.

Upstream Drainage Areas OFF-1. This watershed drains to the site's east property boundary as sheet flow across N. Hansen Avenue. The watershed area is approximately 2.75 AC in size, with soils composed of Anthony sandy loam complex soils with 0 – 1 percent slopes, which is classified as hydrologic soil group (HSG) A, and Grabe loam, which are classified as hydrologic soil group (HSG) B.

Refer to Table 2 below for the upstream/offsite drainage hydrology:

Table 2: Offsite 100-year Hydrology Results							
Drainage Area ID	Watershed Area (acres)	Conc. Point	Cw	Tc (min)	i (in/hr)	q (in/hr)	Q (CFS)
OFF-1	2.75	CP01	0.50	6.0	9.51	4.75	13.2

- c. Methodology Used to Determine EHS's.

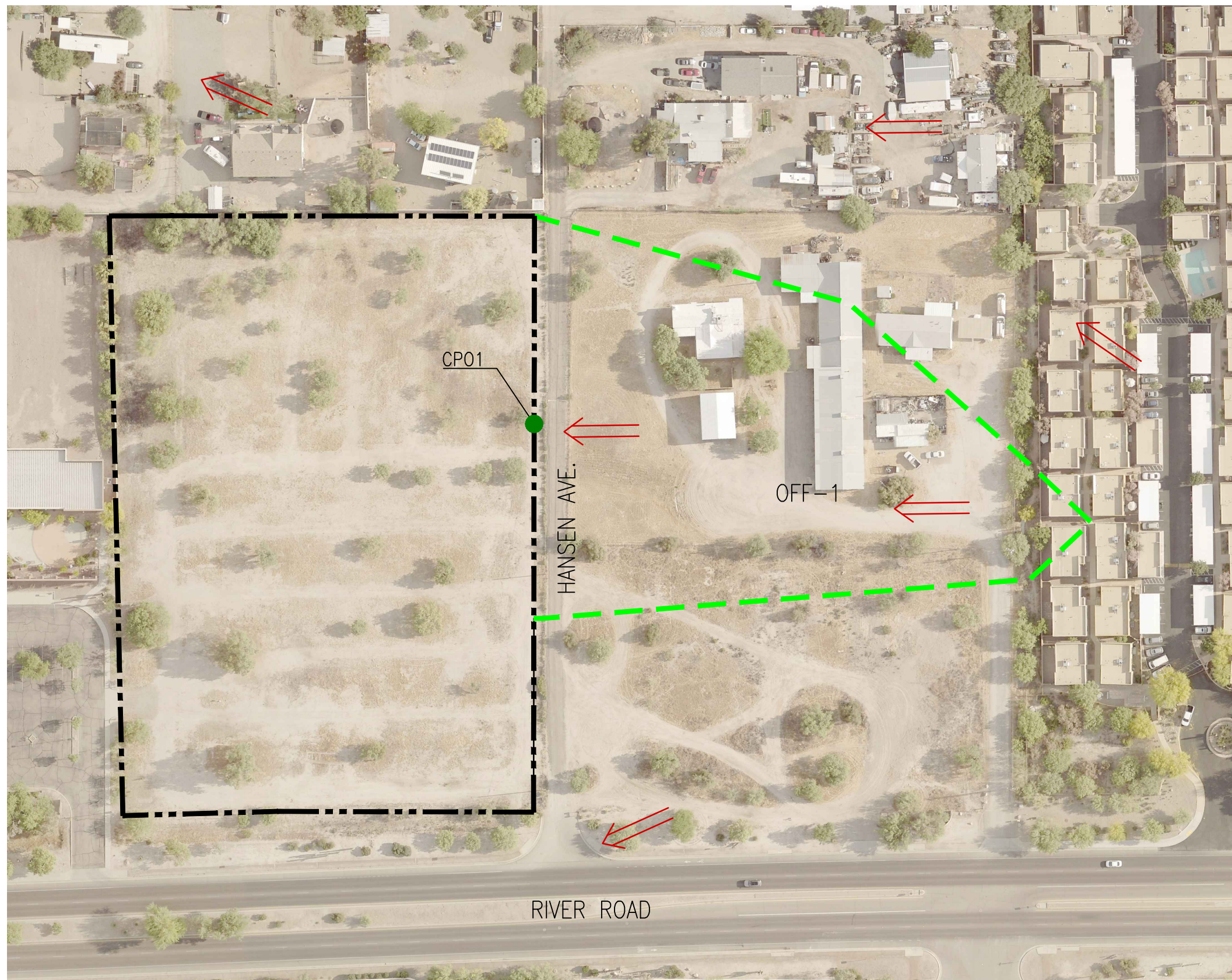
No Erosion hazard setbacks impact this site.

- d. Methodology Used to Determine 100-year Floodplains.

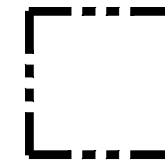
No regulatory flood areas impact this site; all flows are less than 100 cfs in the 100-year condition.

Exhibits to Follow

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LEGEND



Rezoning Site



Offsite Watershed Boundary



Direction of Primary Flow

OFF-1

Existing Off-Site Drainage Areas
(Refer to site analysis text)



CP01

Existing Off-Site Concentration
point (Refer to site analysis
text)

Off-Site Concentration Points Table		
Concentration Point	Area (Ac)	Q100 Existing Site (Cfs)
CP01	2.75	13.2



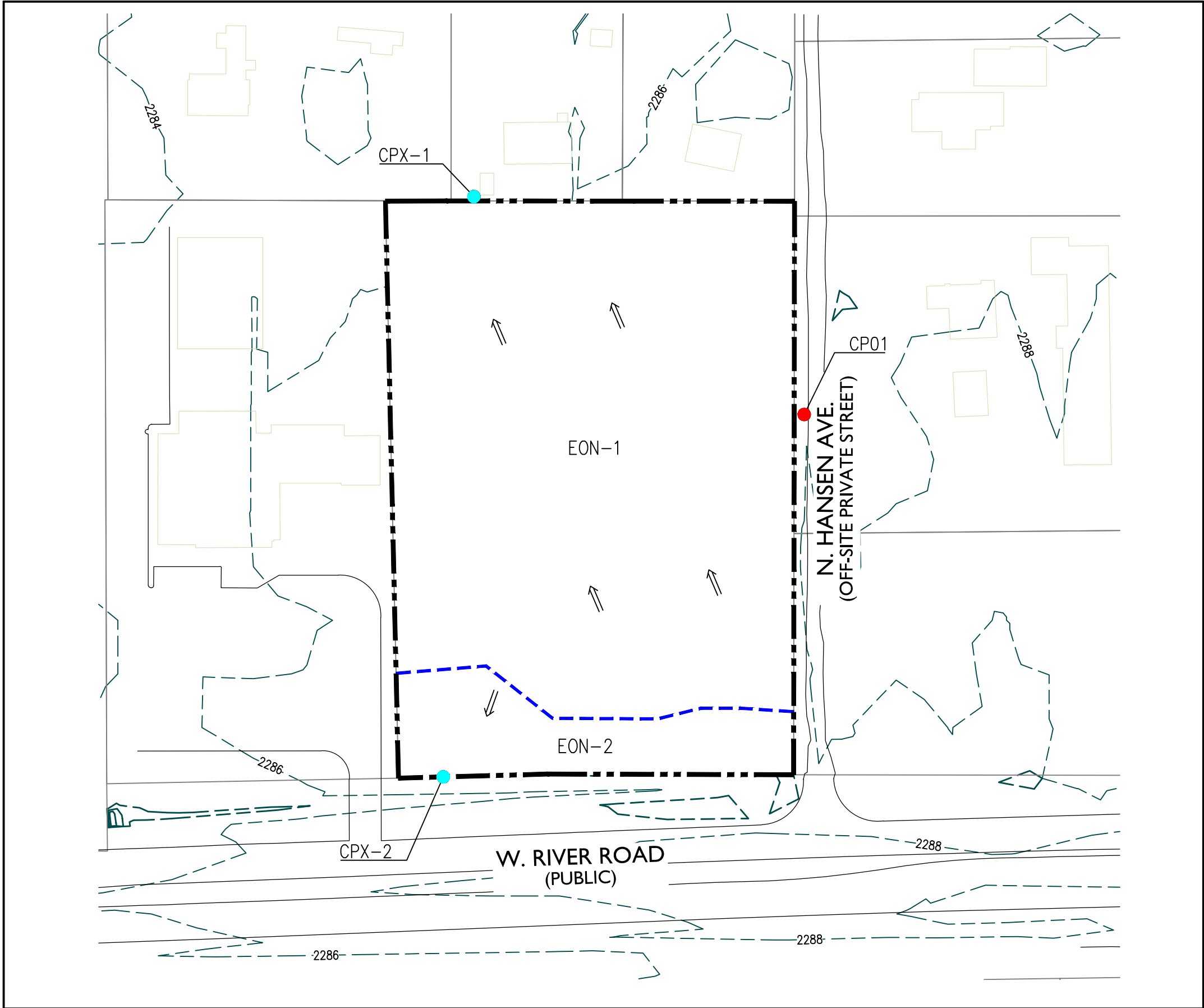
0 100
Scale: 1"=100'

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



RED POINT DEVELOPMENT
4.62 ACRE PARCEL @ NORTHWEST CORNER OF W. RIVER RD. & N. HANSEN AVE.
(OWNERSHIP: PINETREE PROPERTIES)
REZONING: SH TO TR

EXHIBIT I-C.1
OFF-SITE HYDROLOGY



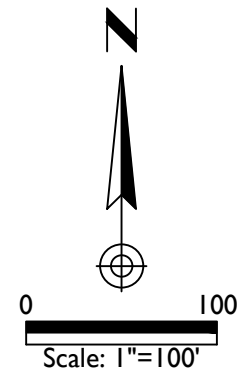
LEGEND

- Rezoning Site
- Existing Condition Topographic Contour (2' Interval)
- On-site Watershed/Drainage area boundaries
- Direction of Surface Flow
- Existing On-Site Drainage Area Label (see Site Analysis text)
- CPX1 Existing On-Site Concentration Point
- CP01 Existing Off-Site Concentration Point (Refer to Exhibit I-C.1)

On-Site Concentration Points Table

Concentration Point	Area (Ac)	Q100 Existing Site (Cfs)*
EON-1	4.00	15.7
EON-2 (CPX-2)	0.62	2.9
CPX-1(EON-1, OFF-2)	6.75	27.4

* Figures reflect on-site contribution only.



