

Rincon/Southeast Subregional Plan

RITA 10 Plan Amendment Narrative

Tucson, Arizona

Submitted to:



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Rincon/Southeast Subregional Plan Amendment Narrative

Community Needs

With major rail lines, an airport, and a spaceport, Tucson is poised to benefit from trade and supply chain advantages due to its strategic location at the crossroads of Interstate 10 and the CANAMEX Corridor. Companies from various industries are currently looking at Tucson to establish or expand their operations and are seeking large contiguous tracts of developable land for these businesses. As these opportunities present themselves, additional housing, commercial, and other support services will be required near those jobs to provide sustainable growth opportunities.

Despite these advantages and an above-average educational attainment rate, Tucson lags behind many peer western cities in key economic metrics such as employment, business growth, GDP, and median household income. The lack of diverse employment, good-paying jobs, and robust housing options is partially attributable to Tucson needing more entitled land to accommodate larger-scale manufacturing industries and the commercial and residential uses that support them.

Southlands Opportunities

Fortunately, Tucson has over fifty square miles of undeveloped land in an area referred to by *Plan Tucson* as the Southlands. The Southlands is generally bounded by Interstate 10 and Tucson International Airport on the north, the Pima Mine Road and Andrada Road Alignments on the south, Houghton Road and Wentworth Road on the east, and Nogales Highway on the west. Also unique to this area is that most of the land is owned by a single entity, the Arizona State Land Department (ASLD). This consolidated ownership presents the opportunity to collaborate with local governments and end-users to master plan and establish long-standing policies that would be impossible with smaller, fractionalized private ownership interests. The location and environmental character of the Southlands area, combined with the consolidated ASLD ownership, provides an opportunity to entitle the land and establish drainage policies to prepare it for live/work/learn and play uses while enhancing riparian habitat.

The first focal area within the Southlands, known as RITA 10, consists of approximately 8,300 acres of State Trust Land. It is located between Interstate 10 and Wilmot Road, north of Dawn Road and south of Voyager Road. RITA 10's location along I-10, the future Sonoran Corridor, and its proximity to other employment centers, such as the UA Tech Park and Pima County's Southeast Employment and Logistics Center (SELC), makes it the logical place to begin planning and entitling State Trust Land in the Southlands. This process starts with amending the Rincon/Southeast Subregional Plan.

Rincon/Southeast Subregional Plan (RSSP)

The Rincon/Southeast Subregional Plan (RSSP) was adopted by Mayor and Council in 1995 based on the 1992 Pima County Comprehensive Plan (PCCP). When it was written, the RSSP identified the area's rural character and recognized the future industrial and employment potential between Interstates 10 and 19. Thirty years later, we are now able to realize this vision.

Since the RSSP's adoption, much has changed to position the Southlands for development. Recent improvements at Tucson International Airport and the Nogales Port of Entry and successes at the Port of Tucson have positioned Tucson as a significant logistics and manufacturing hub. Ongoing plans for the Sonoran Corridor to connect Interstate 19 to Interstate 10 have transformed RITA 10's vacant tracts of State Trust Land into prime property for economic development.

Much of RITA 10's area is designated for rural residential use, which is not compatible with ASLD's fiduciary obligation to maximize value of the land for the Trust beneficiaries or with the types of large-scale development parcels sought by advanced manufacturing and other high-value employers. The area's shallow floodplains constrain developable land to isolated pockets requiring extensive infrastructure improvements to reach these sites. Altering the floodplain limits is restricted due to the protections imposed on the existing vegetation within the floodplain. These factors, combined with the lack of entitled land, complicate the development potential of RITA 10, recently resulting in desirable employers passing over Tucson in favor of other cities.

RSSP Amendment (RITA 10 - State Trust Land Planned Development Special Area and Map Detail #4 and #8 Land Use Changes)

This plan amendment request consists of four parts:

1. Applying a new Special Area to all State Trust Land within the RITA 10 boundary with policies allowing floodplains, riparian vegetation, and Resource Conservation areas to be modified and consolidated through the Planned Area Development (PAD) or Planned Community Development (PCD), secondary planning, and development review processes. For the Special Area, the amendment also allows the O-3, P, C-1, C-2, C-3, I-1, and I-2 zoning districts within the RSSP's Medium/High Intensity Urban (E) Land Use category and specifies that the zoning districts allowed in E are also allowed in the Urban Industrial (I) category;
2. Changing the land use designation for State Trust Land in Map Detail #4 – RSSP Harrison I-10 from Low Intensity Rural (LIR) and Medium Intensity Rural (MIR) to Medium High/Intensity Urban (E) and Urban Industrial (I);
3. Changing the land use designation for State Trust Land in Map Detail #8 – RSSP Houghton/Dawn from Low Intensity Rural (LIR) and Medium Intensity Rural (MIR) to Medium High/Intensity Urban (E); and
4. Modifying the Resource Conservation designations for State Trust Land in Map Details #4 and #8 in response to more recent floodplain/vegetation mapping and analysis.

Three goals for this plan amendment are:

1. Economic Development – Create contiguous tracts of marketable land to capitalize on development opportunities for employment, housing, and commercial services to support this growth.
2. Flood Control – Consolidate broad, shallow floodplains into manageable and thriving environments/wildlife corridors that also reduce future infrastructure costs and flooding.

3. Habitat & Wildlife – Utilize enhanced flow corridors to create a healthy network of native vegetation that promotes wildlife movement through RITA 10 to the rest of the Southlands.

Amending the RSSP is the first step in entitling RITA 10, helping the City of Tucson and ASLD begin to realize the Southlands' potential fully. It creates floodplain management policy that addresses drainage constraints and enhances wildlife linkages. This RSSP amendment aims to take a proactive approach to address flooding, update land use designations to help Tucson become more competitive, and create policies that strike a balance between a sustainable live/work/learn and play environment and responsible floodplain management that enhances environmental priorities. This plan amendment and subsequent rezoning address overall land use opportunities and floodplain and riparian policies for all State Trust Land within RITA 10 to attract large-scale manufacturing, industrial, and logistics users while supporting diverse housing options and commercial uses. The amendment seeks to realize RITA 10's economic development potential and balance future development within its natural context. It recognizes the RSSP's vision for a connected landscape accommodating industry, open space, drainage, natural habitat, recreation, and wildlife movement. ASLD has considerable holdings in the Southlands beyond RITA 10 and is uniquely positioned to ensure these new policies are adhered to as RITA 10 develops and the rest of the Southlands is planned.

