F. Transportation

1. Existing and Proposed Off-Site Streets

a. Rights-of-Way

The site is located in Pima County, northwest of the intersection of North La Cholla Boulevard and West Oracle Jaynes Station Road, and approximately one-half mile north of River Road (See *Exhibit II.F.1: Traffic*). Characteristics of area streets are located in *Table II.F.1: Roadway Inventory*. The nearest major intersections to the project site are the intersections of Orange Grove Road and La Cholla Boulevard, and River Road and La Cholla Boulevard. The closest traffic signal is located at the intersection of La Cholla Boulevard and Rudasill Road, and less than 500 feet from the northern boundary of the subject property.

Table II.F.1: Roadway Inventory

Roadway Segment	Existing Right-of-Way*	No. Lanes****	Conforms To Width Standards**	Continuous ROW*	Curb/ Gutter****	Capacity***	Paving****	Posted Speed Limit****
La Cholla Boulevard	200 feet	6	Yes	Yes	Yes	53,910	Yes	45
Oracle Jaynes Station Road	65 – 90 feet	2	Yes	Yes	No	13,122	Yes	25
Orange Grove Road	150-200 feet	4	Yes	Yes	Yes	32,900	Yes	45
River Road	150 feet	4	Yes	Yes	Yes	37,600	Yes	45
Shannon Road	75-150 feet	2	No	No	No	15,600	Yes	35
La Cañada Drive	150 feet	4	Yes	Yes	Yes	32,900	Yes	45

Source:* Pima County Mapguide (2015), **Pima County Major Streets and Scenic Routes Plan (2015), ***Florida Department of Transportation (2007), ****Google Earth (2015)

La Cholla Boulevard

La Cholla Boulevard is listed in the Pima County Major Streets Plan as a high volume arterial with an existing right-of-way of 200 feet, and has a posted speed limit of 45 mph. The Pima County Major Streets Plan indicates that the planned right-of way for La Cholla Boulevard is 150 feet.

La Cholla Boulevard is identified as a Bike Route with Striped Shoulder, Bus/Bike Lanes by the Pima County Bicycle and Pedestrian Program.

Oracle Jaynes Station Road
Oracle Jaynes Station Road is listed as a minor local road on Pima County Mapguide, with an existing continuous right-of-way between 65 and 90 feet. There is no planned right of way width for Oracle Jaynes Station Road. The road is listed as a Key Connecting Street by the Pima County Bicycle and Pedestrian Program.

Orange Grove Road
Orange Grove Road is listed as a medium volume arterial in the Pima County Major Streets Plan, with an existing right-of-way width of 150 to 200 feet and a planned right-of-way of 150 feet. The posted speed limit on Orange Grove Road is 45 mph. The road is also listed as a Bike Route with Striped Shoulder, with Bus/Bike Lanes by the Pima County Bicycle and Pedestrian Program.

River Road
River Road is listed as a medium volume arterial in the Pima County Major Streets Plan with an existing and future right-of-way width of 150-feet, and a posted speed limit of 45 mph. It is also listed by the Bicycle and Pedestrian Program as a Bike Route with Striped Shoulder, Bus/Bike Lanes, and by the Pima County Scenic Routes Plan as a Major Scenic Route.

Shannon Road
Shannon Road is classified as a low volume arterial by Pima County Major Streets Plan, and has a variable right-of-way width of 80 to 150 feet and a planned right-of-way of 90 feet. The road is also classified as a Key Connecting Street by the Pima County Bicycle and Pedestrian Program.

La Cañada Drive
La Cañada Drive is listed as a medium volume arterial by the Pima County Major Streets Plan, and has a continuous and a planned right-of-way of 150 feet. The road is listed by the Bicycle and Pedestrian Program as a Bike Route with Striped Shoulder, Bus/Bike Lanes.

The traffic map addresses the right-of-way requirements as outlined for the Transportation section in the Pima County Site Analysis Requirements, March 2010 for major roads within a one-mile radius of the project (See *Exhibit II.F.1.).* It also addresses those roads which are adjacent to the site. Existing right-of-way information was obtained from Pima County Mapguide. Future right-of-way information was obtained from the Pima County Major Streets Plan.

b. Present Average Daily Trips (ADT) for Existing Streets

Table II.F.1.b Average Daily Trips identifies traffic counts generated by Traffic Engineering of the Pima County Department of Transportation and Pima Association of Governments (PAG) Roadway Segment Traffic Counts for roadways within one-mile of the project site.

Table II.F.1.b: Average Daily Trips

Road	Average Daily Trips (Year Taken)
La Cholla Boulevard (River Road to Rudasill Road)	25,626 (2013)
La Cholla Boulevard (Rudasill Road to Orange Grove Road)	23,579 (2014)
Oracle Jaynes Station Road (Shannon Road to La Cholla Boulevard)	2,875 (2011)
Orange Grove Road (La Cholla Boulevard to La Cañada Drive)	25,203 (2013)
Orange Grove Road (Shannon Road to La Cholla Boulevard)	19,428 (2014)
River Road (La Cholla Boulevard to La Cañada Drive)	35,703 (2012)
River Road (Shannon Road to La Cholla Boulevard)	24,868 (2012)
Shannon Road (Orange Grove Road to River Road)	5,706 (2014)
La Cañada Drive (Orange Grove Road to River Road)	*6,125 (PAG, 2013)

Source: Pima County Traffic Engineering Traffic Count Records, 2014 & *Pima Association of Governments Traffic Count Records, 2014

c. Existing Bicycle and Pedestrian Ways

According to Pima County GIS, there are existing bicycle routes on Oracle Jaynes Station Road, La Cholla Boulevard, River Road, Orange Grove Road, Shannon Road and La Cañada Drive. The Pima County Bicycle and Pedestrian Program designates The Loop, a shared use path along the Rillito River, is located less than one mile from the site.

d. Scheduled Roadway Improvements

According to the Pima County Department of Transportation (DOT) and the PAG 2040 Regional Transportation Plan (RTP), there are no roadway improvement projects scheduled in the vicinity of the rezoning site. The PAG 2040 RTP Bicycle and Pedestrian Projects map indicates that there are no bike lane improvements planned for paths in the vicinity of the project site.

2. Distances from the Site to Existing Roadways

Exhibit II.F.2: Distance to Existing Driveways has been provided to show the distance from the site to the nearest existing intersections, and to show the distance of nearest curb cuts and intersections from the intersection of Oracle Jaynes Station Road and La Cholla Boulevard.

3. Bus Routes

According to the Regional Transportation Authority, Sun Tran bus route #61 is located on La Cholla Boulevard, and there are several stops located within one-mile of the project site location. (See *Exhibit II.F.1: Traffic)*

Exhibit II.F.1: Traffic

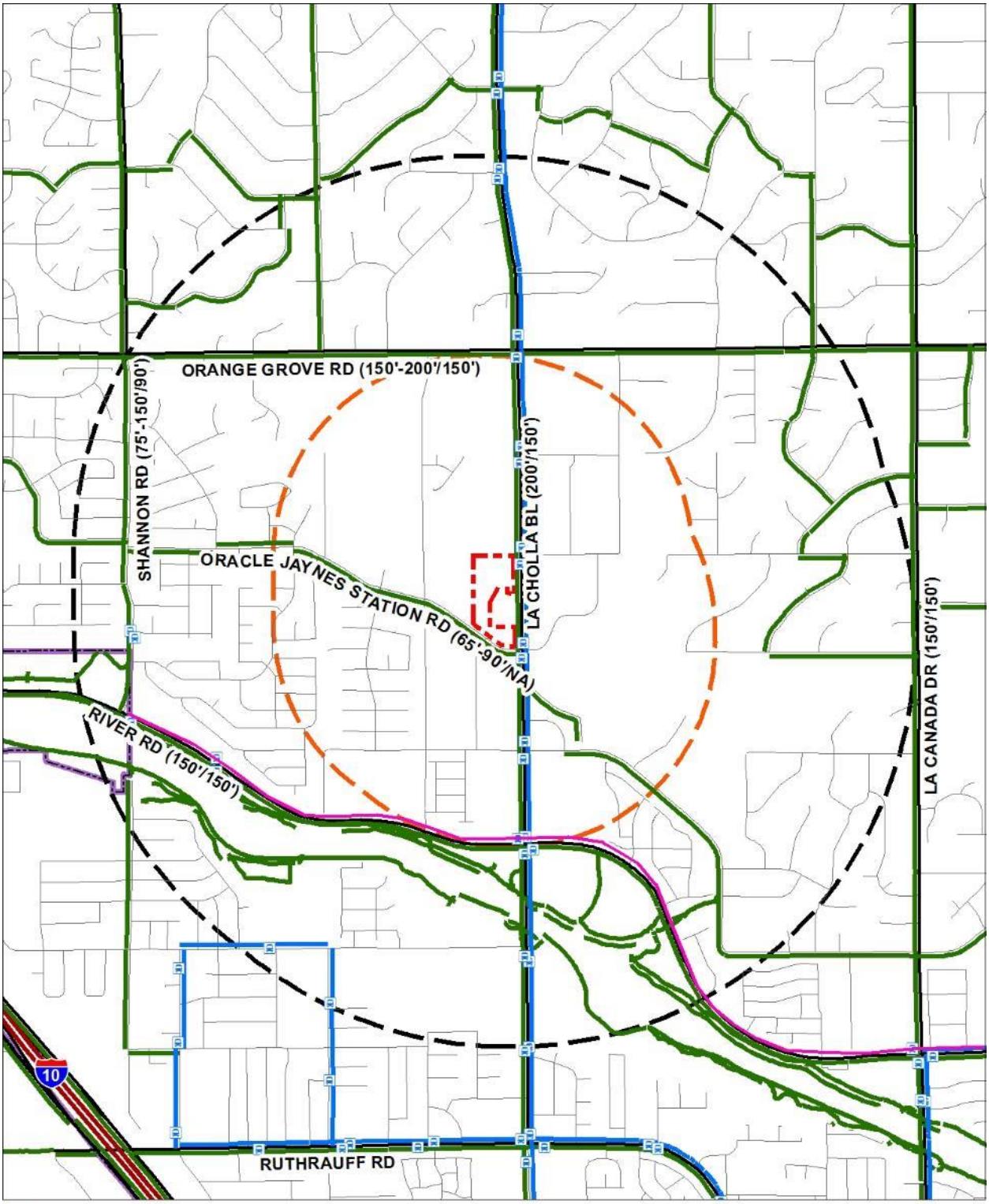


Exhibit II.F.2: Distance to Existing Driveways

G. Sewers

1. Capacity Response Letter from Pima County Regional Wastewater Reclamation Department

The site is within the Pima County Regional Wastewater Reclamation Department (RWRD) service area and tributary to the Tres Rios Water Reclamation Facility via the North Rillito Interceptor.