D. BIOLOGICAL RESOURCES

1. Conservation Lands System

The entire site falls outside of the Maeveen Marie Behan Conservation Lands System (MMBCLS). Essentially the entire ground surface and understory of the site has been cleared and/or disturbed.

2. Priority Conservation Areas

There are no Critical Landscape Linkages on or near this property.

a. Pima Pineapple Cactus

No portion of the site is designated as Priority Conservation Area (PCA) for the Pima Pineapple cactus.

b. Needle-Spined Pineapple Cactus

No portion of the site is designated as Priority Conservation Area (PCA) for the Needle-Spine Pineapple Cactus.

c. Cactus Ferruginous Pygmy Owl and Burrowing Owl

No portion of the site is designated as part of a Priority Conservation Area (PCA) for the Cactus Ferruginous Pygmy Owl or for the Burrowing Owl.

3. Saguaro and Ironwoods Inventory

The site was field-surveyed for saguaros and ironwood trees. None (0) exist on the property.

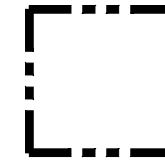
The only regulated native plant species on this property are palo verdes (*Cercidium floridum*), of which there are fourteen (14), and mesquites (*Prosopis velutina*), of which there are thirty-five (35). These will be assessed for salvage and reuse on the property within future perimeter buffers and landscape areas, and will be dealt with on the Native Plant Preservation Plan (NPPP) provided at the time of future development plan/subdivision plat.

4. Habitat Protection/Community Open Space

This property has never been identified by Pima County for acquisition under its habitat protection and community open space program. For all intents and purposes, this property possesses no habitat or environmental value.



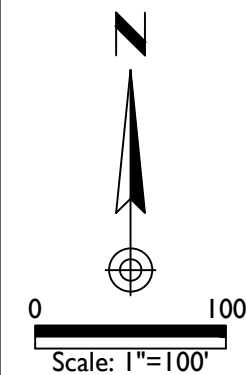
LEGEND



Rezoning Site

NOTES:

1. No Saguaros exist on this property.
2. No Ironwood trees exist on this property.
3. The only regulated species on this property are mesquites and palo verdes. These will be dealt with on the Native plant preservation plan.



E. TRANSPORTATION

The subject property is located on River Road, between La Canada Drive and Oracle Road, both of which are signalized intersections. River Road is a designated “major street” and “scenic route” on the *Pima County Major Streets & Scenic Routes Plan (MSSRP)*.

Please refer to Exhibit I-E.1 and Table 1 below for public streets within one (1) mile of the subject property. The following MSRP particulars pertain to these streets:

- River Road is classified as a “medium volume arterial” with an MSRP right-of-way width of 150’.
- Oracle Road is classified as a “high volume arterial” with a 200’ ultimate right-of-way.
- La Canada Drive is classified as a “medium volume arterial” with an MSRP right-of-way width of 150’.
- Flowing Wells Road is classified as a “medium volume arterial” with a 150’ ultimate right-of-way.
- Wetmore Road is classified as a “medium volume arterial” with a 150’ ultimate right-of-way.

Important Note: N. Hansen Avenue lies parallel to the rezoning site’s east property line. However, this private street lies totally off-site of the subject property. There has been some confusion on this point, in that some prior survey drawings incorrectly show curb returns on River Road for this private street centered on our east property line, as though N. Hansen Avenue is effectively “split” between this rezoning site and the adjacent parcels to the east. This is not true. Past surveys showing same have an underlying survey bust that caused them to incorrectly locate a nearby quarter-section corner in River Road. **To reiterate: N. Hansen Avenue lies totally off-site to this rezoning. It will not be used for access to this proposed project.**

1. Existing & Proposed Off-Site Streets

a. Existing Rights-of-Way

Existing right-of-way widths are as follows: 1) River Road, along the immediate project frontage, is two hundred feet (200’), but varies from 135’ to 200’ within the corridor; 2) La Canada Drive is one hundred fifty feet (150’) north of and immediately south of River Road; 3) Flowing Wells Road is one hundred fifty feet (150’) immediately south of River Road, then narrows to seventy-five feet (75’); 4) Wetmore Road is irregular and varies from sixty feet (60’) to one hundred fifty feet (150’) west of Flowing Wells, and from one hundred feet (100’) to one hundred thirty-five feet (135’) east of Flowing Wells; and 5) Oracle Road is two hundred feet (200’) wide.

b. Number of Travel Lanes, Capacity & Posted Speed Limits

River Road, La Canada Drive, Flowing Wells (south of River Road) and Wetmore Road are four-lane divided urban roadways. River Road and the portion of La Canada Drive north of River Road have raised medians. The posted speed limit of River Road, La Canada Drive and Flowing Wells is 40 MPH.

Oracle Road is a six-lane divided urban roadway with a posted speed limit of 45 MPH north of River Road and 40 MPH south of River Road.

With respect to capacity, River Road, La Canada Drive and the northernmost segment of Flowing Wells Road are Class I (40 MPH or greater, signalized) four-lane urban roadways with a calculated capacity of 37,900 daily trips (ADT) for Level of Service (LOS) "C" and 39,800 daily trips for LOS "D". This classification and the ADT figures are based upon the 2013 Florida Department of Transportation *Quality/Level of Service Handbook*, which is generally accepted by Pima County DOT as an industry standard.

Oracle Road is a Class I six-lane urban roadway per the *(QLOS) Handbook* (as well as being designated ADOT State Route 77), with a calculated capacity of 58,400 daily trips (ADT) for Level of Service (LOS) "C" and 59,900 daily trips for LOS "D".

c. Present Average Daily Trips (ADT)

Per the Preliminary Development Plan (PDP) presented in Section II.B of this Site Analysis, the proposed residential subdivision will generate less than 10,000 new vehicle trips. As such, Table 3 below provides the existing ADT volumes for those major streets within one (1) mile of the property.

Table to Follow

TABLE 3: ADT VOLUMES FOR MAJOR STREETS WITHIN ONE (1) MILE	
Street Name	Average Daily Trip (ADT) Volume
River Road	33,400 (La Canada Drive to Oracle Road)
Oracle Road *	42,364 (Wetmore Road to River Road) 30,500 (River Road to Orange Grover Road)
La Canada Drive	15,909 (Edgewater Dr. to Orange Grove Rd.)
Flowing Wells Road	21,602 (Wetmore Road to Mohawk Drive)
Wetmore Road	23,015 (West of Flowing Wells Road) 24,147 (East of Flowing Wells Road)

- counts provided for Oracle Road are per Arizona Department of Transportation (ADOT) Annual Average Daily Traffic Report (AADT) 2018

d. Existing Bicycle & Pedestrian Ways

River Road, La Canada Drive, and the northernmost segment of Flowing Wells Road have striped multi-use/bike lanes within their roadway prism on both sides of the street. La Canada/Flowing Wells have 5' concrete sidewalks on both side of the street. Instead of concrete sidewalks, River Road features a hardened, meandering five foot (5') wide pedestrian path on both sides of the street

e. Public Roadway Improvements Underway or Planned

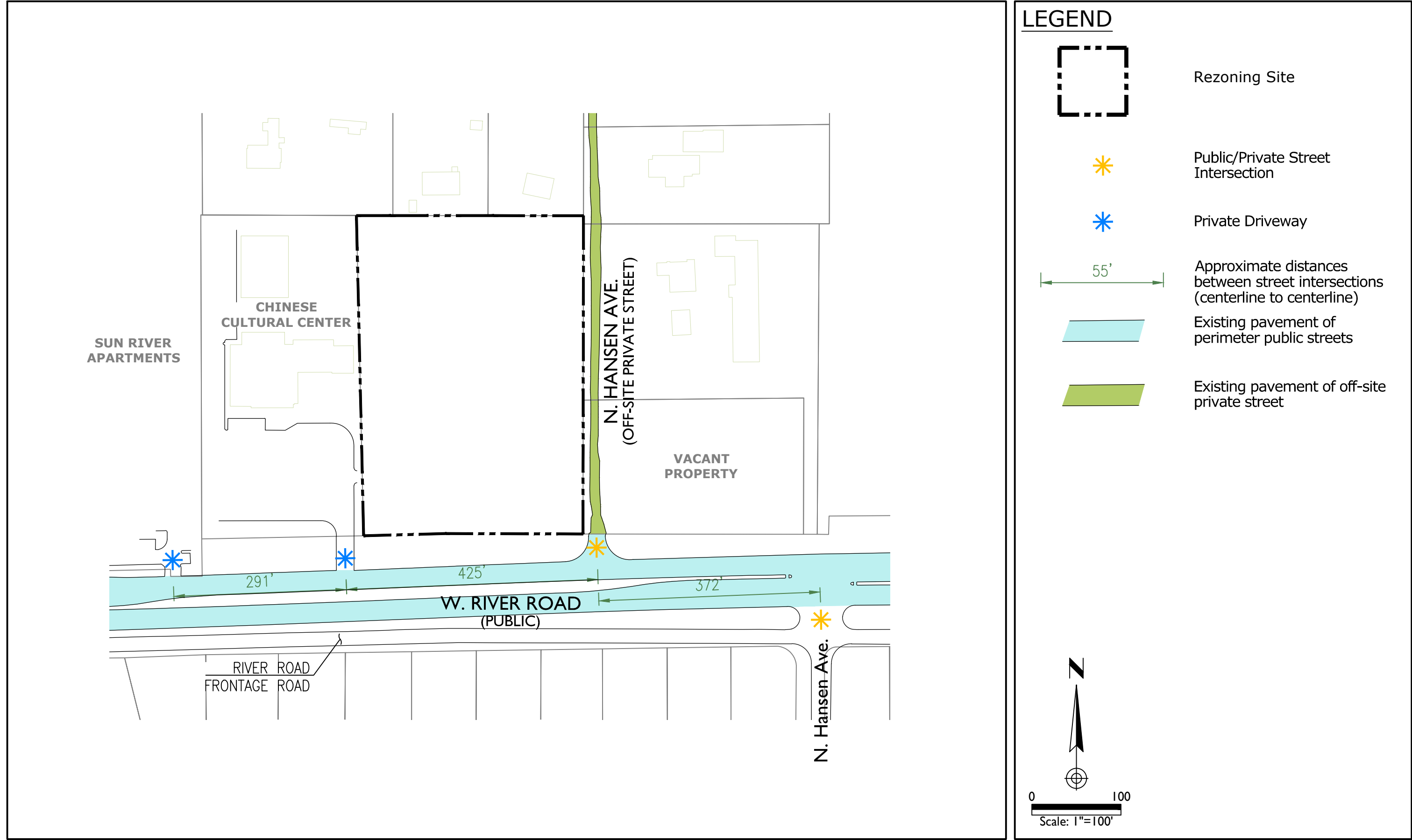
The only planned roadway improvements in the area are proceeding per the Arizona Department of Transportation (ADOT) and pertain to Oracle Road. These comprise the complete repaving of several miles of this State Route, including that in the vicinity of River Road.