Changing the rural land use designations in RITA 10 to urban designations allows for a wide range of commercial, employment, and housing opportunities. It prepares the State Trust Land for rezoning, making it more appealing to potential buyers. Modifying the Resource Conservation boundaries and applying a new Special Area serves the following important purposes:

- Reconfiguring the broad floodplains into consolidated flow corridors to create a more consistent, predictable, and manageable regional drainage system that reduces future infrastructure costs.
- Enhancing flow corridors to concentrate the amount of water available to support native vegetation and revegetation efforts, creating a higher-quality habitat.
- Promoting wildlife movement and species persistence between natural preserves and mountain ranges by improving vegetation quality along the enhanced flow corridors.
- Establishing policies that will ensure corridor conservation as protected open space, adding to the regional open space system.

In doing so, these improvements support the following RSSP Policies:

- Open Space - Supports an integrated regional open space system.
- Wildlife Habitat and Corridors - Protects significant habitat and fosters the unimpeded movement of wildlife.
- Flood Control – Creates an area-wide drainage solution consistent with the area's overall character.

Not only does this approach comport with the process prescribed by *Plan Tucson* for orderly planning of the Southlands, but amending the RSSP also supports the following *Plan Tucson* Goals:

Social Environment Goals:

- 2) *A stabilized local economy with opportunities for diversified economic growth supported by high-level, high-quality public infrastructure, facilities, and services.*
- 4) *A community whose economic stability and sense of place reflect its commitment to arts and culture and its care for the natural environment.*

This plan amendment supports the Social Environment Goals as it expands Tucson’s economic base with large-scale employers and sustainable growth opportunities to diversify and stabilize our local economy. This growth is supported by managing and controlling flooding through a series of enhanced flow corridors that reduce infrastructure and maintenance costs while improving the natural environment.

Economic Environment Goals:

- 9) *An economy that supports existing businesses and attracts new businesses to increase employment opportunities, raise income levels, expand the tax base, and generate public and private investment leading to a high quality of life for the community.*
- 10) *A local job market that provides opportunities for all Tucsonans to meet their basic needs and pursue career advancement, matched with a well-educated, well-qualified workforce that is able to meet the dynamic needs of businesses and employers.*
- 11) *A sustained increase in household income and wages, and a sustained reduction in the poverty rate, especially for Tucson’s children, seniors, and disabled residents.*
- 12) *A sustainable and diversified economy that maximizes Tucson’s strategic location and balances traditional import and export of resources with locally supplied goods and services to meet local demand.*
- 13) *A community whose vibrant economy and quality of life benefits residents and attracts visitors.*

Economic Environment Goals are supported by amending the RSSP with more marketable land use designations to capitalize on Tucson’s strategic location and attract companies to bring their operations to Tucson, generating employment opportunities, improving income, and stabilizing the local economy.

Natural Environment Goals:

- 17) *Abundant and appropriate use of native plants and trees.*
- 18) *A network of healthy, natural open space managed for multiple benefits.*
- 21) *Sound, efficient, ecological policies and practices in government and in the private sector.*

The RSSP amendment supports Goals for the Natural Environment by creating a system of enhanced flow corridors that increases available water, benefits native plants, and improves habitat quality. The improved habitat within these flow corridors establishes a healthy natural open space system that promotes wildlife movement and connections through RITA 10 to the rest of the Southlands.

Built Environment Goal:

- 24) *Strategic public and private investments for long-term economic, social, and environmental sustainability.*

Amending the RSSP supports this Built Environment Goal by expanding economic opportunity, adding to Tucson’s attractiveness to large-scale employers, and creating living opportunities near employment while enhancing the flow corridor network.

Entitlement Process

The following steps detail the process to entitle and develop the State Trust Land in RITA 10.

Plan Amendment and Special Area Policy Change

ASLD will initiate the plan amendment request to 1) change the land use designations in RSSP Map Details #4 and #8, and 2) establish the RITA 10 State Trust Land Planned Development Special Area 1-05 for all ASLD property within the RITA 10 boundary. This Special Area will address modifications to select RSSP subregional policies and land use designations to ensure responsible development and allow a mix of land uses that maximize economic development opportunities.

Rezoning

ASLD, and in some cases, prospective buyers, follow a two-step planning process to entitle larger tracts of State Trust Land for auction and development:

Step 1 – Initial Entitlement

Initial land use entitlements are secured through the rezoning, Planned Area Development (PAD), or Planned Community Development (PCD) process. This establishes the regulatory framework for future development of the property(ies), including zoning, land use regulations, and development standards. Because ASLD does not know who the ultimate end user will be, ASLD typically seeks flexible zoning known as a “Zoning Bank,” such as that achieved within the *Atterbury Trails PCD*, to ensure that the Trust and the City of Tucson are well-suited to take advantage of changing economic and market conditions. For larger PADs or PCDs, the land typically is broken down into “Development Units,” where each Development Unit may contain a distinct mix of zoning based on location and environmental constraints. Based on market conditions and surrounding growth, ASLD may limit allowable uses within the Zoning Bank with each parcel disposition.

Step 2 – Secondary Planning

The purchaser undertakes secondary planning efforts upon the sale of the property. This secondary planning focuses on details relating to infrastructure master planning within the Development Unit and completes the jurisdictional review and permitting process for the specific use. In tandem with the City of Tucson’s jurisdictional review, ASLD acts in a supervisory role to ensure that the development complies with the initial entitlements’ vision and is consistent with the future development of adjacent State Trust Land.