Request for a capacity response letter was submitted by The Planning Center, and a response from the Pima County RWRD was received on November 6, 2015 (See *Exhibit II.G.1: Wastewater Letter.*) The RWRD has indicated that the sewerage capacity for this project currently exists in the public sewer S-519 at manhole 9539-05.

2. Site Constraints for Extension of the Existing Sewer Network:

According to Pima County MapGuide, an 8-inch public sewer (S-519) exists perpendicular to Oracle Jaynes Station Road, just south of the subject property (See *Exhibit II.G.2: Existing Sewer Network*). The development site will connect to an existing sewer network served by Pima County Regional Wastewater Reclamation Department at manhole 9539-05. A right-of-way will be established that will enable sewer service for the development to connect with the existing network.

Exhibit II.G.1: Wastewater Letter

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

JACKSON JENKINS
DIRECTOR

PH: (520) 724-6500
FAX: (520) 724-9635

November 6, 2015

Lexy Wellott
The Planning Center
110 S Church
Tucson, Arizona 85701

Sewerage Capacity Investigation No. 2015-234 Type I

RE: **LCOJS, Parcel 10112002D**
Estimated Flow 21,356 gpd (ADWF).
P15WC00099

Greetings:

The above referenced project is tributary to the Tres Rios Water Reclamation Facility via the North Rillito Interceptor.

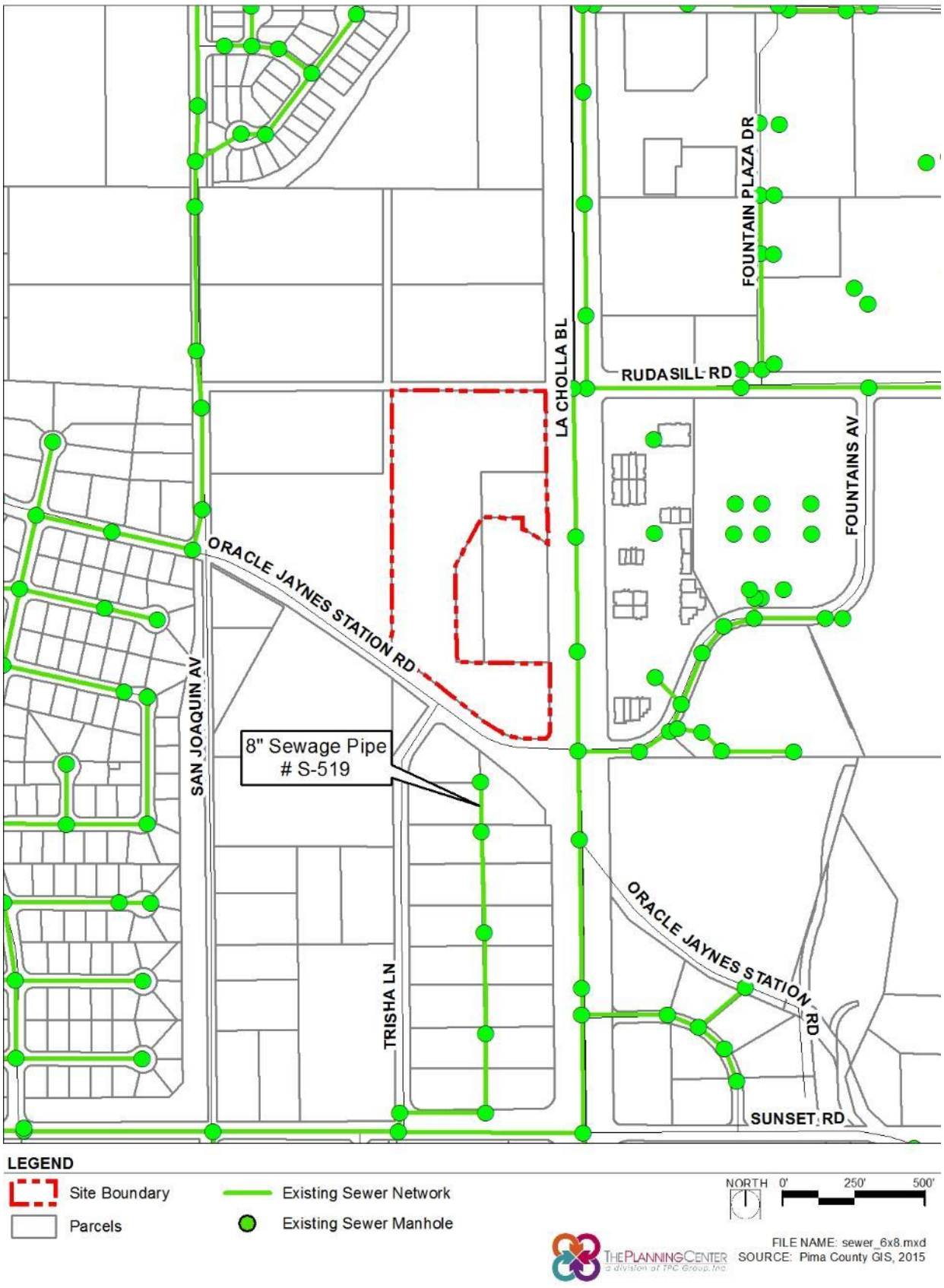
Capacity is currently available for this project in the public sewer S-519, downstream from manhole 9539-05.

This letter is not a reservation or commitment of treatment or conveyance capacity for this project. It is not an approval of the point and method of connection. It is an analysis of the system as of this date and valid for one year. Allocation of capacity is made by the Type III Capacity Response.

If further information is needed, please feel free to contact us at (520) 724-6642.

Reviewed by: Kurt Stemm, CEA Sr.

Exhibit II.G.2: Existing Sewer Network



H. Recreation and Trails

1. Parks, Recreation Areas, Public Trails within One Mile of the Site

According to the Pima County Parks and Recreation Map, the Rillito River Park is located within one mile of the project location. River Parks are described in the Pima Regional Trail Master Plan as green corridors with paths and trails located along the metropolitan area's major watercourses, and are designed to accommodate the widest spectrum of users, including runners, walkers, equestrians, cyclists, and more. River Parks provide many benefits, including opportunities for alternative modes of transportation and connectivity with trails, workplaces, shopping, residential areas, and more. They also provide urban wildlife habitat, shade, and help to mitigate the urban heat island effect.

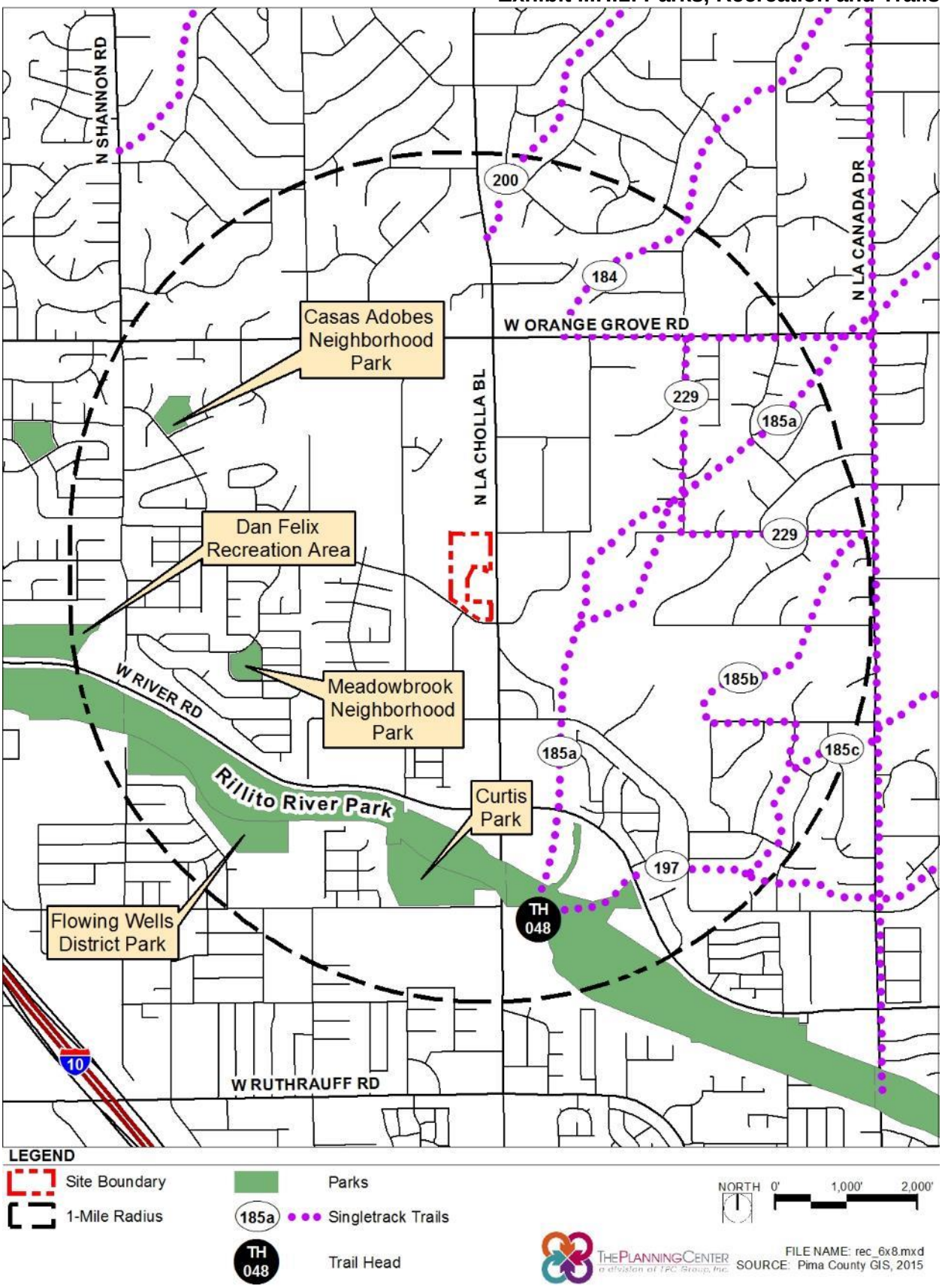
According to the Pima County Parks and Recreation Map, the Casas Adobes Neighborhood Park and the Meadowbrook Neighborhood Park are located within one mile of the project location. Neighborhood Parks are described in the Pima County Recreation Area Design Manual as parks that are 10.0 acres or less in size, and may occur in conjunction with a school site. Neighborhood parks are designed as an extension of the neighborhood and allow for recreation and social activities that cannot necessarily be accommodated in residential yards. They also provide a space for active and passive recreational activities that are geared towards specific neighborhood needs, ages, and physical abilities.