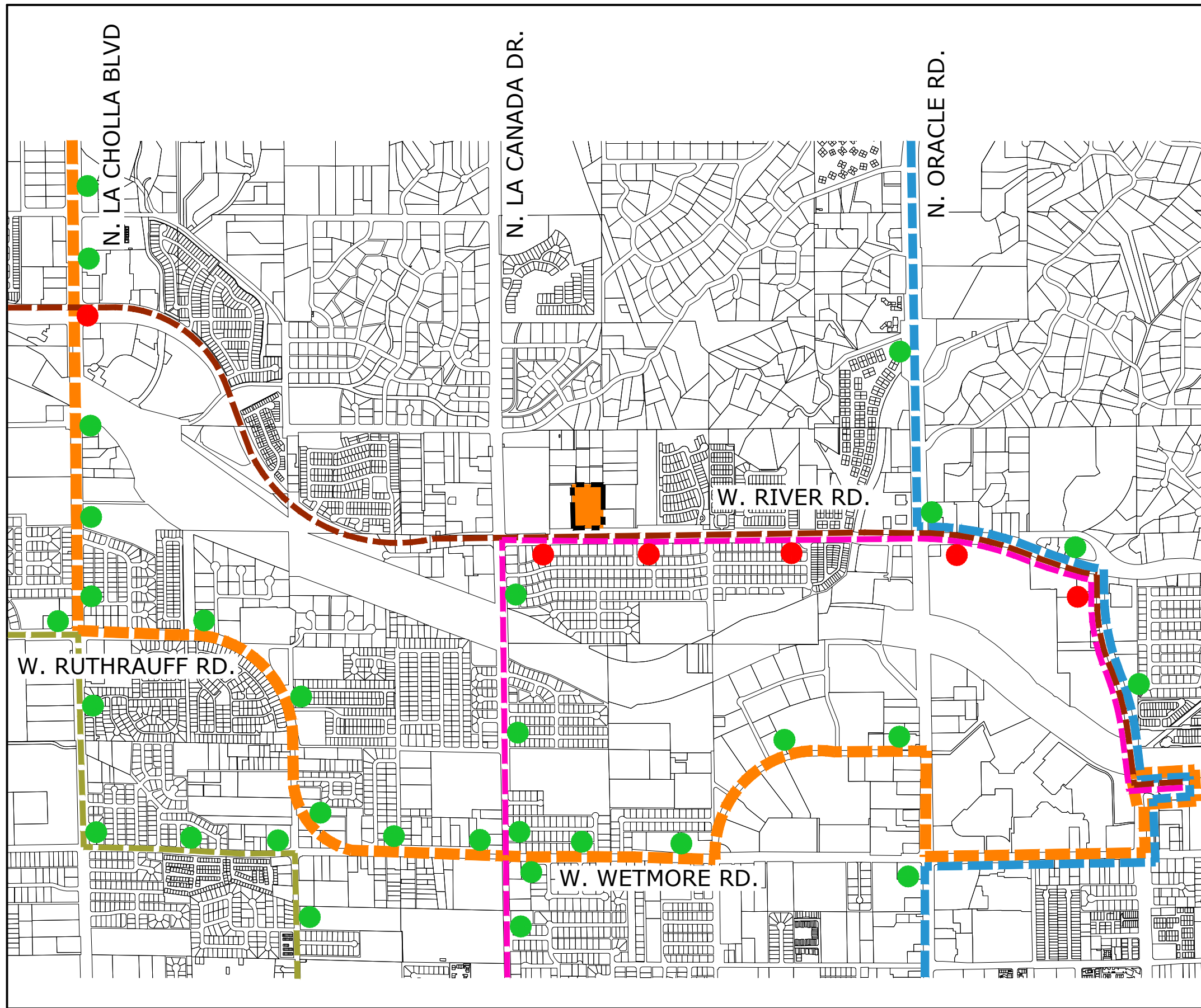
2. Distances from Site to Existing Nearby Driveways & Intersections

Nearby paved driveways and public street intersections in the vicinity of the subject property have been illustrated on Exhibit I-E.1 (Adjacent Driveways & Street Intersections).

3. Existing & Planned Transit Routes

There are several existing Sun Tran routes operating along River Road and within the surrounding area; these have been illustrated on Exhibit I-E.2.












LEGEND

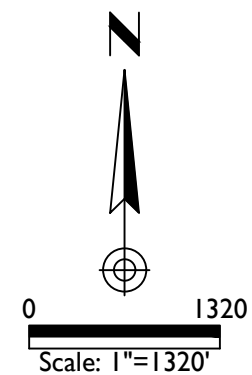


Rezoning Site

SunTran Regular and Sun Shuttle Routes

-  #61 La Cholla
-  #16 Oracle/Ina
-  #10 Flowing Wells
-  #412 Thornydale/River
-  #17 Country Club/29Th St.
-  Sun Shuttle Stops
-  Full Bus Stops & Sun Shuttle Stops

Source Mapping: SunTran System Map



F. SEWERS

1. Size & Location of Existing Sewers

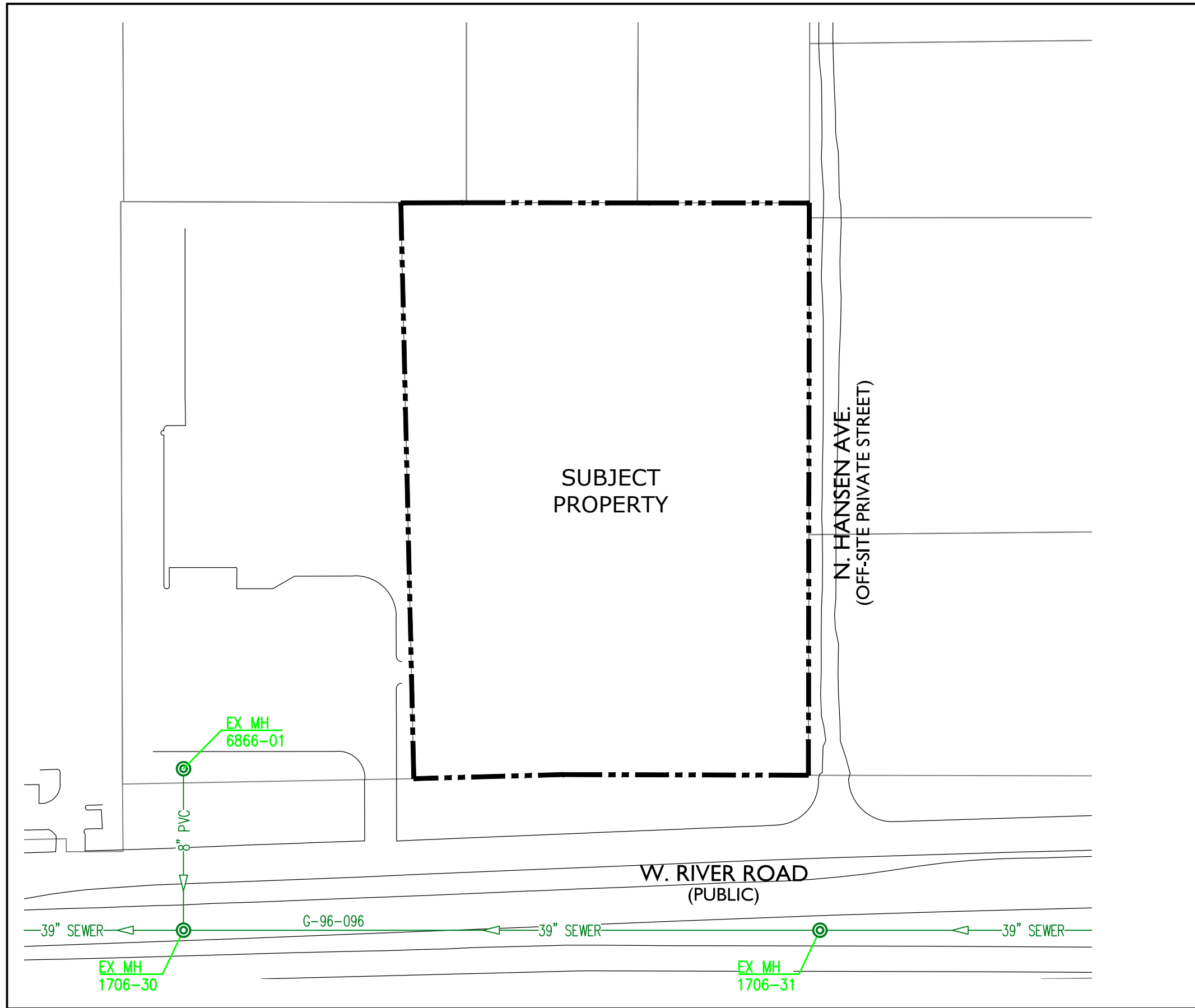
The rezoning site benefits from a public gravity 8" sewer main (No. G-96-096) located within the right-of-way of River Road; please refer to Exhibit I-F.