Post-Development Policy and Monitoring

Upon completion of development, the newly improved floodplain and riparian habitat areas will become subject to the policies and regulations in the RSSP and future PADs or PCDs. These policies will be the criteria to guide future monitoring of the development.

Future Changes to Post-Development Improvements

Major alterations to the post-development improvements exceeding that allowed per the PAD/PCD or secondary planning process will require the applicant to undertake an amendment process that may include additional plan amendments, PAD/PCD amendments, or other modifications. Proposed amendments must be agreed upon by ASLD until all State Trust Land has been sold from within the planning area.

On occasion, ASLD may sell a single parcel of unzoned land, leaving the entitlement process up to the buyer. In these circumstances, the RITA 10-State Trust Land Special Area Policy and the City of Tucson's standard policies and processes shall apply.

Resource Conservation Modifications

When adopted in 1995, the RSSP designated certain washes in the Southlands as Resource Conservation. The Resource Conservation areas were identified County-wide at a high level and were determined through limited ground-truthing and limited available information, and older technology. Generally, if a wash had Environmental Resource Zone (ERZ) status or a 100-year floodplain, it was designated as Resource Conservation. Further impacting the effectiveness of the Resource Conservation designations, the areas were only mapped within the Southlands for Map Details #4 and #8, meaning the washes in the remainder of the Southlands are not subject to Resource Conservation policies or standards. Combined with decades of ongoing drought, these factors resulted in mapped Resource Conservation areas that do not always accurately reflect the boundaries of existing riparian vegetation or match currently mapped ERZ washes.

Since the RSSP's adoption, subsequent studies have been conducted, and much higher-resolution aerial imagery is readily available to update and refine those initial habitat studies from the 90s. It was always intended that the RSSP would be periodically updated, but that has not happened except for a handful of land use-related amendments to various map details. Despite the completion of new vegetation and habitat studies, no updates have been made to the Resource Conservation areas to date. As described below, these studies are not consistent with one another and are often contradictory.

This RSSP amendment intends to propose a consolidated network of major washes that prioritizes an organized network of flow corridors, provides wildlife connectivity, protects the areas with the highest value of riparian resources, and provides an opportunity to enhance vegetation in these corridors. Because ASLD manages this large land area, the amendment presents a unique opportunity to improve the overall drainage and habitat throughout RITA 10. The amended RSSP will establish a framework from which future PADs and/or PCDs can modify the UDC and floodplain development standards to achieve these goals.

The ultimate goal of this amendment is to provide safe and effective conveyance of drainage through RITA 10 and preserve and enhance vegetation and riparian habitat while consolidating tracts of land to respond to interest from prospective employers at a reasonable cost of development.

Methodology

The following describes the methodology used to inform the proposed modifications to the Resource Conservation designation for the State Trust Land within RITA 10.

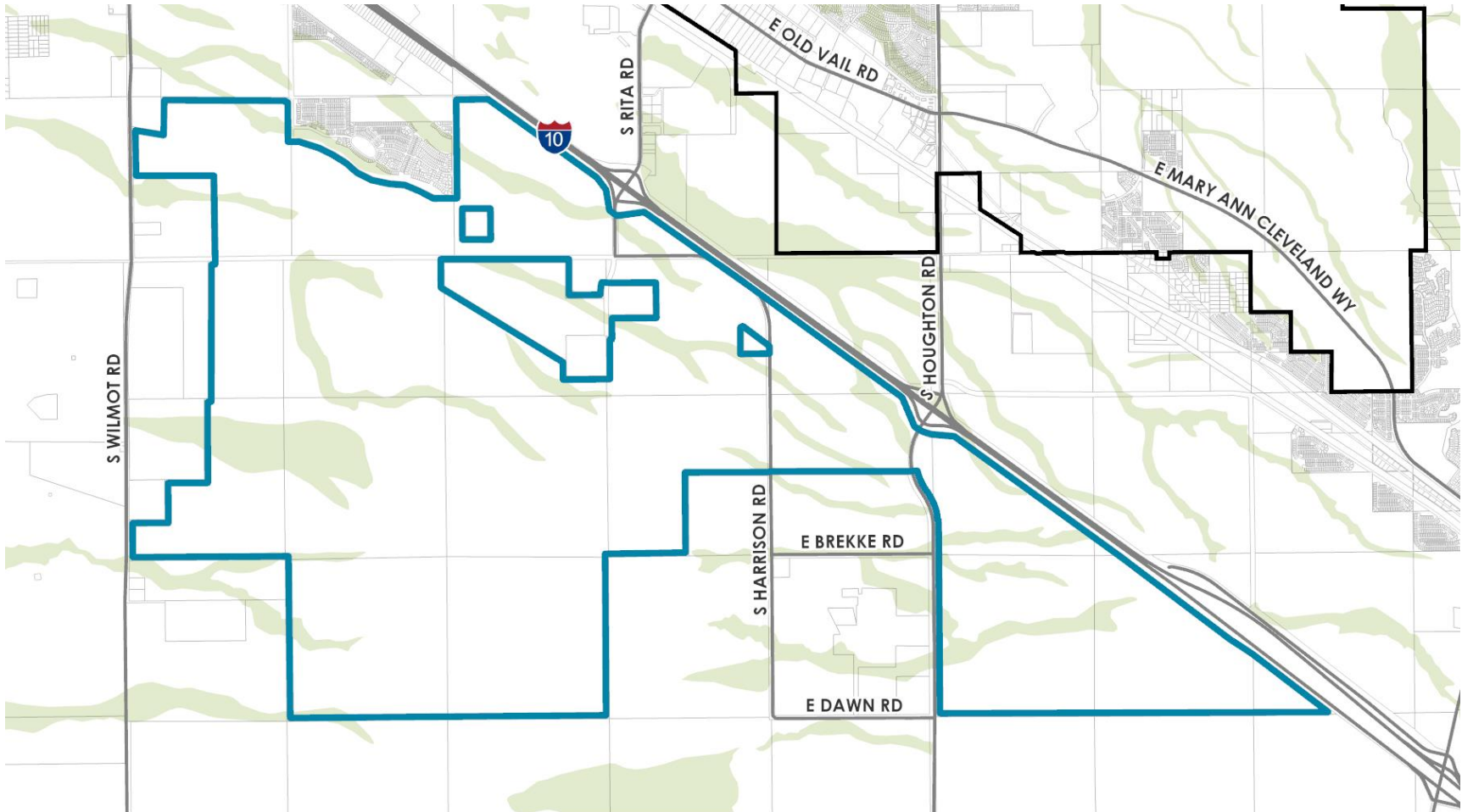
First, the Shaw vegetation study that informed the RSSP's Resource Conservation areas was reviewed, followed by an evaluation of the Pima County vegetation studies that came later. Data from each of these studies were overlaid to determine where there was consistency amongst studies on the location of riparian resources. That information was then considered in conjunction with finer-scale floodplain and vegetation analysis.