According to Pima County Parks and Recreation Map, the Flowing Wells District Park is located within one mile of the project location. District Parks are described in the Pima County Recreation Area Design Manual as parks that are typically 40.01 to 100 acres in size and are designed to accommodate various recreational users and activities.

2. Trails

According to the Pima Regional Trail System Master Plan (PRTSMP), there are several trails located within a one-mile vicinity of the site. The trails classified in the PRTSMP as Singletrack Trails provide hiking access to the Pima Regional Trail System and the Coronado National Forest. Singletrack Trails are described in the PRTSMP as having a recommended width of 2-3 feet, and built with greater sensitivity to the natural environment. There is a trailhead located at the Rillito River Park. The Loop shared-use path is located within one-mile of the project site and adjacent to the Rillito River Park. Shared-use paths are described by the PRTSMP as a paved 8' to 16' wide path, suitable for bicycles, pedestrians, equestrians and more. (*See Exhibit II.H.1: Parks, Recreation and Trails*.)

Exhibit II.H.1: Parks, Recreation and Trails



I. Cultural Resources: Archaeological and Historic Sites

1. Arizona State Museum Letter

a. Cultural Resources Field Survey

A search of the archaeological site records from the Arizona State Museum (ASM) found that 47 previous survey projects were conducted within a one-mile radius of the project between 1976 and 2013. (*See Exhibit II.I.1: Arizona State Museum Letter*.)

b. Previously Recorded Archaeological or Historic Resources

The boundary of one archaeological property – AZ AA: 12:867(ASM) – is crossed by the project area. Additional archaeological properties could be present because the project area has not been subject to archaeological survery.

c. Probability of Buried Archaeological Resources

The probability of buried archaeological resources located under the surface of the property is unknown.

d. Archaeological Survey Recommendations

An on-the-ground cultural resources survey will be performed on the subject property prior to approval of the final subdivision plat.

2. Map and Description of Archaeological or Historic Sites

The Arizona State Museum records check indicated that no cultural resource surveys have been performed on the property. A potential future cultural resources survey will determine whether there are any cultural or historic sites on the subject property.

3. Field Survey Requirements or Results

The ASM defer to Pima County regarding recommendations concerning the need for meeting cultural resources requirements prior to any ground modification activities. Based on the results of the ASM site record check, the Pima County Cultural Resources and Historic Preservation Office may recommend that an on-the-ground survey be conducted by a qualified archaeologist prior to any ground modification activities.

Exhibit II.I.I: Arizona State Museum Letter

Arizona State Museum
THE UNIVERSITY OF ARIZONA
1013 E. UNIVERSITY BLVD.
TUCSON, AZ 85721

PIMA COUNTY ARCHAEOLOGICAL SITE RECORDS SEARCH

This report documents the results of an archaeological site-records check.
It does not constitute a cultural resources clearance.

Date: 9/30/2015

Requester Name: Tim Craven
Company: The Planning Center
Address/City/State/Zip: 110 S. Church St., Suite 6320, Tucson, AZ, 85701
Phone / E-mail: 520-623-6146 / tcraven@azplanningcenter.com

Project Name and/or Number: KBT-44 **Project Description:** Residential and commercial development

Parcel Numbers: 101-12-002D/101-12-001C **Legal Description:** T13S, R13E, S09

Search Results:

According to a search of the archaeological site files and records retained at the Arizona State Museum (ASM), approximately 47 previous survey projects were conducted within a one-mile radius of the project area between 1976 and 2013. Previous survey work was conducted in support of residential and commercial development; road construction and improvements; drainage bank protection; school construction; and the installation and maintenance of sewer, transmission, fiber optic, utility, and water lines. No portion of the project area has been previously surveyed.

Fifteen archaeological properties have been recorded within a 1-mile radius of the project area. The boundary of one archaeological property – AZ AA:12:867(ASM) – is crossed by the proposed project area. Archaeological testing was conducted at this site in 2000 and the recommendation was that the site was eligible to the National Register of Historic Places and that archaeological data recovery be conducted prior to any further development of the parcel (Jones 2000).

Archaeological Properties in Project Area:

The boundary of one archaeological property – AZ AA:12:867(ASM) – is crossed by the project area. Additional archaeological properties could be present because the project area has not been subject to archaeological survey.

Recommendations and Responsibilities:

1. One archaeological property – AZ AA:12:867(ASM) – is crossed by the proposed project area. Additionally, our records indicate that no portion of the proposed project area has been subject to an archaeological survey and there is a possibility for additional unidentified archaeological properties in the area. ASM recommends, but it is not required by ASM, that a qualified archaeological contractor be consulted before any ground-disturbance begins.

2. Because Pima County has jurisdiction in this project area, the county will make recommendations for the project using its own search results and it may use the ASM's search results and / or others. Should the county require additional archaeological work in this parcel, you will need to contact a qualified archaeological contractor. A list of archaeological contractors is available on the ASM website at: *http://www.statemuseum.arizona.edu/crservices/permits/index.shtml*.

3. Pursuant to Arizona Revised Statutes §41-865, if any human remains or funerary objects are discovered during your project work, all work will stop within the area of the remains and Dr. Todd Pitezel, ASM assistant curator of archaeology, will be contacted immediately at (520) 621-4795.

If you have any questions about the results of this records search, please contact me.

Sincerely,

Shannon Twilling, M.A.

Shannon D. Twilling, M.A.
Research Specialist
Archaeological Records Office
Arizona State Museum
(520) 621-1271
twilling@email.arizona.edu

☒ This project occurs within or close to the boundary of a known cultural resource. This project requires Pima County Office of Archaeology & Historic Preservation review.

Page 1 of 3

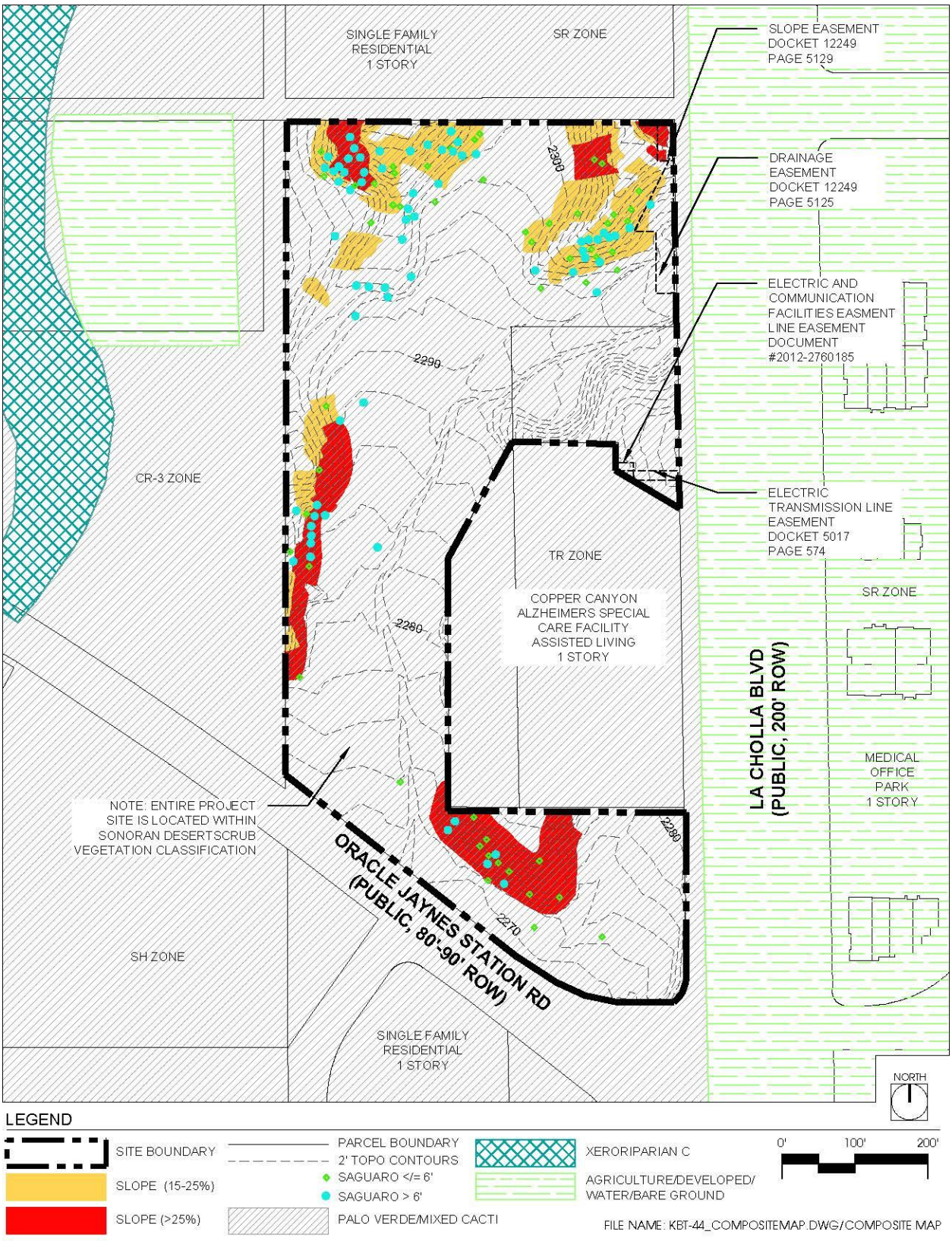
J. Air Quality

The proposed development does not include industrial type uses and therefore, this section does not apply.

K. Composite Map

The composite map graphically illustrates the summation of opportunities and constraints identified during the inventory and analysis process. (See *Exhibit II.K: Composite Map*).

Exhibit II.K: Composite Map



LA CHOLLA AND ORACLE JAYNES STATION

REZONING DOCUMENT | PIMA COUNTY

SECTION 3: LAND USE PROPOSAL

THE PLANNING CENTER
a division of TPC Group, Inc.