A formal Type I Capacity Response letter (No. P20WC00254) has been obtained from the Pima County Regional Water Reclamation District (PCRWRD) and is presented in Section II.I (p. 54) of this Site Analysis.

2. Any Constraints to Gravity Service

There are no constraints to providing gravity sewer service for the project nor in connecting its new private sewers to the aforementioned public main in River Road. The entire project will drain southward into this existing public sewer infrastructure.

Exhibit to Follow



LEGEND

Rezoning Site

8" PVC/VCP Existing public sewer, flow direction, manhole number & line size

N

Scale: 1"=100'

G. RECREATION & TRAILS

1. Public Parks, Recreation Areas & Trails within One (1) Mile

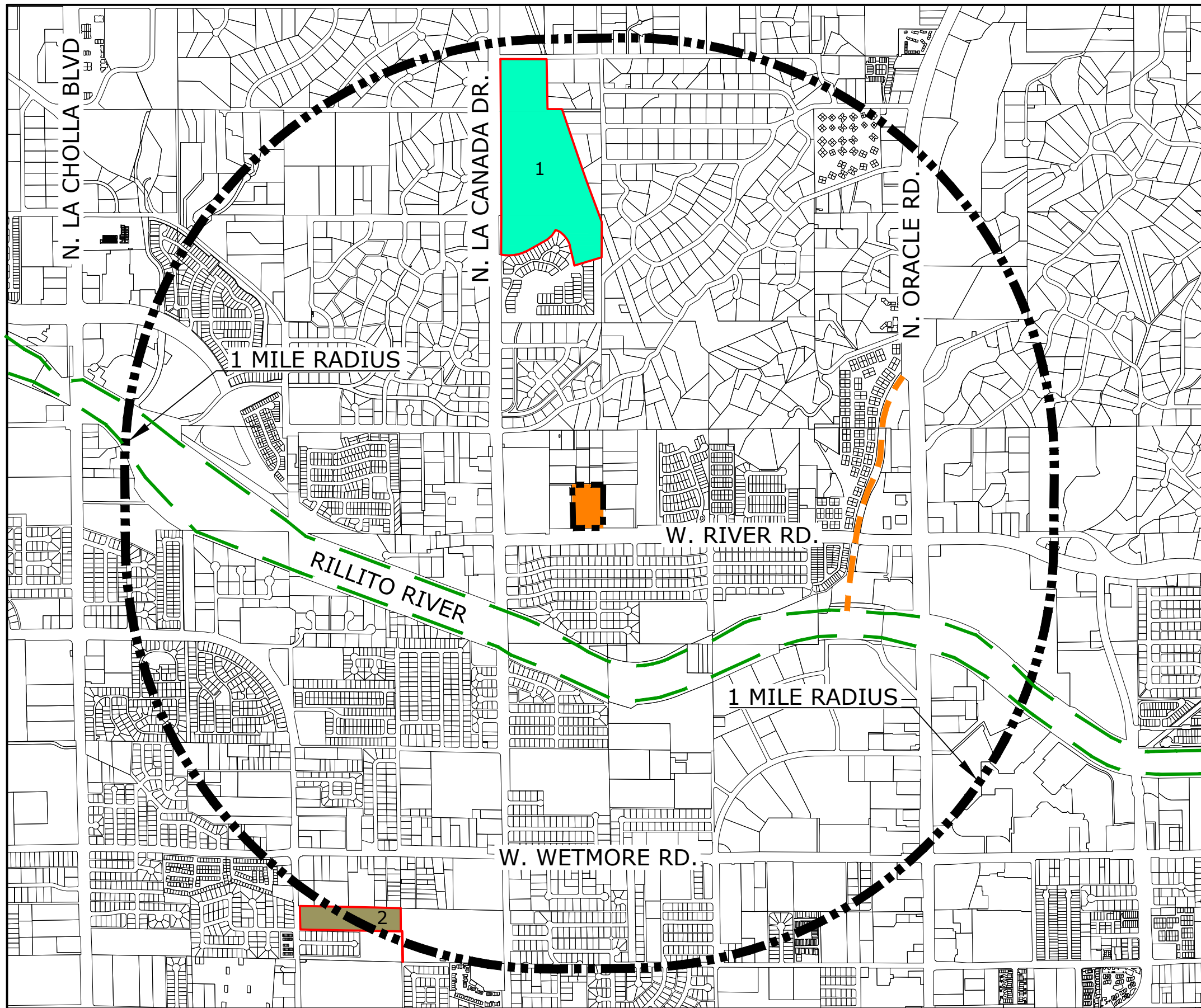
See Exhibit I-G for mapping of the various trails and park facilities located in the general vicinity of the rezoning site.

Most notably, the property sits approximately $\frac{1}{4}$ mile north of the Rillito River Park portion of the Huckelberry Loop. Connectivity with this segment of The Loop is achieved via the bike/multi-use lanes within River Road and La Canada Drive or, alternatively, via designated Trail No. 043 of the Pima Trails Masterplan.

2. Trail Rights-of-Way

No proposed trail segments impact the subject property. The project's proposed sidewalks will be physically connected to the existing hardened pedestrian paths along River Road.

Exhibit to Follow



LEGEND

SITE

Rezoning Site

Rillito River Park (Huckelberry Loop); both sides of River Channel

Pima Trails Masterplan Trail No. 043 Single Track Trail

1

La Cima Middle School Athletic Fields

2

Homer Davis Elementary School Athletic Fields

0 1320
Scale: 1"=1320'

H. CULTURAL RESOURCES, ARCHAEOLOGICAL & HISTORIC SITES

1. Records Check and Letter Report

A Class III Cultural Resources Survey was completed for subject property by SWCA Environmental Consultants in February, 2021. The *Survey* reviewed those existing records in the AZSITE, ASM Archaeological Records Office, and NRHP databases, which include records from the Arizona State Museum (ASM), Arizona State University, the Bureau of Land Management (BLM), and other sources. The *Inventory* indicates that no archaeological sites, cultural resources, or historic properties are located on the subject property. The complete SWCA *Survey* report is included as Appendix "A" of this Site Analysis.

a. Prior Field Surveys

Forty-one (41) past surveys have been completed within one (1) mile of the subject property, but no prior survey had ever been previously done of the property itself.

b. Previously Recorded Archaeological or Historic Resources

No archaeological or historic sites of significance were found by the SWCA survey.

c. Probability of Buried Resources

There is a low probability of buried resources based upon the SWCA *Survey*.

d. Recommendation as to Future Surveys

No further archaeological surveys of the property are deemed warranted. Routine discovery instructions apply to the owner/developer if future ground modifications reveal subsurface archaeological resources.

2. Survey Title

"Cultural Resources Survey of Approximately 5.6 Acres at 1216 W. River Road, Pima County, Arizona".

I. COMPOSITE MAP

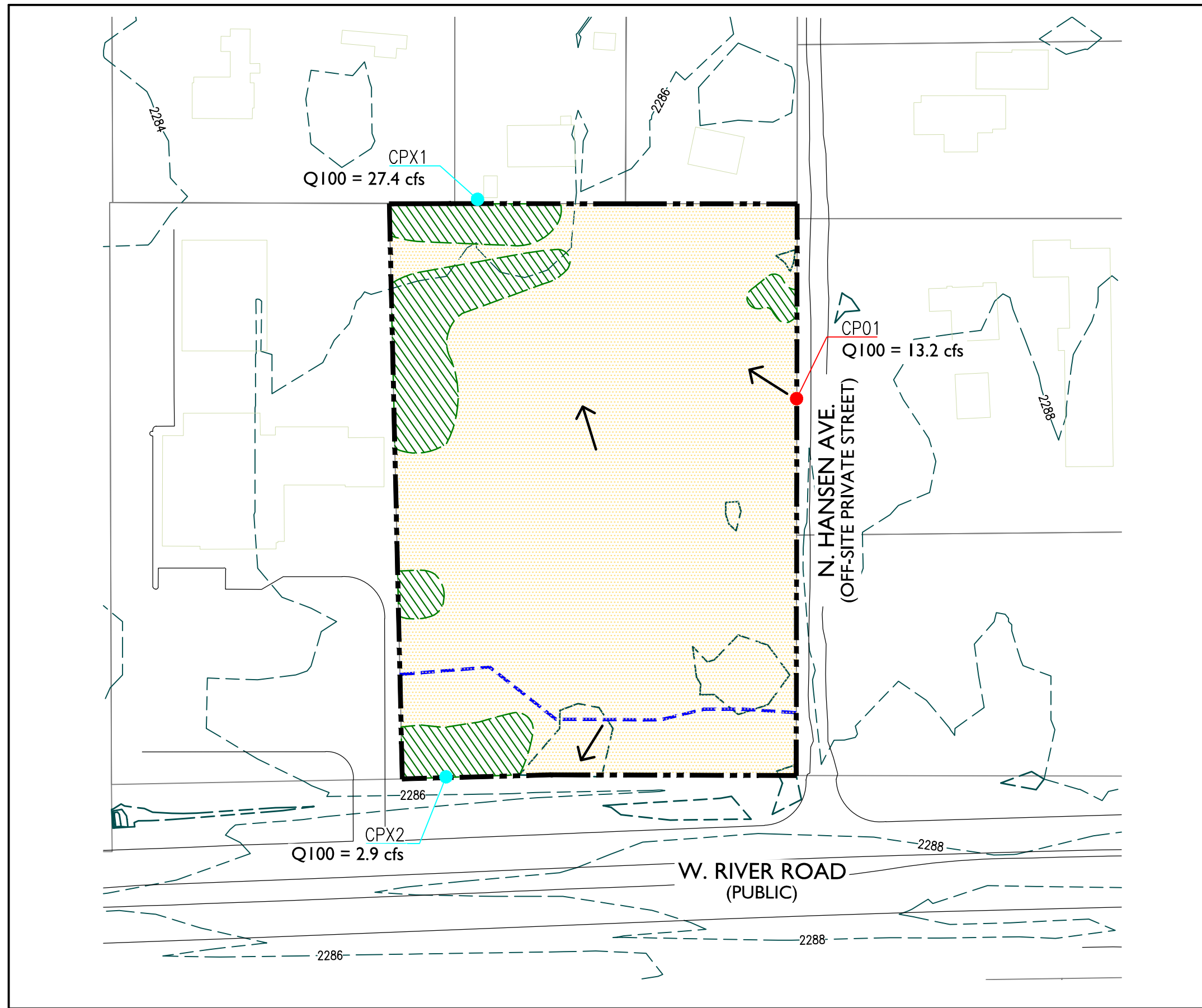
1. Description of Major Characteristics

The site is wholly unremarkable in terms of landform or significant features, given that essentially the entire property has been disturbed and/or cleared as a result of past usage. Those characteristics in the Site Analysis Guidelines that are relevant to the site are illustrated on Exhibit I-I (Composite Map) as follows:

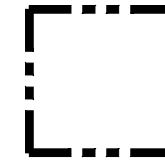
1. **Topography.** There are no restricted peaks and ridges, 15% slopes, rock outcrops, or talus slopes on the property. As such, none of these topographic features are depicted on the Composite Map exhibit. The Exhibit will contain only the 2' contour interval mapping of the site.
2. **Hydrology.** The Composite Map exhibit contains only the following identified item from the checklist: (c) concentration points and 100-year volumes entering and leaving the site.

The following items from the checklist do not exist on the property and so will not be depicted on the Composite Map: (a) the 100-year regulatory floodplains traversing the site in the existing condition, (b) erosion hazard setbacks, (d) sheet flood areas, (e) regulated riparian habitat, and (f) lakes, ponds, springs.

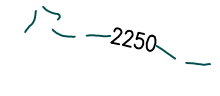
3. **Biological Resources.** The Composite Map exhibit contains no (0) items from the checklist, and so these will not be depicted on the Composite Map: (a) all saguaros, mapped and categorized by their appropriate height category; (b) ironwood trees; (c) pima pineapple cactus; (d) needle-spined pineapple cactus; and (e) areas in which disturbance is prohibited by an adopted Pima County ordinance or policy.



LEGEND



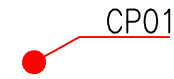
Rezoning Site



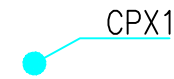
Existing condition topographic contour (2' Interval)



On-Site Watershed/Drainage area boundaries



Off-Site points of concentration (Refer to Exhibit I-C.1)



On-Site points of concentration (Refer to Exhibit I-C.2)



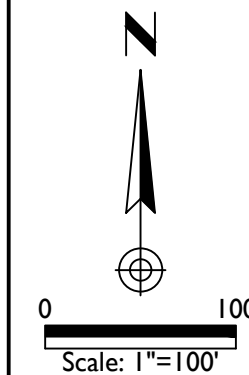
Direction of surface flow



Existing Ground Disturbance (apparently for use as overflow parking during Chinese Cultural Center special events)



Areas where the understory has been cleared, but which still contain some native tree materials



SECTION II:
Land Use Proposal

A. PROJECT OVERVIEW

The rezoning site is located within a major east-west transportation corridor and, more generally, within a wholly developed and urbanized area that possesses a long-established mix of residential and non-residential uses.

As such, this proposed rezoning complements and expands an existing residential mix that already includes more than one thousand apartments, townhomes, and conventional single-family residences. It will add approximately sixty-two (62) one-story and two-story homes to this mix. While these will be originally brought to the market as rental homes, a subdivision plat will also be filed for the project to allow for their potential future sale as individual single-family attached residences. The underlying lot sizes for these attached units range from approximately 1,050 SF to approximately 2,550 SF.

While there is significant development density throughout the surrounding area, a lesser number of unsubdivided and lower-density residences are also present. Some of these abut the subject property to the north and east. Perimeter landscape buffers and setbacks have been incorporated into the project's *Preliminary Development Plan* (Exhibit II-B) and further discussed in Section II-F (Landscape Bufferyards) of this document so as to properly respect and protect these adjoining lower-density residences. These buffers will be landscaped with nursery stock, together with mature mesquite and palo verde trees salvaged from the property.

With all of the above in mind, this rezoning is an appropriate infill addition to the surrounding urbanized area. It further concentrates the residential and population density of the River Road corridor, thereby helping foster multi-modal transit and transportation possibilities. In furthering these larger community policy objectives, it makes sure to also effectively protect and buffer those lower-density residences already nearby.

1. Proposed Zoning Boundaries

The proposed rezoning request is comprised of one (1) existing tax parcel in its entirety (Parcel No. 105-07-016E), encompassing 5.60 acres in gross area.

2. Project Description

a. Proposed Development Use & Type

As indicated above, the site will be developed as a multi-family residential project of attached rental homes. While these will initially be offered as rentals only, a subdivision plat will also be filed in conjunction with the original development plan so as to allow for the potential future sale of these homes to individual buyers. The gross density of this project is approximately eleven (11) units per acre.

b. Proposed Development Response to Opportunities & Constraints

The site has no constraints to development whatsoever. It is essentially flat, has only minor incoming off-site run-off to accommodate, and has been significantly disturbed by past usage, apparently as overflow parking for special events and gatherings at the neighboring Chinese Cultural Center. Nearly the entire site has been disturbed by this past activity, such that no understory vegetation remains.

A small number of mesquites and palo verdes still remain; the viable ones of these trees will be salvaged and reused in the project's perimeter landscape buffers. This site and the entire surrounding area lie outside of the Maeveen Marie Behan Conservation Lands System (CLS).

The only material consideration on this project relates to the lower-density residential uses that abut it. The project's *Preliminary Development Plan (PDP)* incorporates suitable perimeter buffers (in accordance with Sec. 18.73 [Landscaping, Buffering & Screening Standards] of the Code) so as to respect and protect these adjacent neighbors. These perimeter areas will be augmented with mesquite and palo verde trees salvaged from the property so as to achieve a mature appearance as rapidly as possibly.

c. Conformance with Comprehensive Plan, etc.

This Project complies with its Designated Land Use Intensity Category.

Pima Prospers designates the rezoning site as *High-Intensity Urban (HIU)*, which prescribes a minimum residential density of eight (8) units per acre. The maximum density limit is set by the requested zoning district, which in this case is TR (Transitional; Zoning Code Sec. 18.31). Under the standards of TR zoning, densities approaching twenty (20) units per acre could be achieved. The proposed rezoning proposes a density of approximately eleven (11) units per acre and, as such, is wholly compliant with the site's *HIU* Pima Prospers designation.

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), Transportation Element (Section 4.1), and Cost of Development (Sections 7.1 & 7.2). These are each discussed below:

Land Use Element (Section 3.1)

The proposed project is a quintessential infill development and, as such, works substantially toward the established Goal 1 objective (p.3.2) of integrating land use with existing physical infrastructure so as to further the

long-range viability of the region. This requested rezoning integrates fully with the existing transportation, wastewater, potable water, and utilities resources adjacent to the property and/or within the River Road corridor. It represents a reasonable and prudent expansion of the existing residential development pattern in the area that is readily effectuated off of the existing framework of public infrastructure rather than requiring any further augmentation of it. The continued residential densification of the River Road corridor leverages these available efficiencies and enhances the opportunity for expanded multi-modal transportation and future transit options.

Environmental Element (Section 3.4)

The proposed project has absolutely no impact on any valuable habitat or environmental resources, nor does it run contrary to any adopted Pima County policies as outlined in the Environmental Element of Pima Prospers. The site lies outside of the Conservation Lands System (CLS), is devoid of understory vegetation, and only has a small number of mesquites and palo verdes remaining. These will be assessed for salvage and transplantation and used in the project's perimeter buffers, being concentrated mostly in the buffers adjoining lower density residences.

Housing and Community Design Element (Section 3.5)

The proposed rezoning 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. As mentioned above, the property is a definitive infill development within a large and well established mix of single-family and multi-family residential. This project generally emulates the type, character, and density of this established residential pattern, while suitably buffering the small number of lower-density residences that exist nearby.

Transportation Element (Section 4.1)

The proposed rezoning furthers the Goal 1 (p. 3.45) objective of promoting a comprehensive and multi-modal transportation system. The River Road corridor, is clearly one of the most significant east-west transportation arteries within the overall County transportation system. Even with that, however, it features only a moderate level of current transit offerings. At present, the segment of River Road between La Canada Drive and Oracle Road is served only by two (2) Sun *Shuttle* routes, but no regular routes.

Multi-modal objectives are furthered by fostering the intensification, densification, and population growth of our major corridors, and the resultant impact these all have on ridership demand. Continued growth and urbanization through new residential projects such as this one contribute to

our community's realization of truly multi-modal, transit-rich corridors throughout the metro region.

Cost of Development (Sections 7.1 & 7.2)

The proposed rezoning furthers the principles of Section 7.1 and the *Goals and Policies* of Section 7.2 to achieve fairness in public infrastructure funding and to ensure that all new development pays its appropriate fair-share of same. The proposed project will assume the design and construction cost of all extensions or augmentations of on-site public or private infrastructure necessary to serve its proposed residences and will contribute financially to the public funding of regional transportation improvements through its participation in the Department of Transportation's impact fee program.

d. Interactions With Surrounding Property Owners; Attendant Issues

Per the Pima County GIS, there are no registered neighborhood associations in the vicinity of the proposed project. The surrounding individual property owners and any established homeowners associations will be duly consulted during the rezoning process via the mailing of detailed informational packets and the holding of a fully-noticed, formal neighborhood meeting. All property owners within one thousand feet (1000') will be invited.

This outreach effort will emphasize the immediately adjacent lower density residents that adjoin the rezoning site, so as to ensure they understand the buffering features that will be employed and the fact that no material negative impacts will befall them other than the presence of new homes and neighbors on a property to which they've grown accustomed being vacant. These interactions will be on-going throughout the rezoning process and we will ensure that Pima County staff is kept abreast of any issues.