Shaw Habitat Models (1986, 1994)

Dr. William Shaw completed the Critical and Sensitive Wildlife Habitats of Eastern Pima County study in 1986. It was the original riparian study for Pima County, the results of which were used to develop the Environmental Resource Zone. Dr. Shaw mapped riparian areas from USGS aerial photography at a scale of 1 inch equal to 1,000 feet. His study grouped wildlife habitat into two classes. Class I habitats are desert riparian areas extending from large public reserves, e.g., Saguaro National Park. Class II habitats are areas important to wildlife but are separated from larger public reserves. The RITA 10 State Trust Land Special Area contains Class II habitat only. Habitat models derived from this study were updated in 1994. **Exhibit 1: Shaw Habitat Model (1994)** shows the findings of this habitat study in the RITA 10 Special Area. The Class II habitat mapped in 1994 does not match the Resource Conservation areas within the RSSP, nor does it align with subsequent mapping efforts. See **Exhibit 2: Resource Conservation Areas within Map Details #4 and #8** for riparian limits mapped as part of the RSSP within the RITA 10 boundaries.

Pima County's 1999 and 2005 riparian mapping exercises were then analyzed for consistency with 1) Shaw, 2) areas delineated as Resource Conservation, and 3) existing vegetation patterns.

Exhibit 1: Shaw Habitat Model (1994)



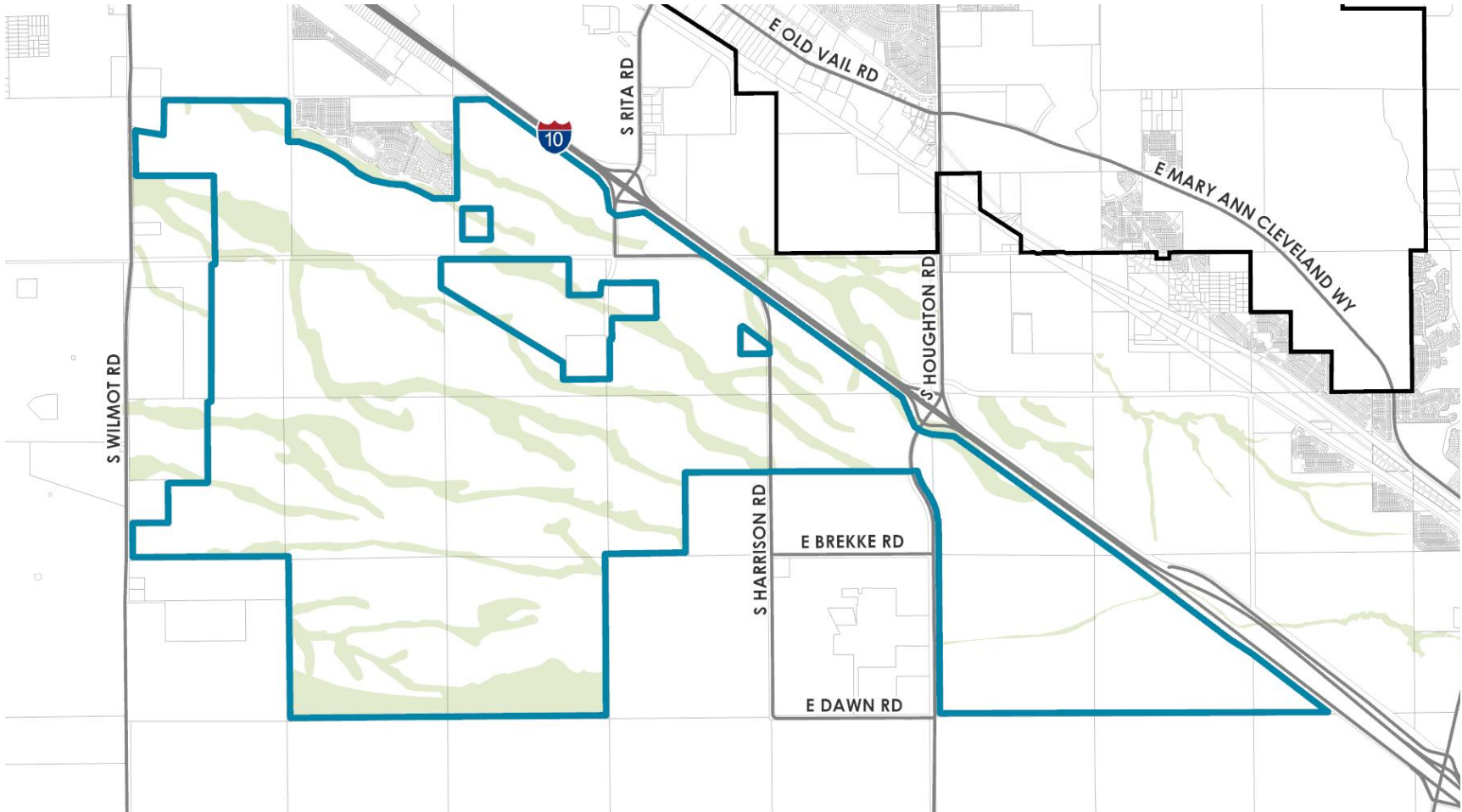
Legend

-  Rincon/Southeast Subregional Plan
-  RITA 10 Boundary (8,361 ac)
-  Parcels
-  Shaw Habitat Model (1994)
-  Major Streets