A. Project Overview

1. Requested Zoning Boundaries

This is a request to rezone a property into comprised of approximately 10.3 from Suburban Ranch (SR) to Multiple Residence - Small Lot Option (CR-5) and Transitional (TR). Approximately 7.3 acres is requested to be designated as CR-5 (parcel #101-12-002D) and the remaining 3 acres designated as TR (parcel #101-12-001C) to facilitate a probable medical care facility or other medical services such as medical clinics, assisted living and skilled nursing centers, and outpatient services. (See *Exhibit III.A.1: Rezoning Boundaries).*

2. Characteristics of the Proposed Development

The project will feature small lot design in order to maximize the site's potential buildable space, as well as provide appropriate buffers for surrounding uses. The subdivision is proposed for 37 single-family detached residential homes. Lot sizes will generally be 35' x 90' and shall consist of two-story homes. The overall project density is approximately 5.5 dwelling units per acre. Additionally, the TR portion of the site is currently proposed for a 60 unit Skilled Nursing Facility with in/out-patient physical therapy. The buildings will have interior and exterior courtyards with healing gardens for the patients. The user anticipates there will be approximately 40 employees during the day shift, and about 25 employees during the night shift.

The proposed architectural style will be compatible with the surrounding architecture and the color palette utilized will conform to those of the desert environment.

The following is a list of development characteristics that will benefit the community. The preliminary development plan will:

- Provide additional housing opportunities compatible with the existing uses surrounding the areas
- Maximize the spectacular views of the Tucson Mountains and Santa Catalina Mountains.
- Provide buffering for existing residents adjacent to the property through the provision of appropriate setbacks, landscape screening and bufferyards.

a. Project Response to Site Opportunities and Constraints

The small lot option is being proposed in order to preserve the natural drainage ways, vegetation and wildlife habitat that occurs on the site in perpetuity. Project responses to site constraints are as follows:

- A 20-foot bufferyard and a 40" to 6-foot screening wall is proposed along the developed portion of the site adjacent to La Cholla Boulevard to mitigate any negative impacts on visibility, privacy and noise.

- A 10-foot bufferyard and 6-foot decorative masonry screening wall is proposed along the proposed TR portion of the site adjacent to the residence to the north.
- A 10-foot bufferyard with a 5-foot screening wall is proposed along the southern boundary of the site adjacent to Oracle Jaynes Station Road.
- Proposed grading limits shall be minimized to preserve as much connective high resource value habitat as possible.

b. Pima Prospers- Comprehensive Plan

The overall project density is approximately 5.5 dwelling units per acre. The Pima Prospers Comprehensive Plan designation on the property is Medium Intensity Urban (MIU), which allows for a maximum of 13 residence per acre.

c. Impact to Existing Land Uses and Surrounding Land Uses

The proposed project site is located on the northwest corner of the intersection of La Cholla Boulevard and Oracle Jaynes Station Road. La Cholla Boulevard and Oracles Jaynes Station Road are public streets and may act as a transition from the proposed development and the existing land uses to the south and east. The project site is located near land uses similar to the intensity of land uses proposed. Adjacent to the proposed project site to the east, and on sections of the north and south property lines, is the Tucson Memory Care Assisted Living Facility which is zoned TR. West of the project site is a combination of a single user Amphi Alternative School, vacant land, and floodplain. Further to the west about one quarter mile away is the existing Casas Adobes Park, developed with a RAC of 2.4 to 4.1 units per acre. Various properties located to the south are a combination of raw land and unsubdivided parcels with a RAC between 1.2 and 2.4 per acre. The property to the north has one single family residential home on about 4 acres of land with an underlying MIU designation. The proposed development will have minimal impact on existing land uses on- and off-site given the following:

- Ample setbacks, screening, open space, and vegetative buffering is proposed where appropriate between the project site and adjacent properties to mitigate any negative impacts on visibility, privacy and noise.
- Building height limitation is proposed to restrict the development to a combination of one- and two-story development, with a maximum of 34 feet in height. This will help mitigate views from adjacent properties of the Catalina Mountains to the northeast. The topography, screening and vegetation will also help mitigate any adjacent off-site views.

d. Smart Growth Principles

The project site is located in an area that is designated by Pima County as Medium Intensity Urban, which facilitates greater land use densities as a means of preserving the greatest amount of open space possible. In utilization of the small lot option, the proposed density of the subject property promotes compact residential development encouraging the preservation of open space as well as mitigating flooding and stormwater drainage needs.

e. Sustainability Features

The proposed development will incorporate and sustainable green building measures.

The following is a list of some standards that will be implemented to ensure energy efficiency in the proposed homes:

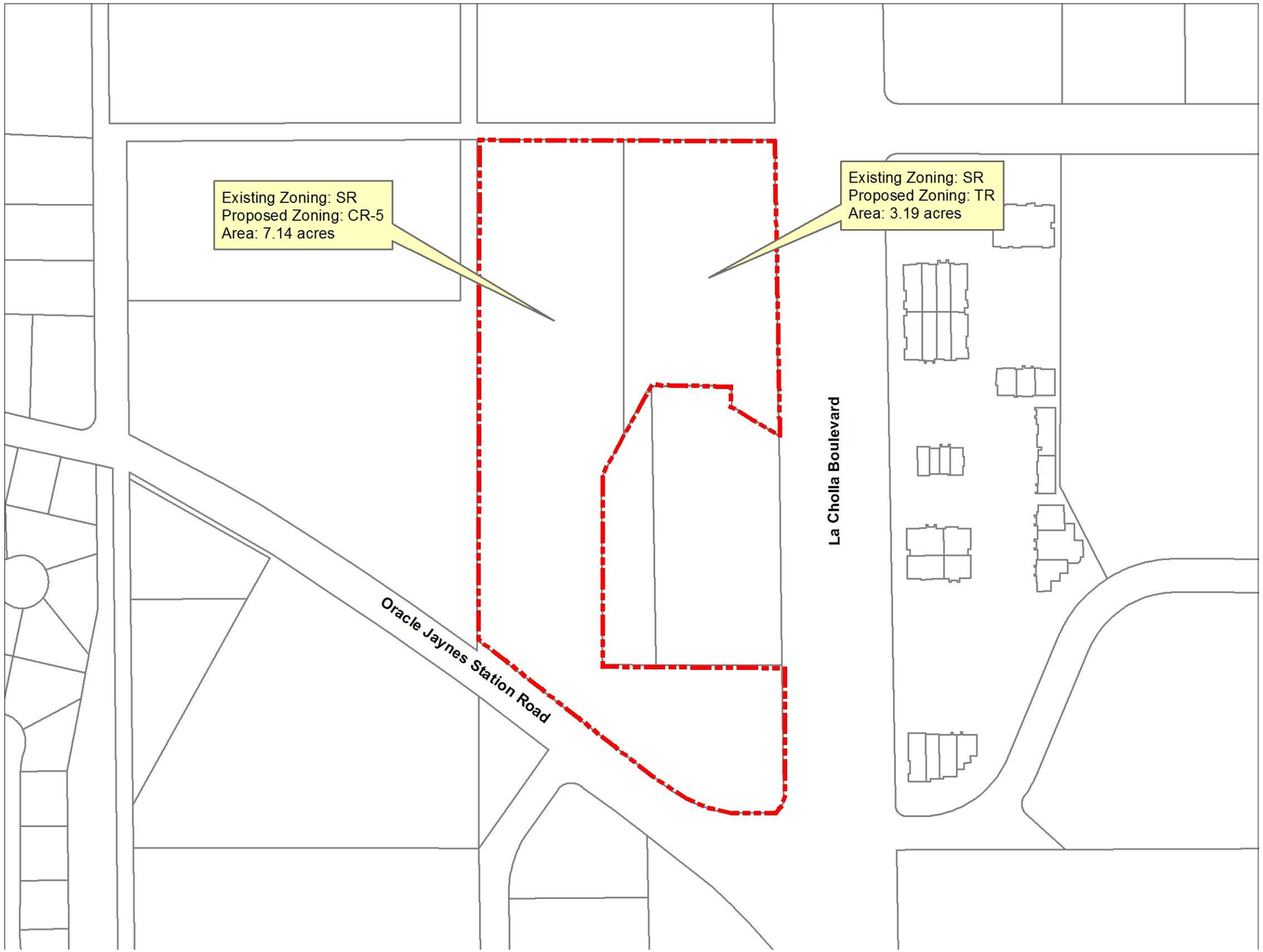
- Low-e insulated windows that increase efficiency
- Low-flow toilets and showerheads
- Landscape designed with drought tolerant plants with low water demand and trees located to maximize shade
- Passive water harvesting
- Tucson Electric Power's energy guarantee

3. Ordinances

d. Native Plant Preservation Ordinance (NPPO)

The site is required to comply with the NPPO. The set-aside method, as specified in the Pima County Code of Ordinances Chapter 18.72.090, will be utilized for this property. The set-aside method requires that no less than 30% of a site with the highest resource value must remain undisturbed natural open space, wherein no development shall occur.

Exhibit III.A.1: Rezoning Boundaries



LEGEND

Site Boundary

Parcels

Notes:
The rezoning application is comprised of Assessor's Parcel # 101-12-002D and 101-12-001C. Total area of the rezoning proposal is approximately 10.33 acres.

THE PLANNING CENTER
a division of TPC Group, Inc.

NORTH

0' 100' 200'

FILE NAME: 8x15_rezone_boundary.mxd
SOURCE: Pima County GIS, 2015

B. Preliminary Development Plan

1. PDP Overlay

A removable acetate overlay and a 24-inch by 36-inch exhibit of the Preliminary Development Plan (*Exhibit III.B.1*) are included in the map pocket located at the end of this Site Inventory and Land Use Proposal.

2. Support Data

a. Gross Floor Area

The gross floor area of the commercial structure is approximately 50,000 square feet.

b. Building Heights

According to Pima County Zoning Code 18.29.030, the maximum building height that is allowable in a CR-5 zone is 34-feet, and the maximum number of stories is two. According to Pima County Zoning Code 18.31.030, the maximum building height that is allowable in a TR zone is 34-feet, and the maximum number of stories is two. All building heights within the proposed site will remain at or under 34-feet.

c. Number of Homes

The total number of dwelling units for the proposed development is 37.

d. Maximum Residential Density

Maximum density for a CR-5 zone is 7.26 residences per acre. The proposed residential density is approximately 5.5 residences per acre.

e. Parking Spaces

This development will include 2 parking spaces inside the garage and 2 visitor parking spaces in the driveway for each unit. No additional parking is necessary. Visitor parking will be permitted along both sides of the paved street.