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

The *Preliminary Development Plan (PDP)* presented herein depicts a new multi-family residential neighborhood that is wholly consistent in both type and character with the extensive mix of single-family homes, apartments, and commercial uses that already characterizes this highly urbanized area.

The rezoning site is more immediately abutted (to the adjacent north and east) by a small number of existing lower-density, unsubdivided residences. While the proposed rezoning will eliminate a vacant neighboring property to which these residents have become accustomed, it does so in a way that causes them no new traffic or direct material negative impacts. The *Preliminary Development Plan (PDP)* presented herein includes buffering elements that respect and protect these existing residents. All functional and operational aspects of the project will occur via River Road and have no connectivity whatsoever with the adjacent lower-density properties. The primary vehicular access to these properties, namely N. Hansen Avenue, will be left untouched by this project and not be used for any vehicular access.

f. 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:

Multi-Modal Transportation Opportunities

The continued infill development and population increase of the well-established River Road corridor represents a material contribution toward regional opportunities for multi-modal transportation. While River Road has long been an important east-west artery within the metropolitan region, it still only possess a moderate level of public transit service. The two routes that currently traverse this segment of River Road are Sun *Shuttle* routes, not regular/full ones. The continued densification of the River Road corridor will help grow the population base necessary to justify ridership for expanded Sun Tran services.

Take Advantage of Compact Building Designs

This project features a highly compact, clustered arrangement of residences that results in a density exceeding ten (10) units per acre. In doing so, it furthers an efficient form of urbanization and represents an intelligent and practical expansion of the basic growth pattern that is already in place.

Rational Infrastructure Expansion and Improvements

Intelligent and efficient regional growth demands the intelligent and efficient use of our established public infrastructure. Given that this proposal represents quintessential infill within an already urbanized area, the rezoning site will be developed off of the existing framework of public infrastructure that is already project convenient. No significant system expansions or augmentations of public infrastructure are necessary. All new on-site public or private improvements will be paid for by the developer.

Conservation of Natural Resources

The rezoning site lies outside of the Conservation Lands System (CLS), is devoid of understory vegetation, and only has a small number of mesquites and palo verdes remaining. For all intents and purposes, this property possesses essentially no habitat or environmental value. The remaining trees will be assessed for salvage and transplantation and used in the project's perimeter landscape buffers, being concentrated mostly in those buffers adjoining the lower density residences that abut the site.

3. Compliance with the Pima County Zoning Code

At the time of this writing, we anticipate that there is no portion of the Pima County Zoning Code which we will not comply with in the ultimate design and construction of this project. In the event that any such particulars arise during final engineering and subdivision platting, these will be appropriately dealt with through staff interactions and any attendant processes (e.g. variances) that might be required.

B. PRELIMINARY DEVELOPMENT PLAN (PDP)

1. PDP Map and Overlay -- General Description

A Preliminary Development Plan (PDP), in accordance with Section II-B.1a-p of the Site Analysis Checklist, is provided as Exhibit II-B. This PDP illustrates a proposed multi-family residential project comprised of individual attached rental homes. While these will initially be offered as rentals only, a subdivision plat will also be filed together with the future development plan so as to allow for the possibility of future sale to individual buyers.

In terms of timing and phasing, the project will proceed as a single phase, with construction commencing some time in the first quarter of 2022. Units would then be offered for rental beginning in early 2023.

2. Support Data

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

a. Estimated Floor Area of Structures.

No commercial uses are included in this project.

b. Building Heights

The rental homes will be both one-story and two-story units in response to market demand. The southern two hundred feet (200') of the property is subject to the *Scenic Route* requirements of Sec. 18.77.040; buildings therein shall be limited to two (2) stories and a twenty-four foot (24') height. This restriction is shown on the PDP.

c. Number of Dwelling Units

The PDP illustrates the lot layout and street configuration for the project's sixty-two (62) rental homes. Typical lot widths range from twenty feet (20') to thirty-three feet (33'), with lot depths ranging from fifty-two feet (52') to seventy-seven feet (77'). These dimensions result in lot sizes ranging from 1,040 SF to 2,541 SF. Exhibit II-B.2 provides the layout detail for a typical cluster of these units, illustrating their various lot dimensions and building envelopes, as well as the configuration of their associated motor court, its relationship to the adjacent on-site street, and the proximity of the proposed sidewalk on one side (only) of the street.

d. Maximum & Minimum Residential Densities

The project will have a gross density of approximately eleven (11) RAC. The property's *High Intensity Urban (HIU)* Pima Prospers designation mandates a minimum density of 8 RAC. The maximum density allowed is set by that

achievable under the proposed TR zoning. Given the development standards for this zone, densities approaching 20 RAC could potentially be realized.

e. Type of Landscaping

Landscaping will be a mixture of native desert and xero-riparian trees, shrubs and groundcovers. The overall landscape program for the site is described more fully in Sections II.E (Biological Resources) and II.F (Landscape & Buffer Plan). Landscaped buffers will be supplemented with transplanted tree specimens salvaged from the property; these will be concentrated more so in those buffers adjoining the lower-density residential properties to the north and east of the site.

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

A designated recreation area of approximately 6,000 SF will be provided in the northern portion of the project. This area's amenities will include a community ramada and picnic table, small children's playground, dog station, and trash receptacles. While not located centrally within the project, it still no more than a five-hundred foot (500') walk for any resident.

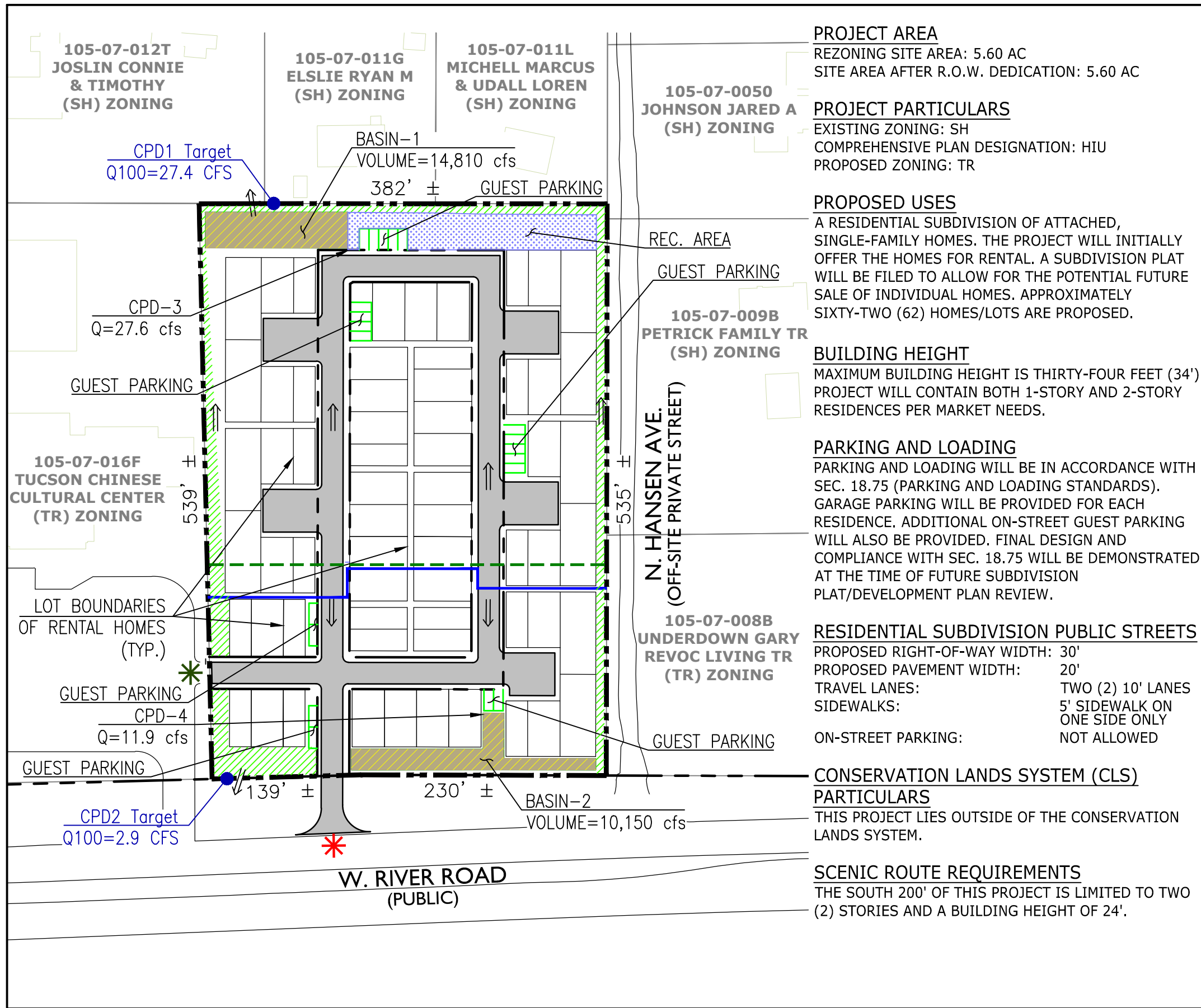
The remaining functional open space will be comprised of: 1) the desert landscaping that will occur in the perimeter buffers, detention basins, and in small common-area pockets throughout the project; and 2) the small private yards that are provided for each individual rental home.

In accordance with Pima Prospects Section 4.8 (Goal 1, Policy 3.e) and Section 4.10 (Goal 1, Policy 2.e), sidewalks provided on one side of the on-site private streets will provide connectivity internally, as well as to the meandering off-site pedestrian path along River Road.

g. Other Supplemental Information – Safe Streets

In keeping with the objectives of providing safe streets to schools, all new streets within the proposed community will provide concrete sidewalks on one side of the street, such that there is a continuous pedestrian system throughout the neighborhood and extending into the River Road right-of-way. While this is case, it should also be noted that rental homes have consistently been most popular with childless residents, including young professional singles and couples, and empty-nester older couples. The number of school students produced by rental homes communities is typically a good deal less than that of traditional single-family detached neighborhoods.