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 FILE NAME: RSP Habitat 6x9 Landscape

Exhibit 2: Resource Conservation Areas within Map Details #4 and #8



Legend

-  Rincon/Southeast Subregional Plan
-  RITA 10 Boundary (8,361 ac)
-  Parcels
-  Resource Conservation
-  Major Streets



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 FILE NAME: RSSP Habitat 6x9 Landscape

1999 Pima County Riparian Mapping

Hydromesoriparian habitat classifications were generated using aerial reconnaissance flights to observe riparian habitat locations. Xeroriparian classes A, B, C, and D were identified using 30-meter resolution multispectral satellite imagery (LANDSAT) from the early 1990s to infer vegetative volumes. 30-meter data does not reliably show differences in vegetation cover at small scales along washes. Findings from these mapping methods in the RITA 10 Special Area are shown in ***Exhibit 3: Pima County Riparian Habitat (1999)***.

2005 Pima County Riparian Mapping

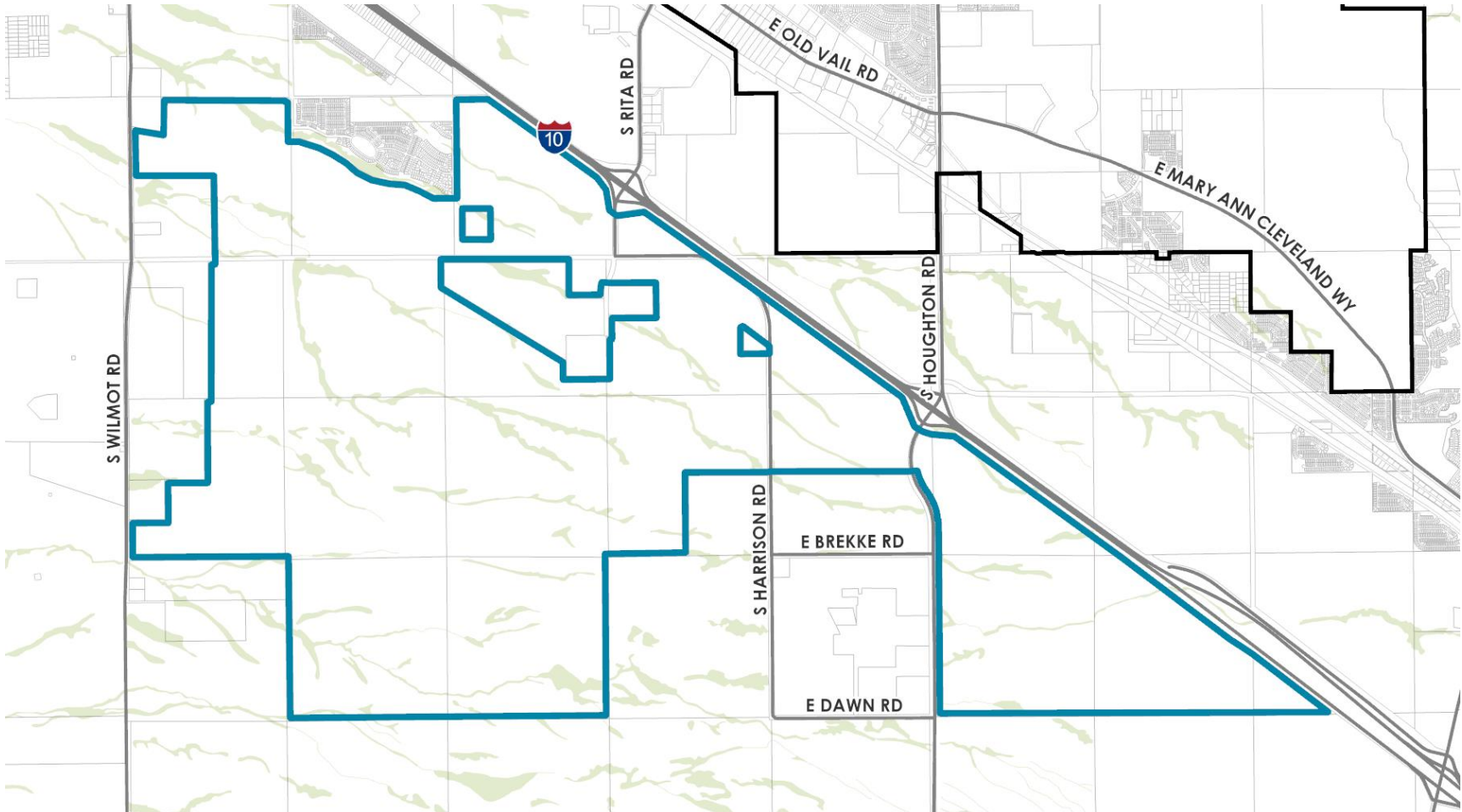
The 1999 mapping was further refined as part of the Sonoran Desert Conservation Plan (SDCP). The SDCP study used digital orthophotography at a scale of 1 inch equals 2,000 feet to examine the difference in vegetation cover and to separate hydromesoriparian areas from xeroriparian areas. Water resource areas mapped by the Pima Association of Governments with perennial and intermittent flow reaches and shallow groundwater were identified as hydromesoriparian areas.

Xeroriparian delineations were also revised by analyzing LANDSAT imagery from June 2000 using Normalized Difference Vegetation Index (NDVI) values to identify differences in vegetation. NDVI values measure the near-infrared light reflected by land and vegetation. This analysis improved the distinction between riparian classifications and delineations based on plant community structure and composition, vegetation density, and water availability. As such, the 1999 riparian mapping and Pima County's Riparian Habitat Protection Ordinance were updated in 2005 to reflect the new findings. ***Exhibit 4: Pima County Riparian Habitat (2005)*** shows the extent of these revised riparian delineations in the RITA 10 Special Area.