The portion of the site requested to be designated as TR (parcel #101-12-002C) will have approximately 69 parking spaces to accommodate the medical facility.

f. Landscaping

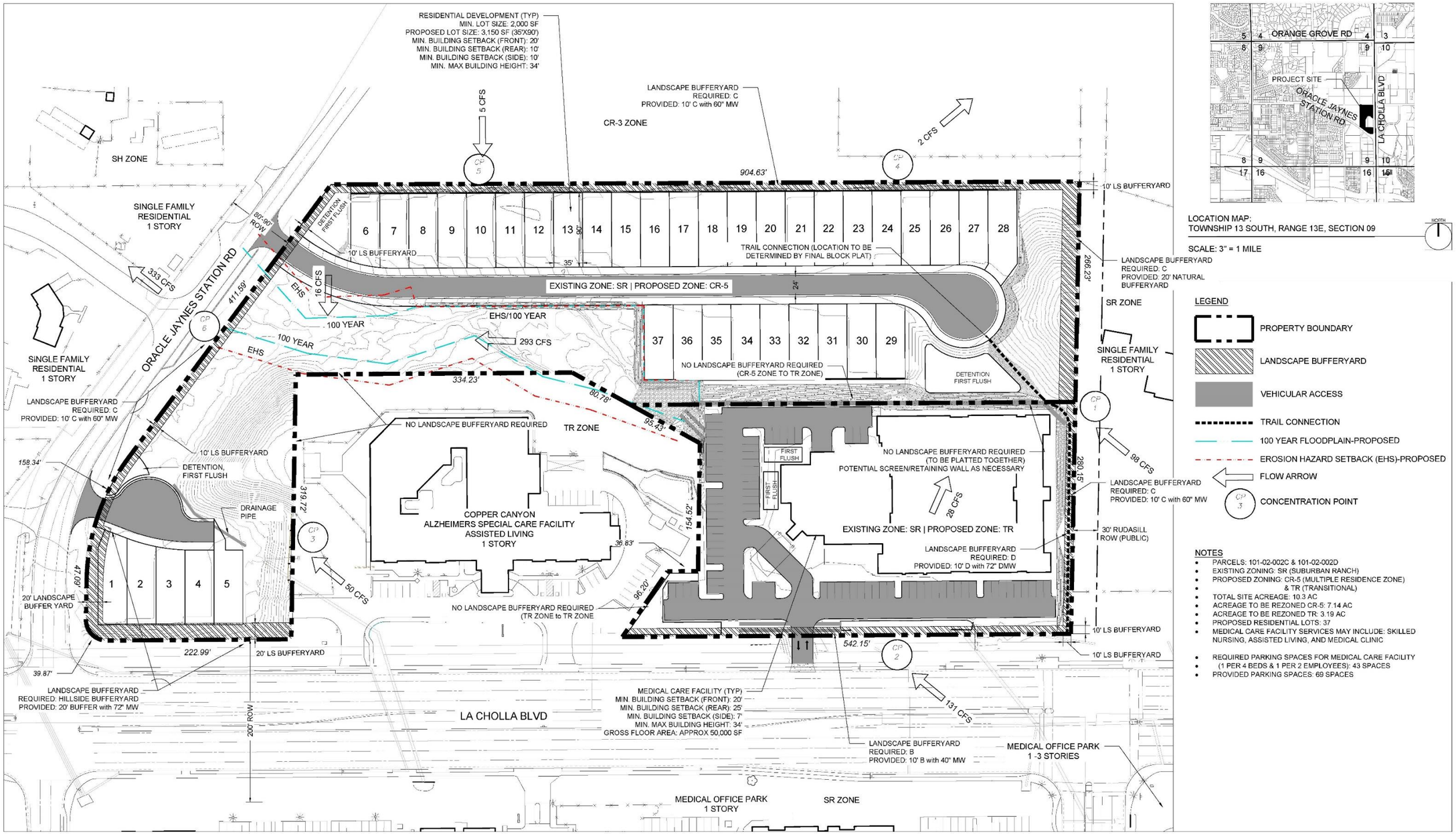
The proposed development will feature native and near-native low water use plant species, as well as permeable ground covers that reflect the natural environment of the surrounding desert. The landscape will feature passive rainwater harvesting systems to mitigate rainwater runoff and

supplement landscape irrigation. In addition, a minimum of one large canopy tree will be planted in the yards of each unit.

g. Open Space

The lots that back up to open space will take advantage of the natural viewsheds, native vegetation and wildlife habitat. Open space is shown on *Exhibit III.B.1: Preliminary Development Plan*. All open space and common areas will be owned and maintained by the homeowners associations

Exhibit III.B.1: Preliminary Development Plan



LOCATION MAP:
TOWNSHIP 13 SOUTH, RANGE 13E, SECTION 09

NORTH

SCALE: 3" = 1 MILE

LEGEND

- PROPERTY BOUNDARY
- LANDSCAPE BUFFERYARD
- VEHICULAR ACCESS
- TRAIL CONNECTION
- 100 YEAR FLOODPLAIN-PROPOSED
- EROSION HAZARD SETBACK (EHS)-PROPOSED
- FLOW ARROW
- CONCENTRATION POINT

NOTES

- PARCELS: 101-02-002C & 101-02-002D
- EXISTING ZONING: SR (SUBURBAN RANCH)
- PROPOSED ZONING: CR-5 (MULTIPLE RESIDENCE ZONE) & TR (TRANSITIONAL)
- TOTAL SITE ACREAGE: 10.3 AC
- ACREAGE TO BE REZONED CR-5: 7.14 AC
- ACREAGE TO BE REZONED TR: 3.19 AC
- PROPOSED RESIDENTIAL LOTS: 37
- MEDICAL CARE FACILITY SERVICES MAY INCLUDE: SKILLED NURSING, ASSISTED LIVING, AND MEDICAL CLINIC
- REQUIRED PARKING SPACES FOR MEDICAL CARE FACILITY (1 PER 4 BEDS & 1 PER 2 EMPLOYEES): 43 SPACES
- PROVIDED PARKING SPACES: 69 SPACES

LA CHOLLA & ORACLE JAYNES STATION REZONE

0' 50' 100' NORTH

PROJECT:KBT-44 DATE:07/06/16
FILE NAME: KBT-44 PDP A 070616.DWG

THE PLANNING CENTER
a division of TPC Group, Inc.
1153 church site 6320, tucson az 85701

C. Topography and Grading

1. Development on Slopes of 15% or Greater

A considerable amount of effort has been taken to minimize visual impacts to the surrounding properties and to minimize cuts and fills of the existing onsite terrain in excess of 15% slopes or greater. The two primary areas of 15% or greater slopes (the northwest ridge, and the southern hill adjacent to lots 1-5) have been preserved in place. The north cul-de-sac profile has been has been designed to balance the impacts of filling the low lying area to the west and cutting into the higher area to the north. The impact of this cut will fall well below any adjacent property owner's view and will have no visual impact. The fill on the western edge of the property will fall within the parameters of the HDZ regulations. The commercial area will require filling the existing low lying area. 6' planting areas are anticipated at the toe of all slopes in excess of 10' to meet the HDZ regulations. In order to develop this site in accordance with HDZ requirements and the underlying MIU designation, engineering solutions will be used throughout the site to develop some areas and protect others. Any exposed slopes will either be hydroseeded or have rip-rap placed as necessary. See *Exhibit III.C.1: Road Profile*.

2. Hillside Development Zone

The project site is subject to the Hillside Development Zone because several locations throughout the site have slopes of 15% or greater, please see *Exhibit II.B.1*. Almost all of the slopes proposed for grading are lower than the grade of surrounding properties, and lower than the grade of La Cholla Blvd. The two most prominent slopes on the property have been designated to be preserved as natural open space. One of these slopes is visible from Oracle Jaynes Station Road, and the other slope is on the north end of the property.

3. Site Description

a. Retained as Natural Open Space

The proposed development will retain 20% of the site as natural, undisturbed open space. See *Exhibit III.C.3: Grading and Open Space*.

b. Revegetated

Exposed slopes will be protected with either rip-rap or be hydroseeded as necessary.

c. Graded or Disturbed

Approximately 80% of the site will be disturbed upon development. See *Exhibit III.C.3: Grading and Open Space*.