Exhibits to Follow



PROJECT AREA
REZONING SITE AREA: 5.60 AC
SITE AREA AFTER R.O.W. DEDICATION: 5.60 AC

PROJECT PARTICULARS
EXISTING ZONING: SH
COMPREHENSIVE PLAN DESIGNATION: HIU
PROPOSED ZONING: TR

PROPOSED USES
A RESIDENTIAL SUBDIVISION OF ATTACHED, SINGLE-FAMILY HOMES. THE PROJECT WILL INITIALLY OFFER THE HOMES FOR RENTAL. A SUBDIVISION PLAT WILL BE FILED TO ALLOW FOR THE POTENTIAL FUTURE SALE OF INDIVIDUAL HOMES. APPROXIMATELY SIXTY-TWO (62) HOMES/LOTS ARE PROPOSED.

BUILDING HEIGHT
MAXIMUM BUILDING HEIGHT IS THIRTY-FOUR FEET (34'). PROJECT WILL CONTAIN BOTH 1-STORY AND 2-STORY RESIDENCES PER MARKET NEEDS.

PARKING AND LOADING
PARKING AND LOADING WILL BE IN ACCORDANCE WITH SEC. 18.75 (PARKING AND LOADING STANDARDS). GARAGE PARKING WILL BE PROVIDED FOR EACH RESIDENCE. ADDITIONAL ON-STREET GUEST PARKING WILL ALSO BE PROVIDED. FINAL DESIGN AND COMPLIANCE WITH SEC. 18.75 WILL BE DEMONSTRATED AT THE TIME OF FUTURE SUBDIVISION PLAT/DEVELOPMENT PLAN REVIEW.

RESIDENTIAL SUBDIVISION PUBLIC STREETS
PROPOSED RIGHT-OF-WAY WIDTH: 30'
PROPOSED PAVEMENT WIDTH: 20'
TRAVEL LANES: TWO (2) 10' LANES
SIDEWALKS: 5' SIDEWALK ON ONE SIDE ONLY
ON-STREET PARKING: NOT ALLOWED

CONSERVATION LANDS SYSTEM (CLS) PARTICULARS
THIS PROJECT LIES OUTSIDE OF THE CONSERVATION LANDS SYSTEM.

SCENIC ROUTE REQUIREMENTS
THE SOUTH 200' OF THIS PROJECT IS LIMITED TO TWO (2) STORIES AND A BUILDING HEIGHT OF 24'.

LEGEND

Rezoning Site

New Pavement Areas

New 30' Private Street Right of Way

Detention Basin/Drainage Areas (Landscaped)

Perimeter buffer, enhanced with salvaged landscape specimens and nursery stock

Active Recreation area

Boundary Dimensions, typ.

Post-Developed Flow Direction Arrows

Post-Developed Watershed Boundaries

Post-Developed Discharge Concentration Points with Target Q100s

Project main entrance

Project secondary access drive to adjacent property

Limit of Scenic Routes 200' area of applicability

0 100
Scale: 1"=100'

C. TOPOGRAPHY & GRADING

Please refer to Exhibit II.C (Topography and Grading) for an illustration of the conceptual grading and design features of the proposed development. This is a mass-graded project. The following required information is provided:

1. Development Features on Slopes of 15% or Greater

No (0) slopes of 15% and greater (as defined by the *Site Analysis Guidelines* checklist) exist on this property.

2. Natural Areas Used for HDZ Allowances

There are no areas being set aside as natural open space for the purposes of average cross slope or HDZ calculation on subject property. The site's average cross-slope calculation (as provided in Section I.B of this Site Analysis) is less than 1%.

3. Disturbed, Revegetated and Natural Areas

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

a. Natural Open Space

There is no natural open space provided. The ground surface of this entire site has been disturbed by past activities and usage.

b. Revegetated Areas

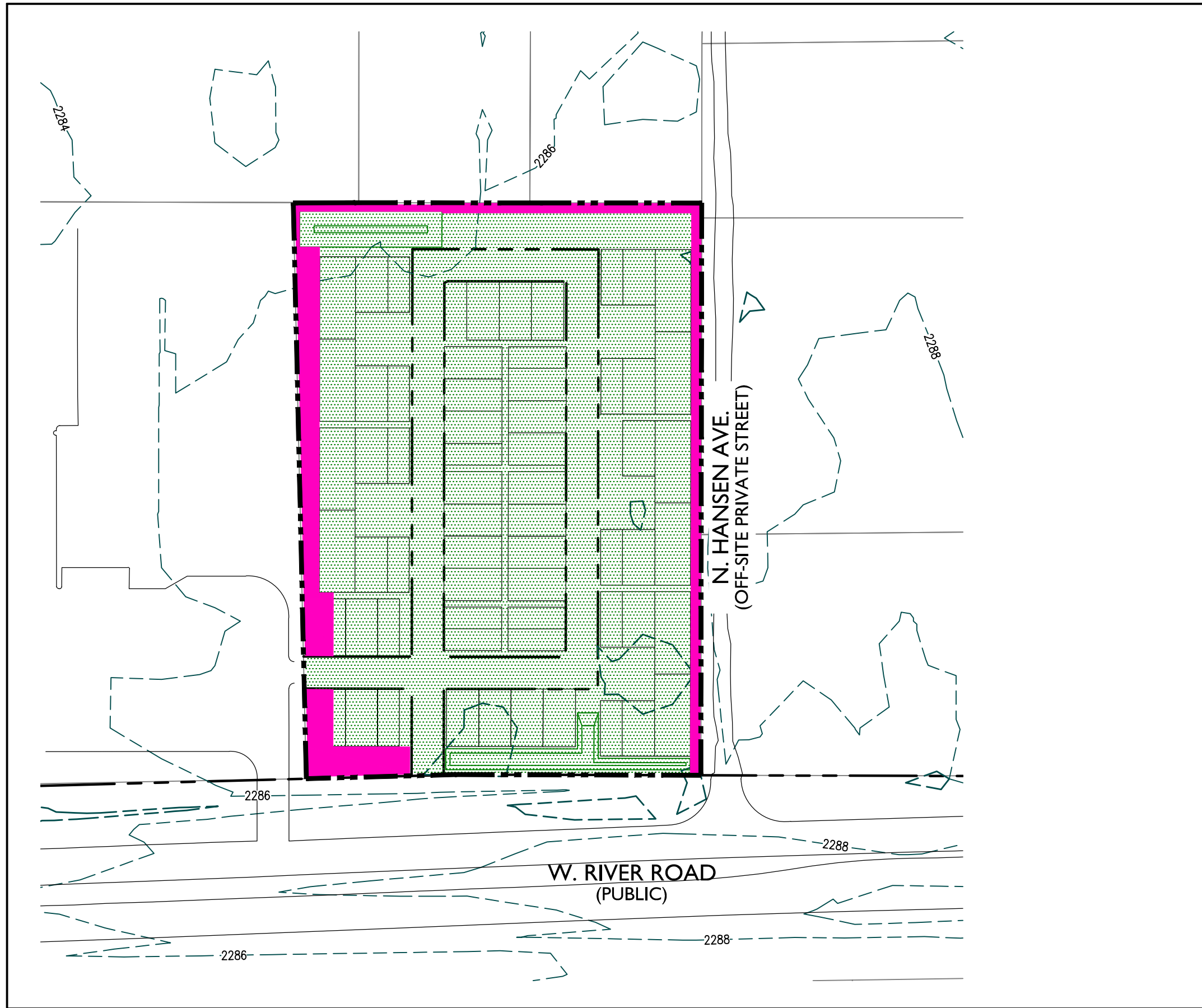
Revegetation (landscaping) will occur in those areas designated on the *PDP* for perimeter buffers, detention basins and drainage, and in small landscape common-area pockets throughout the project. Private landscaping will occur in the individual yards associated with each rental unit.

c. Graded/Disturbed

One hundred percent (100%) of the site will be graded. Exhibit I-C provides the approximate breakdown of this grading between developed areas (for units, streets, etc.) and perimeter buffers.

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

There are no (0) areas where grading cuts and fills will exceed five feet (5') from existing grade.



LEGEND

SITE

Rezoning Site

Existing condition topographic contour (2' interval)

Graded area for homes, streets, and drainage/detention improvements (approximate area= 5.07 AC)

Area to be graded/landscape buffer area (approximate area= 0.53 AC)

0 100
Scale: 1"=100'

D. HYDROLOGY

The proposed project is a mass-graded development, as described in Section II.C.3 (and as illustrated on Exhibit II-C). Please refer to Exhibit II-D.1 (Proposed Hydrology) in conjunction with the following:

1. Post-Development On-Site Hydrology

This site is not located within a designated critical basin. A combination of surface drainage and man-made improvements (basins) will be used to accommodate surface drainage for this project. The following particulars apply:

a. Preserved Natural Washes.

No defined washes, regulatory or otherwise, impact this site.

b. Regulatory Floodplains.

No regulatory floodplains impact this site; all flow volumes are less than 100 cfs.

c. Erosion Hazard Setbacks

No erosion hazard setback impact this site.

d. Pima County Regulated Habitat

There are no Pima County Regulated Riparian Habitat areas within the project site.

e. Proposed Drainage Structures

The property will be developed as a rental home community (with platted lots) that will contain sixty-two (62) new homes. Open areas consist of on-lot side yards and retention/detention basins in designated common areas. Typically, the lots/homes will be front-draining into the local private streets, with lot drainage being accumulated along the side yards. Runoff from these will then be conveyed within the street prism to scuppers, which will then convey it into the onsite retention/detention basins.

Exhibit II-C presents a concept plan for the post-development drainage. This concept illustrates the post-development watersheds and direction of surface flows, with these flows draining to two (2) retention/detention basins.

There are two (2) post-development on-site watersheds (DON-1 & DON-2). Both of these watersheds, their respective areas, and their discharge rates are shown in Table 4 below and also on Exhibit II-C.