Each of these previous studies relied on techniques and technology available when they were conducted. Due to the long duration between mapping efforts and the differences in technology, discrepancies exist between these studies' findings and the extent of riparian areas. The scale at which past studies were conducted for all of eastern Pima County justifies the need to examine riparian and floodplain areas specifically for RITA 10.

Changes in weather patterns, including drought and increased surface temperatures, have altered the vegetative composition and health of these habitats. Analyzing the flow conditions of the Southlands in conjunction with new vegetation data and higher-resolution 2D and oblique aerial imagery formed the basis of the proposed Resource Conservation modifications.

Exhibit 3: Pima County Riparian Habitat (1999)



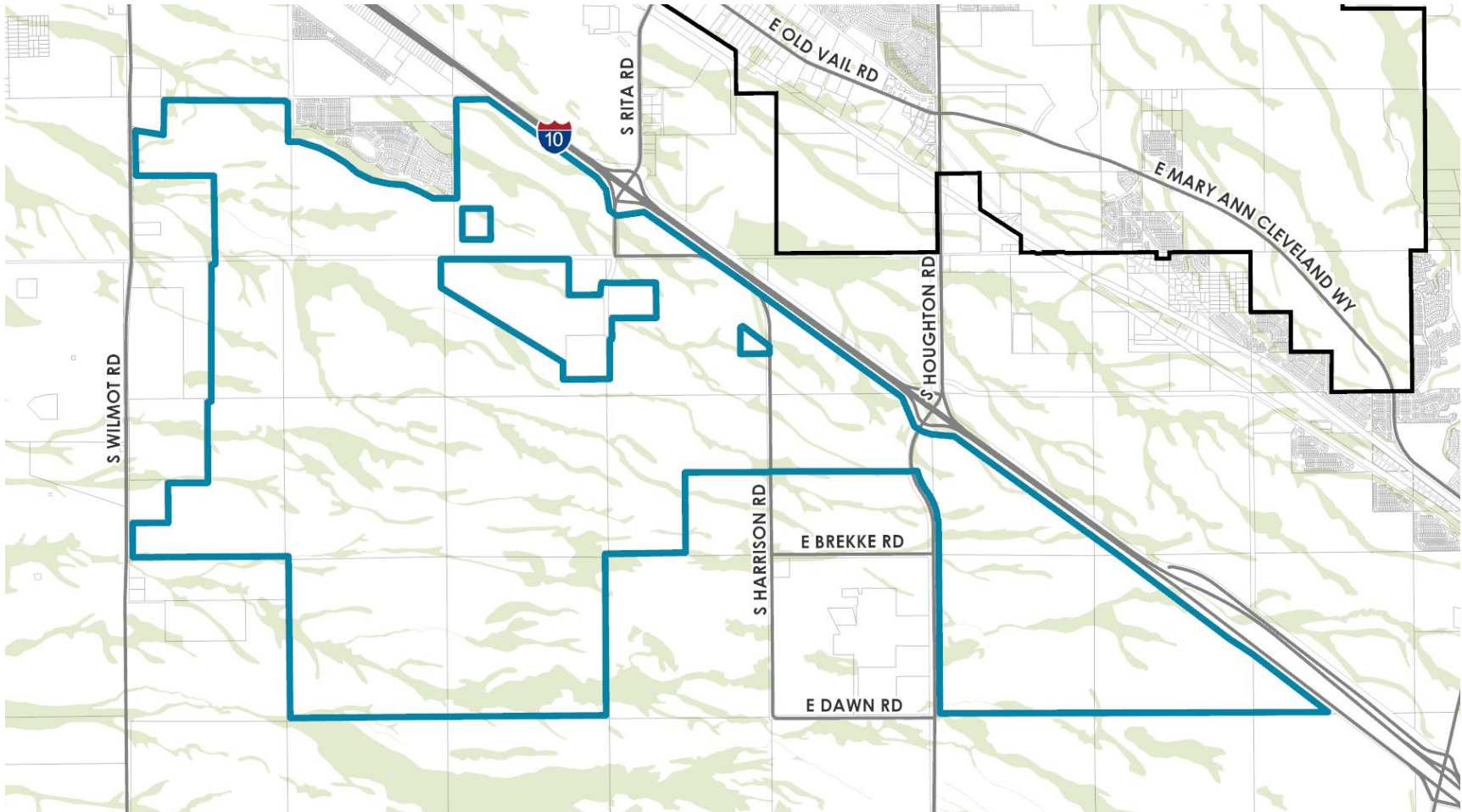
Legend

-  Rincon/Southeast Subregional Plan
-  RITA 10 Boundary (8,361 ac)
-  Parcels
-  Pima County Riparian Areas (1999)
-  Major Streets



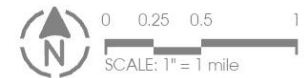
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 FILE NAME: RSP Habitat 6x9 Landscape

Exhibit 4: Pima County Riparian Habitat (2005)



Legend

-  Rincon/Southeast Subregional Plan
-  RITA 10 Boundary (8,361 ac)
-  Parcels
-  Pima County Riparian Areas (2005)
-  Major Streets



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 FILE NAME: RSSP Habitat 6x9 Landscape

NAIP Vegetation Cover Analysis

Since the last delineation in 2005, advances in aerial imagery and remote sensing have made it possible to examine vegetation cover more granularly. The United States Department of Agriculture (USDA) administers the National Agriculture Imagery Program (NAIP), which uses near-infrared aerial imagery to assess vegetation coverage across the country using NDVI analysis like Pima County used in 2005. **Exhibit 8: NAIP Infrared Vegetation Coverage (2019)** reveals dense vegetation cover in green confined to narrow patches along the major wash corridors. Yellow regions represent sparse vegetation that may include portions of xeroriparian areas. Orange regions contain little vegetation cover, while red areas represent bare or developed land. See **Exhibit 8: NAIP Infrared Vegetation Coverage (2019)**.