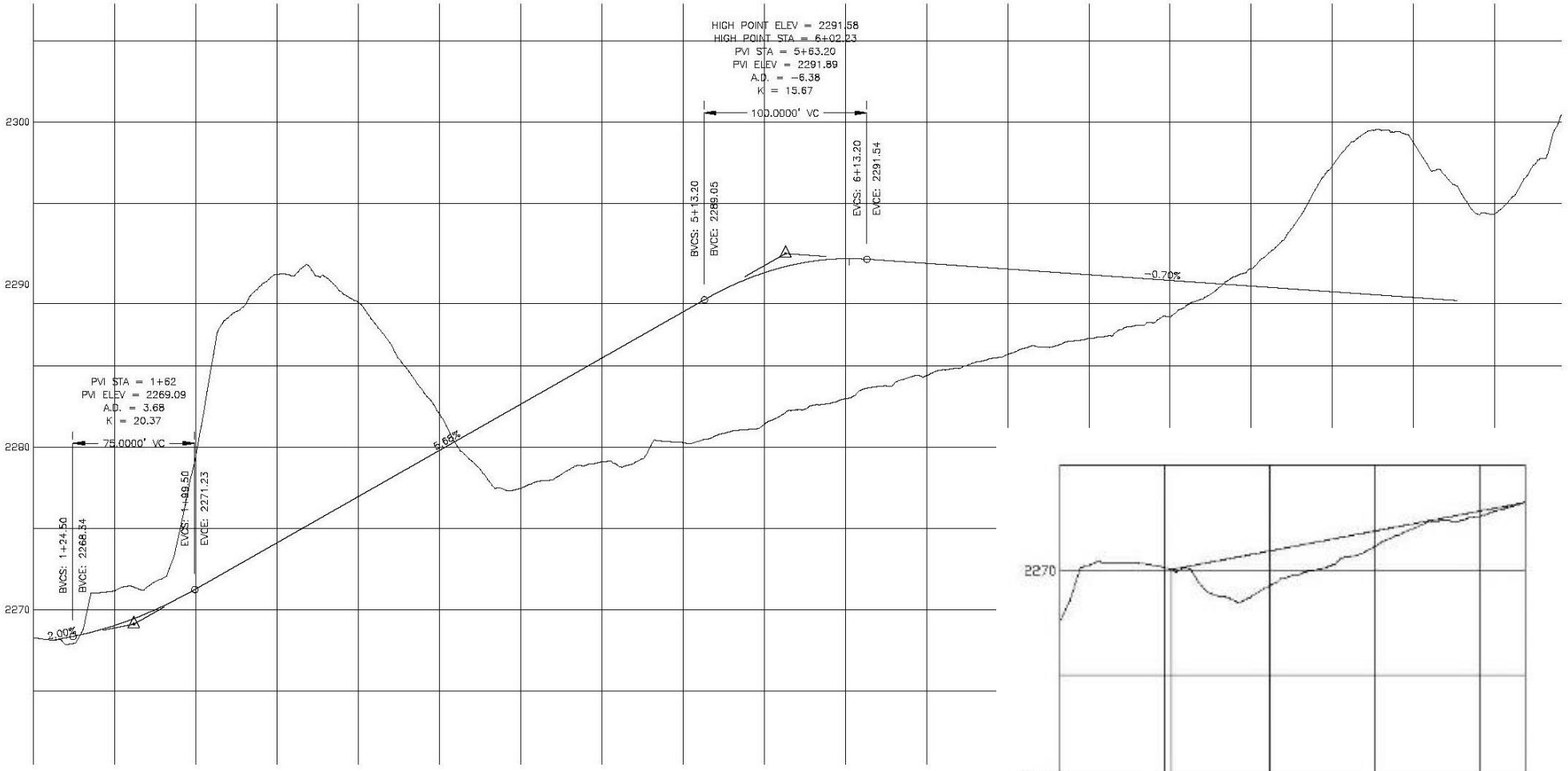
4. Maximum Change in Elevation

Refer to *Exhibit III.C.4: Cut / Fill* for the areas that exceed an elevation change of five feet by cut or fill.

5. Cross-Sections

The proposed site is not a cluster project, therefore this section of the plan proposal is not applicable.

Exhibit III.C.1: Road Profile



ROAD 2

ROAD 1

ORACLE JAYNES PROFILES

ALLIANCE ENGINEERING, PC
CIVIL ENGINEERING
1440 W CANYON SHADOWS LN ORO VALLEY AZ 85737
PH: 520-975-7992 FX: 520-742-6120
www.allengus.com

DRWN BY: | DATED: | PROJ:

Exhibit III.C.3: Grading and Open Space

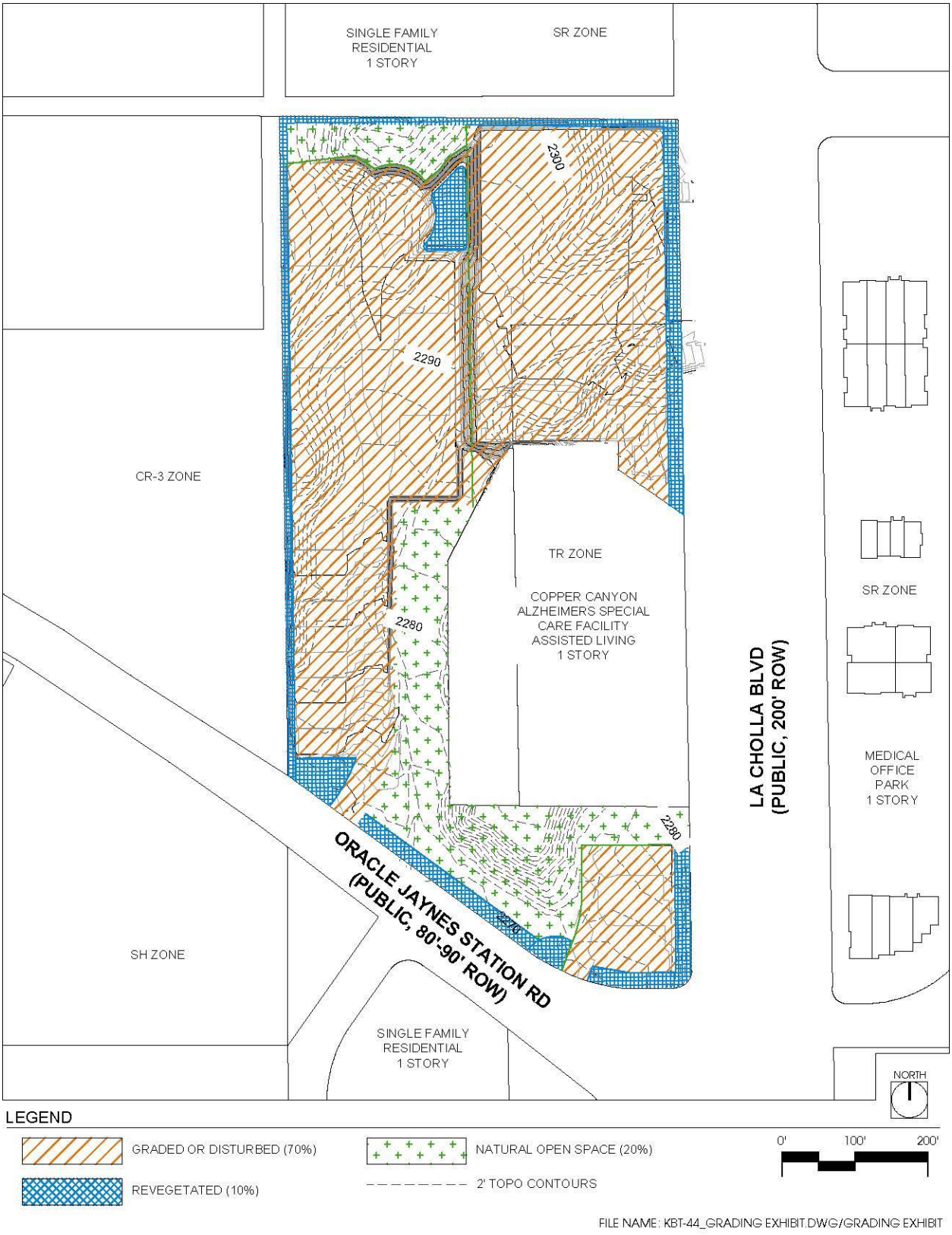
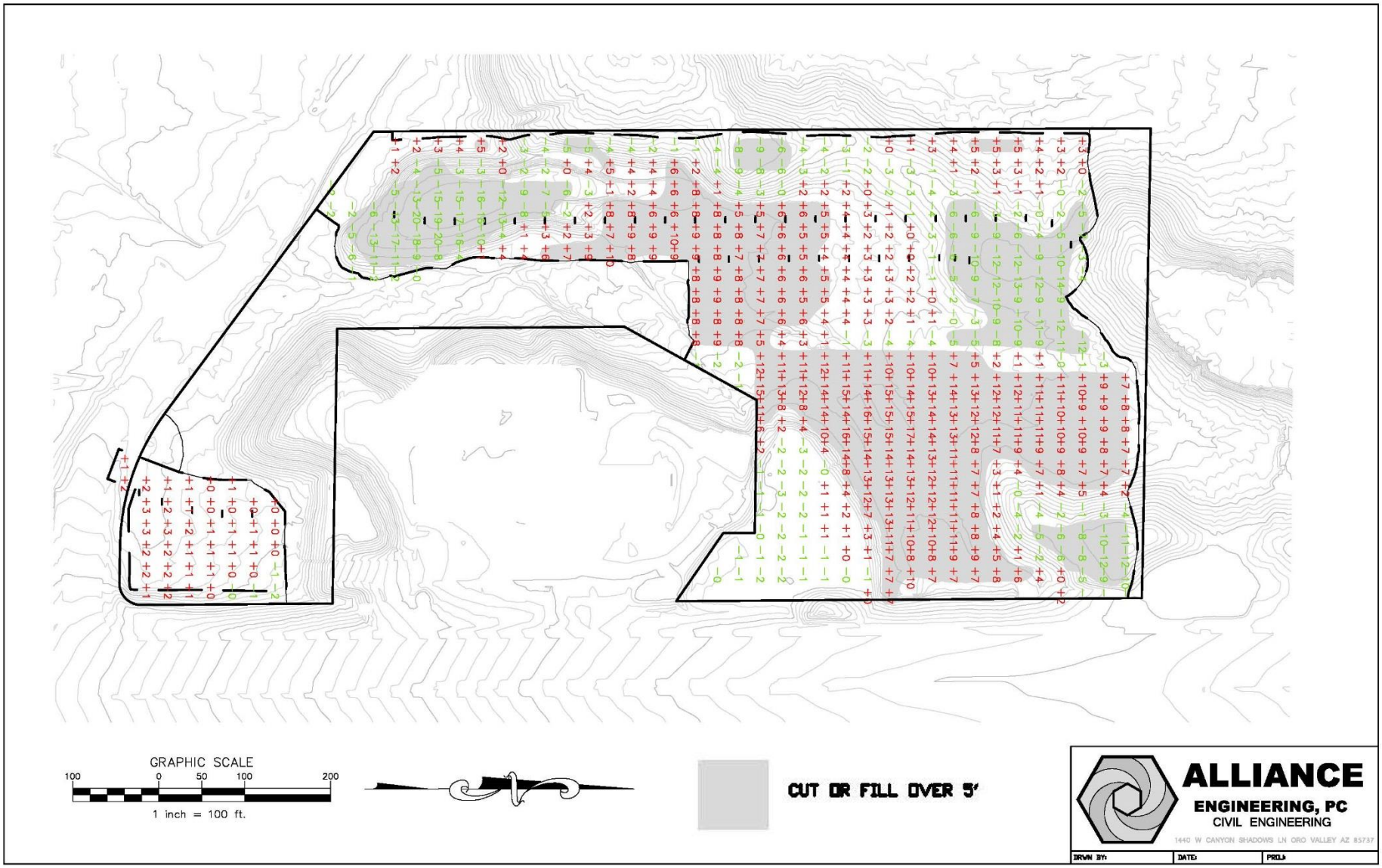


Exhibit III.C.4: Cut / Fill



D. Hydrology

1. Hydrologic Characteristics of PDP

The proposed development for this parcel is 3.18 acres of commercial and 7.17 acres of residential.