Table 4: Post-Development On-Site Watersheds Volume Results						
Drainage Area ID	Watershed Area (acres)	Cw	Tc (min)	i (in/hr)	q (in/hr)	Q (CFS)
DON-1	3.20	0.83	5	10.32	8.56	27.6
DON-2	1.42	0.80	5	10.32	8.3	11.9

Developed onsite watershed DON-1 will drain northward into Basin 1 and DON-2 will drain southward into Basin 2.

All basins shall be designed with storage volume and outlet structures to reduce the 2-, 10-, and 100-year post-developed discharges to the pre-developed discharge rates, as well as provide first-flush runoff volume reduction per PCRFC Design Standards for Stormwater Detention and Retention (DSSDR). The first-flush stormwater runoff is considered a “volume of stormwater from 0.5 inch of rainfall that is expected to discharge from impervious and disturbed areas.” Volumes for the first-flush will be incorporated into each of the proposed retention/detention basins as calculated per Table 2.1 of the DSSDR.

The inflow to Basin 1 is a combination of the offsite watershed OFF-1, together with the onsite watershed DON-1. The flow from these watersheds will be reduced to meet the pre-developed discharge rate at the north property line. The inflow area of Basin 2 is comprised of the developed onsite area DON-2, and its flow will also be reduced to match the pre-development discharge rate at the south property line (see Exhibit II-D.1 for post-development outflow volumes).

Volumes for each of the retention/detention basins were preliminarily determined per Equation 3.8 of the DSSDR and a safety factor of 1.2 was applied. Refer to Table 5 below for a summary of the basin volume results.

Table 5: Proposed Retention/Detention Basin Volume Results				
Basin ID	Inflow Area (Ac)	Basin Inflow (CFS)	Basin Outflow (CFS)	Overall Ret/Det Volume in cubic feet (CF)
Basin 1	5.75	40.0	27.4	0.34 (AF) / 14,810 CF
Basin 2	1.42	11.9	2.9	0.23 (AF) / 10,150 CF

Street drainage and scuppers will be designed per the Pima County Subdivision and Development Street Standards. Curbs will be provided on both sides of the roadway sections, therefore runoff from the 10-year storm event will be contained within the curbs of the streets and runoff from the 100-year storm event will be contained within the roadway.

f. Drainage Crossings & Attendant Structures.

A culvert crossing is proposed beneath the project's main entry drive to convey the discharge from basin 2 westward to the natural site discharge point located near the southwest corner of the site. This culvert crossing will be located within the property and not within the public right-of-way.

g. Floodplain Encroachments & Associated Erosion Protection.

There is no encroachment and no bank protection is necessary.

h. Proposed Storm Drain Alignments & Inlets.

Street drainage and scuppers will be designed per the Pima County Subdivision and Development Street Standards to serve this project. Two (2) scuppers will be used to convey flows from the roadway surfaces. One scupper will be used to convey roadway flows into the each of the retention/detention basins. Curbs will be provided on both sides of the roadway sections; therefore, runoff from the 10-year storm event will be contained within the curbs of the street and runoff from the 100-year storm event will be contained within the private right-of-way.

i. Drainage Easements.

No drainage easements will be necessary. All proposed drainage features for this project will be privately owned and maintained.

j. Streets, Lots, Building Pads.

Refer to Exhibit II-D.1 for the proposed layout of the new subdivision streets and lots. Building pads shall be set at elevations at least 1' above any onsite/offsite WSEL's.

2. Preliminary Integrated Water Management Plan

The rezoning property is served by Tucson Water, which has a potable and renewable water supply. A will-serve letter from Tucson Water is provided in Exhibit II-D.2. The project's required Table "A", representing the developer's commitment to implement sufficient water conservation standards, will be provided at the time of future subdivision platting.

3. Proposed Hydrology

Post-Development discharges flowing onto the property will not change as a result of this subdivision development. Post-Development discharges exiting the property will first be detained and will meet adopted Pima County RFCF criteria for basins.

a. PDP Response to Constraints

The project layout shown on the PDP best accommodates the site's dimensional constraints and skewed property boundaries, while still providing perimeter buffering and accommodating applicable basin requirements to ensure that the post-development project replicates the existing flows exiting the property. The site's retention/detention basins will also feature first-flush water harvesting.

b. Encroachment Justification

There are no regulatory floodplains or riparian habitat areas on this site.

c. Table of Concentration Points Pre-Development/Post-Development

Exhibit II-D.1 provides Tables for the single off-site watershed points of concentration entering the subject site, as well as the Q100's for the post-development on-site watersheds. Two (2) post-development points of concentration outlet from the project, as follows:

- Along the northern boundary, approximately 100' east of the northwest corner of the site; the outflow under existing conditions is 27.4 cfs; the post-development discharge is the same.
- Along the southern boundary of the near the southwest corner of the site; the outflow under existing conditions is 2.9 cfs; the post-development discharge is the same.

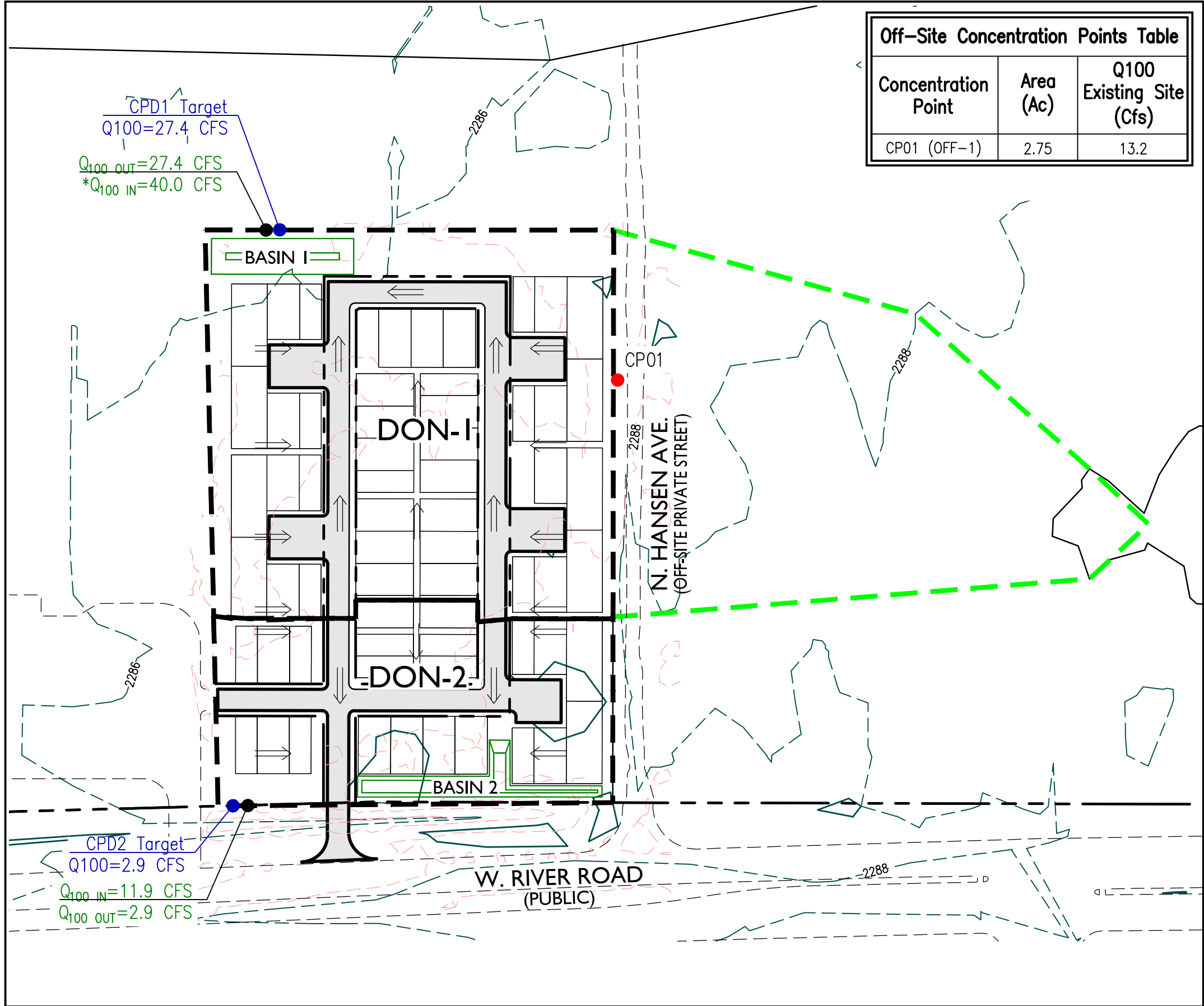
The above values reflect the volume-reduction mandated by Pima County's basin requirements. Exhibit II-D.1 provides a Table of basin volumes.

d. Potential Engineering & Design Features

Drainage design features that will be included with this development include the two (2) onsite retention/detention basins described above, together with their first-flush rain water harvesting provisions and resultant peak rainfall outfall reductions.

e. Summary of Overall Development Impacts

The site's grading will follow the general flatness and gentle sloping of the property in its existing condition. The post-development watersheds generally mirror those found in the existing condition. Post-development peak discharge flows have been reduced (through detention) to meet the current site discharge rates per Pima County RFCFCD requirements. The site will be designed to conform to all applicable PCRFCFCD and ADEQ policies and criteria. The project will have no impacts on upstream and/or downstream lands. Stormwater pollution prevention will be implemented at the time of the project construction to minimize impacts to adjacent downstream properties during construction.



LEGEND

- Rezoning Site
- Existing condition topographic contour (2' interval)
- Proposed detention basin, (Typ.)
- Direction of surface flow
- Post-development on-site watershed boundaries
- Developed on-site area & associated watershed
- CP01 Existing Off-Site Concentration Point (Refer to Exhibit I-C.1)
- Off-site watershed
- CPD1 Proposed Site Discharge Point

Basin Volumes

BASIN ID	VOLUME (FT ³)
BASIN 1	14810
BASIN 2	10150

Developed Conditions Table

Onsite Watershed	Area (Ac)	Q100 Developed Site (Cfs)
DON-1	3.20	27.4
DON-2	1.42	11.9

Scale: 1"=100'