Composite of Vegetation Studies

Comparing the past studies with current NAIP imagery determines areas of overlap where high-value vegetation is likely to occur within RITA 10. As shown in **Exhibit 9: Vegetation Studies Composite Map**, vegetative resources are most likely to occur in proximity to available water flowing through the area's washes. Hydrologic analysis of the area provides a better understanding of the available water supporting the existing vegetation. It also helps inform where corridors may be reconfigured, enhanced, or preserved.

This plan amendment combined hydrologic analysis with aerial imagery and remote sensing data to gain a better understanding of current vegetative resources in RITA 10. This analysis used the most recent NAIP imagery from 2019 and compared it with Pima County's most recent aerial imagery from Spring 2022. The Pima County imagery has a 2-inch resolution, providing a high level of detail for assessing land cover. Areas with dense vegetation within regulatory floodplains (100-year floodplains with flows in excess of 100 cfs) and connecting to significant watercourses upstream and downstream were determined to be riparian areas and are proposed as Resource Conservation. See **Exhibit 10: Vegetation Studies & Floodplain Map** and **Exhibit 11: Proposed RITA 10 Flow Corridors**.

Hydrology Analysis

Existing Conditions

Current hydrologic conditions in the Tucson Southlands area have been characterized by Pima County Flood Control in several studies, with the largest being the Lee Moore Wash Basin Management Study (LMWBMS). See **Exhibit 6: Southlands Floodplain Studies**. The Lee Moore Wash study was initially completed in 2009 with refinements in 2018 and 2019. The effort provided general floodplain mapping of the extensive shallow floodplain areas, which cover approximately 38% of the Tucson Southlands footprint, and present the most significant challenge to development.

Much of the flooding in the study area is in the form of dispersed sheet flow, which is generally shallow and poorly defined. A review of the Lee Moore Wash analysis indicates that a significant portion of the more dispersive floodplain area between Wilmot Road and Houghton Road and north of Dawn Road has 100-year flow depths of less than 0.50 feet. Flow paths and distribution in these areas can change over time and with the intensity of a particular event, making it challenging to develop both private and public infrastructure.

Pima County Regional Flood Control District (RFCD) delineated preferred flow corridors within the mapped 100-year floodplains as part of the 2009 Lee Moore Wash study. In general, the corridors correlate with 10-year flood limits and are intended to be preserved to the greatest extent possible to provide a minimum conveyance area for the 100-year flood. Development would be allowed to encroach up to the limit of the corridors, and containment of the 100-year event would be achieved by raising the adjacent development above existing grade. These corridors reduce the overall 100-year floodplain in some areas. However, in the area most impacted by dispersed flow, the designated flow corridors are as wide as approximately 4,000 feet, which would not be practical for large or small-scale development or the implementation of a regional and local transportation network. See **Exhibit 7: Lee Moore Flow Corridors**.

Conceptual Flow Corridors Methodology and Guidelines

The RSSP provided some high-level guidance for floodplain development. This guidance was further refined in the LMWBMS Development Criteria adopted by the City of Tucson in 2010. The LMWBMS document currently serves as the baseline guidance when evaluating proposed development and associated floodplain management measures in the Lee Moore Wash Watershed.

The LMWBMS indicates that the established 10-year corridors, as shown in **Exhibit 7: Lee Moore Flow Corridors**, shall be maintained to the maximum extent possible, but it provides criteria for a potential variance to a narrower corridor pending approval by the applicable regulating agencies. Its Development Criteria include a typical section for possible corridor encroachment scenarios, as shown in **Exhibit 5: Corridor Modification Cross-sections**. **Exhibit 6: Southlands Floodplain Studies** shows that dispersive flows in the study area tend to coalesce in the downstream direction into more defined drainages (generally west of Wilmot Road), which will simplify matching existing conditions at the downstream project boundary.

Flow corridors may be created through the following approaches (or a combination thereof) depending on location-specific conditions and the extent of proposed development:

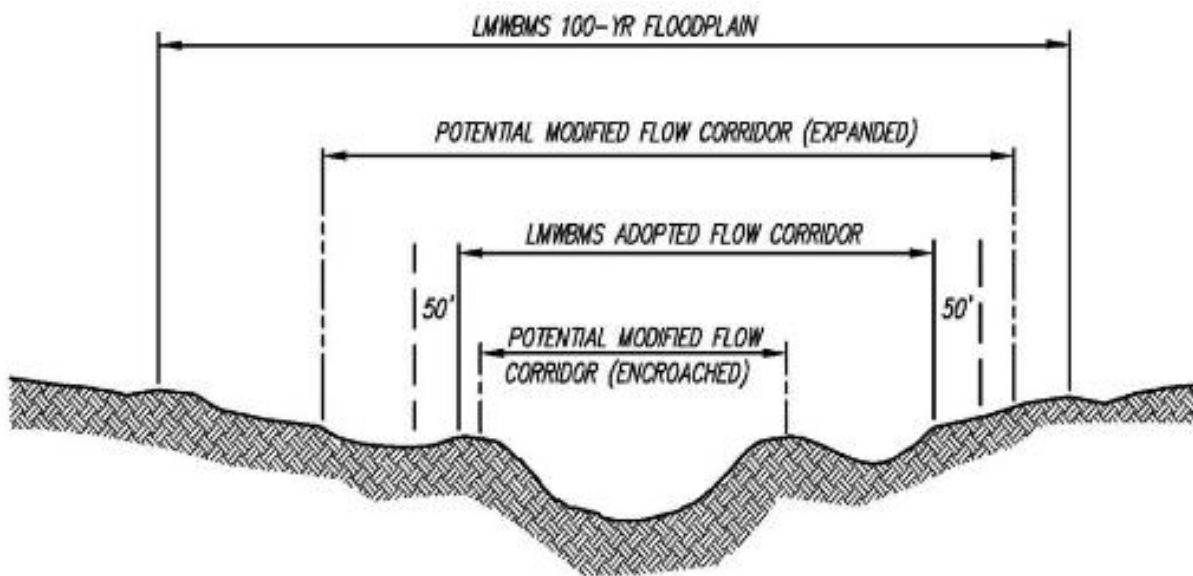
- Maintain corridors in the natural condition by raising adjacent development
- Partially excavate corridors to create a low-flow channel and provide material to raise adjacent development
- Fully excavate corridor below existing grade with low flow channel
- Fully excavate corridor with bank protection (to be used only at crossings and bends where scour may be an issue)