Commercial:

The three-acre commercial parcel will be developed with several culverts accepting discharge from the La Cholla Boulevard culverts (OFF 2-131 cfs) and passing them through the site to a constructed scour basin. A combination of 48" HDPE pipes and junction vaults is proposed.

A 60" cmp pipe will be placed to capture the drainage area (OFF 1-98 cfs) to the north and counter sunk to eliminate any increase in flood elevation caused by the northern discharge.

Increased flows due to development of the commercial parcel will be mitigated by a detention system shared with the residential site. Both the commercial and residential sites will be members of the association responsible for maintenance and will be assessed fees to maintain this shared basin.

Residential:

The remaining 7.17 acres is planned to be a 37 lot residential subdivision. OFF 1 discharge will bypass the existing channel through a proposed 60" HDPE pipe. This discharge will be concentrated in a man-made scour basin that accepts offsite flows from OFF 2 basin.

To maximize undisturbed open space, the existing channel is left as natural with some encroachment of the new entry road required. A three-foot toe down will be required adjacent to the proposed road to mitigate erosion hazard setback.

Because this is in a critical basin, onsite flows must be reduced by 15%. The floodplain at the property line will be reduced in quantity by 10 cfs thus reducing the overall impact to the downstream properties.

Discharge from OFF3 will be accepted in a graded swale north of Lot 5 that discharges to the existing natural swale adjacent to the entry road.

Discharge from OFF4 will be accepted into the proposed plunge basin.

Discharge from OFF5 will be accepted by a 10' buffer area and routed south to Lot 6 and then east to the existing concentration point through an appropriate swale.

Several detention areas are proposed throughout the site to bring the developed discharge back to pre-development peaks. Onsite lot to lot water harvesting will be employed as well as first flush for the roads and commercial site. See *Exhibit III.D.1: Post-Development Hydrology*. Both the commercial and residential sites will be members of the association responsible for maintenance and will be assessed fees to maintain this shared basin.

2. Encroachment Mitigation

To develop the parcel in accordance with applicable Pima County standards, engineering solutions to carry onsite and offsite discharges will be created. The entry road of the residential portion encroaches into the floodplain, but the remainder of the wash is to be natural.

The TR site will capture and redirect the offsite flows through a storm drain system. The drainage system will be designed to prevent any impacts to upstream and downstream property owners. Full details and modeling will be provided at the development plan phase and will be required to meet Pima County Flood Control requirements.

3. Potential Drainage Impacts to Off-site Locations

Total increase of the site after development is 16 cfs. Refer to *Exhibit III.D.2: PC Hydro Sheets* for estimated pre- and post-development discharge. A pondpack detention routing is also included to estimate onsite storage for the mitigation of the post-development increase. Post-development discharge at Oracle Jaynes Station Road will be 10 cfs less than the pre-development discharge and no changes to the existing nature of the natural channel are proposed at the south property line.

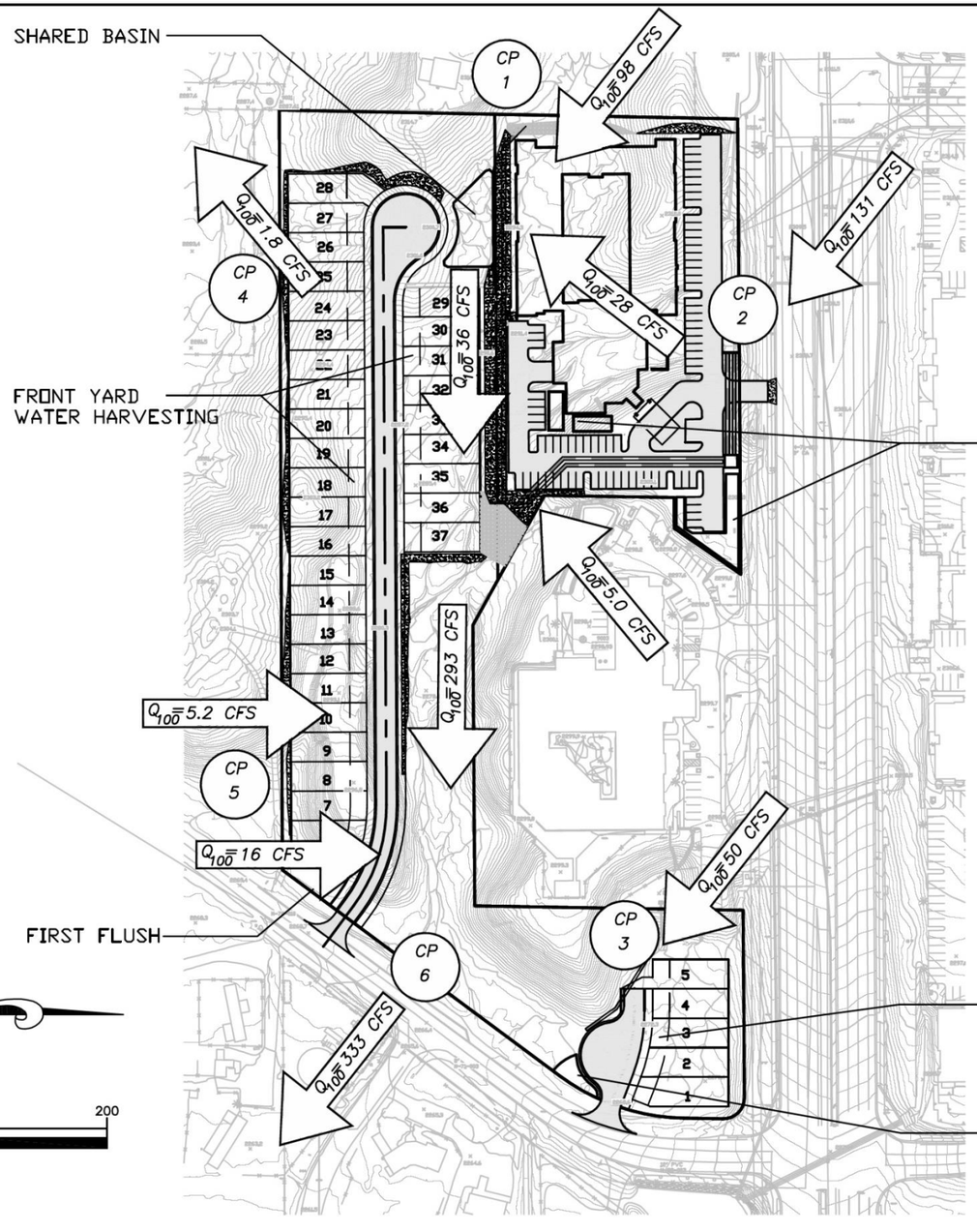
4. Engineering and Design Features

Refer to *Exhibit III.D.3: Developed Hydraulics* for the detailed engineered solutions for the site drainage. There are five culverts, one channel, and general detention volume information included. See also *Exhibit III.D.4: Channel Cross Section A* for more detail on erosion protection. The channel is for the proposed detention/first flush basin requirements and the offsite flows will be passed through a storm drain.

5. PDP Conformance

Exhibits have been created to delineate the engineering that will be required to maintain on and offsite flows in pre development conditions.

Exhibit III.D.1: Post-Development Hydrology



WATERSHED	ACRES	Q100
COMMERCIAL	3.07	29
RESIDENTIAL	7.27	57

DETENTION

	PRE	POST	DELTA
Q100	70	86	16

VOLUME REQUIRED
.3 ACFT

MAXIMUM DISCHARGE 100
52 CFS

NOTE:
WATER HARVESTING WILL BE EMPLOYED IN THE FRONT YARDS OF THE PROPOSED RESIDENTIAL. THE COMMERCIAL SITE WATER FIRST FLUSH WILL BE ON SITE AS MUCH AS PRACTICABLE AND ALSO WITHIN THE SHARED BASIN

ORACLE JAYNES
DEVELOPED HYDROLOGY

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Exhibit III.D.2: PC Hydro Sheets

HYDROLOGIC DATA SHEET FOR PIMA COUNTY FLOOD PEAK PROCEDURE

Pima County Regional Flood Control District

Client: KB Home
Project Name: Oracle Jaynes Development
Concentration Point: RESIDENTIAL

Prepared by: DMR
Date: 11/13/2015
Job #: 15-127

Watershed Area: 7.3 ac Watershed Type: High Density Urbanized

Watercourse Data By Reach

Reach No.	Height (Hi)	Length (Li)	Slope (Si)	Basin Factor (Nb)
1	33.0	1,103	0.0299	.022

Length of Watercourse (Lc): 1,103 feet Mean Slope: 0.0299
Length to Cen. of Gravity (Lca): 555 feet Weighted Basin Fac.: 0.022
Veg. Cover Type(s): Desert Brush Veg. Cover Density: 5 %

RETURN PERIOD: 100-years

Rainfall Depths: NOAA Atlas 14 (90% UCL) @ Latitude: 32.3146 Longitude: 111.0136

Duration:	5-min	10-min	15-min	30-min	60-min	2-hr	3-hr	6-hr	12-hr	24-hr
Point Values (in)	0.85	1.30	1.61	2.17	2.68	2.98	3.12	3.38	3.62	4.39
Areal Values (in)	0.85	1.30	1.61	2.17	2.68	2.98	3.12	3.38	3.62	4.39

Soils Data

Soil Type	Percent	Curve # (CN)	Adj. Curve # (CN*)	Runoff Coef. (C)
B	71	84.	87.75	0.567
C	29	90.	92.4	0.707
D	0	.	.	0.000
Imp.	45	99.	99.	0.956

Weighted Runoff Coef. (Cw): 0.764
Time of Concentration: 5.0 min
Rainfall Intensity (i) @ Tc: 10.20 in/hr
Runoff Supply Rate (q) @ Tc: 7.80 in/hr

PEAK DISCHARGE: 57 cfs

PC-Hydro, Ver 5.4.2

HYDROLOGIC DATA SHEET FOR PIMA COUNTY FLOOD PEAK PROCEDURE

Pima County Regional Flood Control District

Client: KB Home
Project Name: Oracle Jaynes Development
Concentration Point: COMMERCIAL

Prepared by: DMR
Date: 11/13/2015
Job #: 15-127

Watershed Area: 3.1 ac Watershed Type: High Density Urbanized

Watercourse Data By Reach

Reach No.	Height (Hi)	Length (Li)	Slope (Si)	Basin Factor (Nb)
1	3.0	667	0.0045	.022

Length of Watercourse (Lc): 667 feet Mean Slope: 0.0045
Length to Cen. of Gravity (Lca): 300 feet Weighted Basin Fac.: 0.022
Veg. Cover Type(s): Desert Brush Veg. Cover Density: 15 %

RETURN PERIOD: 100-years

Rainfall Depths: NOAA Atlas 14 (90% UCL) @ Latitude: 32.3146 Longitude: 111.0136

Duration:	5-min	10-min	15-min	30-min	60-min	2-hr	3-hr	6-hr	12-hr	24-hr
Point Values (in)	0.85	1.30	1.61	2.17	2.68	2.98	3.12	3.38	3.62	4.39
Areal Values (in)	0.85	1.30	1.61	2.17	2.68	2.98	3.12	3.38	3.62	4.39

Soils Data

Soil Type	Percent	Curve # (CN)	Adj. Curve # (CN*)	Runoff Coef. (C)
B	100	84.	87.75	0.567
C	0	.	.	0.000
D	0	.	.	0.000
Imp.	90	99.	99.	0.956

Weighted Runoff Coef. (Cw): 0.917
Time of Concentration: 5.0 min
Rainfall Intensity (i) @ Tc: 10.20 in/hr
Runoff Supply Rate (q) @ Tc: 9.36 in/hr

PEAK DISCHARGE: 29 cfs

PC-Hydro, Ver 5.4.2

Exhibit III.D.2: PC Hydro Sheet (cont'd)

Culvert Calculator Report
CL3

Solve For: Headwater Elevation

Culvert Summary			
Allowable HW Elevation	2,275.00 ft	Headwater Depth/Height	1.23
Computed Headwater Elev	2,273.69 ft	Discharge	50.00 cfs
Inlet Control HW Elev.	2,273.69 ft	Tailwater Elevation	0.00 ft
Outlet Control HW Elev.	2,273.68 ft	Control Type	Inlet Control

Grades			
Upstream Invert	2,270.00 ft	Downstream Invert	2,269.00 ft
Length	116.00 ft	Constructed Slope	0.008621 ft/ft

Hydraulic Profile			
Profile	S2	Depth, Downstream	1.96 ft
Slope Type	Steep	Normal Depth	1.93 ft
Flow Regime	Supercritical	Critical Depth	2.30 ft
Velocity Downstream	10.21 ft/s	Critical Slope	0.005471 ft/ft

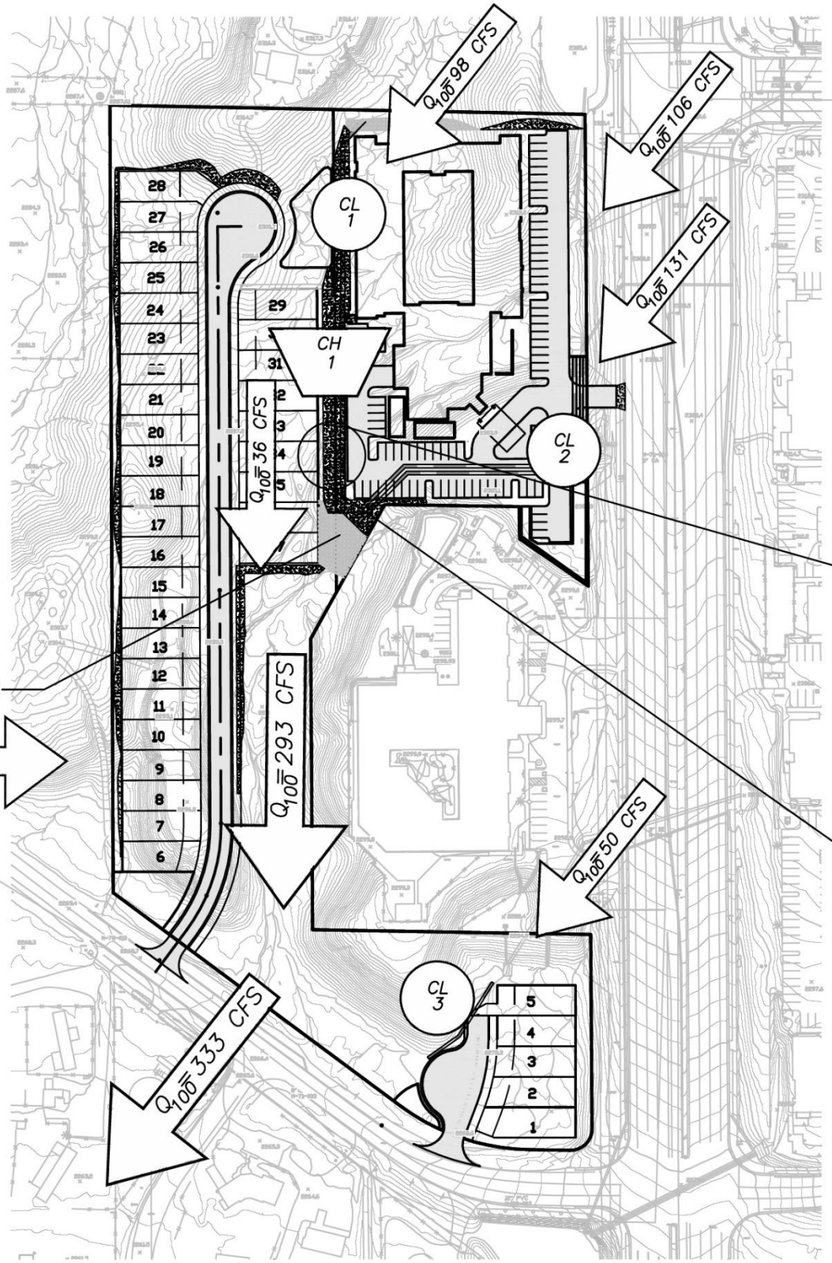
Section			
Section Shape	Circular	Mannings Coefficient	0.012
Section Material	HDPE (Smooth Interior)	Span	3.00 ft
Section Size	36 inch	Rise	3.00 ft
Number Sections	1		

Outlet Control Properties			
Outlet Control HW Elev.	2,273.68 ft	Upstream Velocity Head	1.15 ft
Ke	0.20	Entrance Loss	0.23 ft

Inlet Control Properties			
Inlet Control HW Elev.	2,273.69 ft	Flow Control	Submerged
Inlet Type	Beveled ring, 33.7° bevels	Area Full	7.1 ft²
K	0.00180	HDS 5 Chart	3
M	2.50000	HDS 5 Scale	B
C	0.02430	Equation Form	1
Y	0.83000		

Project Engineer: Derek Roberts
untitled.cvm
CulvertMaster v2.0 [2.005]
06/16/16 03:12:52 PM © Haestad Methods, Inc. 37 Brookside Road Waterbury, CT 06708 USA +1-203-755-1666 Page 1 of 1

Exhibit III.D.3: Developed Hydraulics

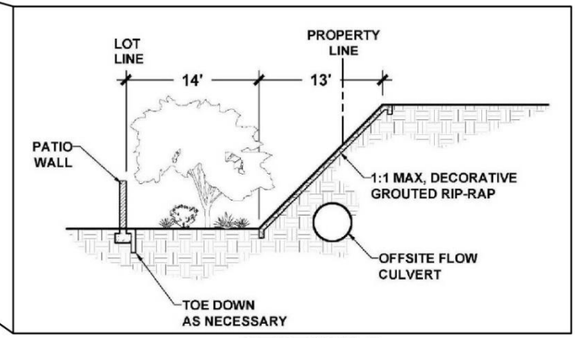


CULVERTS

	TYPE	Q100	LEN	INV UP	INV DN	HEADWATER
CL 1	60" CMP	98	450	2295	2284	2295
CL 2	2X48" HDPE	131	413	2296	2284	2299.68
CL 3	1x36" HDPE	50	116	2270	2269	2273.69

CHANNELS

	TYPE	Q100	SLOPE	SIDE	BOT	DEPTH
CH 1	3:1 NAT BOT	36	.5%	3:1	5'	1.38



SECTION A
CHANNEL 1

GRAPHIC SCALE
100 0 50 100 200
1 inch = 100 ft.

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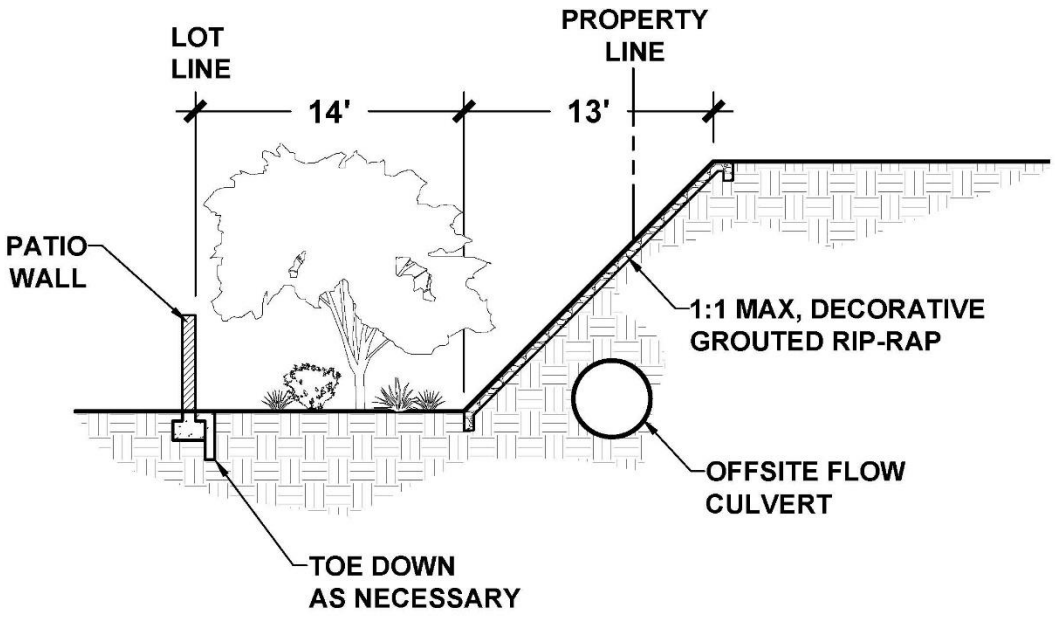
Exhibit III.D.4: Channel Cross Section A



0' 5' 10'

FILE NAME: SECTION - RIPRAP SLOPE.DWG/8.5X6.5 PT