Flow corridors will be developed using the following general guidelines:

- Flow corridor widths will be set to maintain 100-year flow velocities and depths, which are generally non-erosive and require only minimal erosion protection at roadway crossings, bends, and other potentially vulnerable locations.
- Flow corridors will include grade control where needed to maintain the estimated long-term equilibrium slope and to protect the system from future vertical degradation.
- Corridors will be designed to mitigate for potential increases in peak discharge resulting from reduced floodplain storage as well as potential flow diversions from the consolidation of distributary flows. Mitigation will most likely include detention basins, which allow unimpeded flow-through of the existing condition's 10-year peak discharge.

- Flow corridors will transition prior to downstream project area boundaries to match existing condition's flow widths and velocities.
- The design of all flow corridors will be based on detailed engineering and geomorphologic studies to confirm they meet the above criteria and do not create, but rather adequately mitigate, significant and negative downstream impacts, either through impacts to flows or sediment transport capacities.
- Raised areas for development used to create at-grade or partially excavated corridors will have a minimum width of 70 feet and a top elevation of one foot above the 100-year water surface elevation (WSEL) or the 500-year WSEL, whichever is greater.

Exhibit 5: Corridor Modification Cross-sections



**FLOW CORRIDOR SCHEMATIC
LMWBMS ADOPTED VS POTENTIAL MODIFICATIONS
BASED ON MORE DETAILED INFORMATION**

N.T.S.

NOTE: A 50' RECREATION EASEMENT SHALL BE PROVIDED ON BOTH SIDES OF THE ADOPTED AND ANY POTENTIAL MODIFICATION.

Exhibit 6: Southlands Floodplain Studies

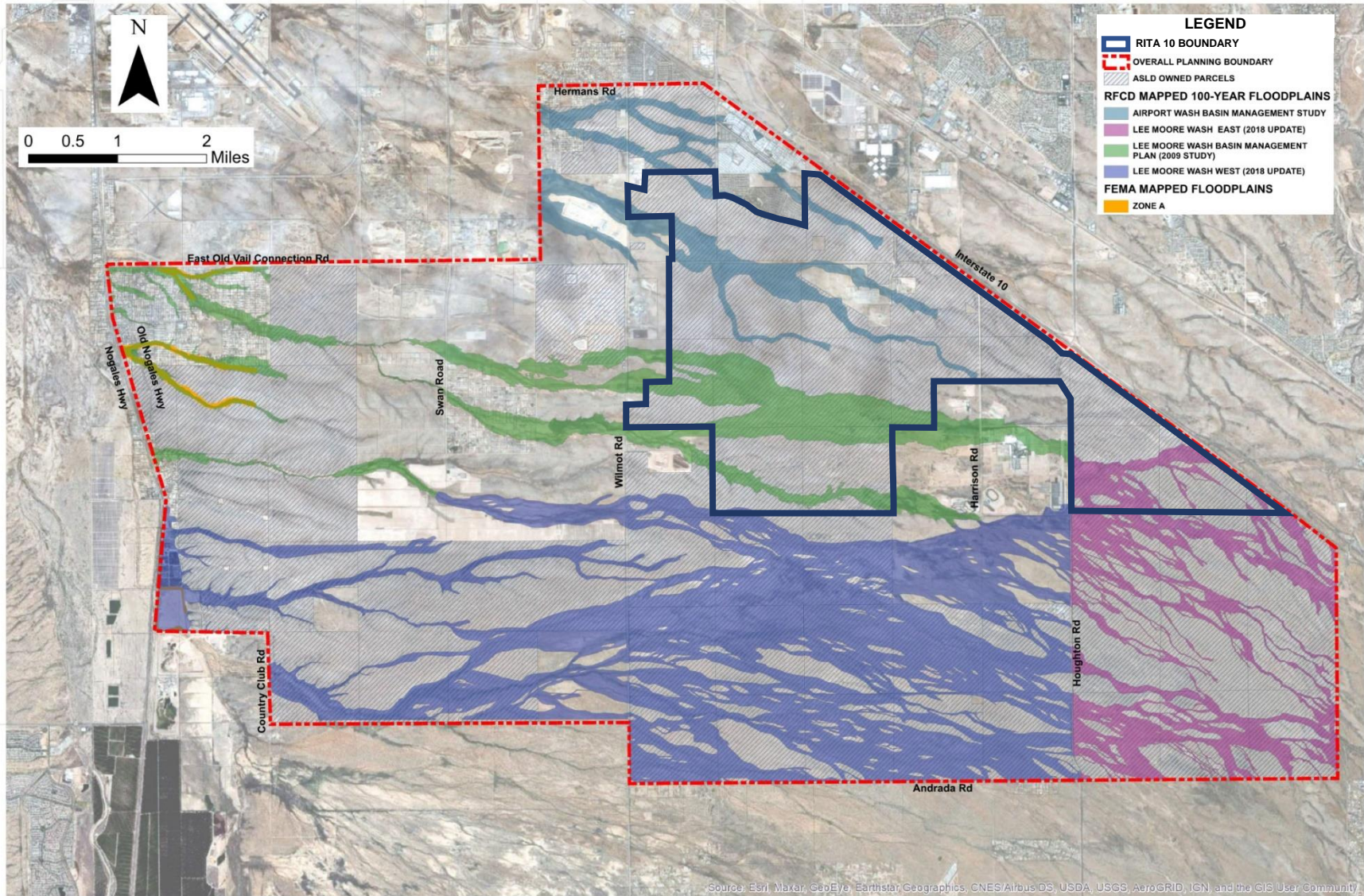


Exhibit 7: Lee Moore Flow Corridors

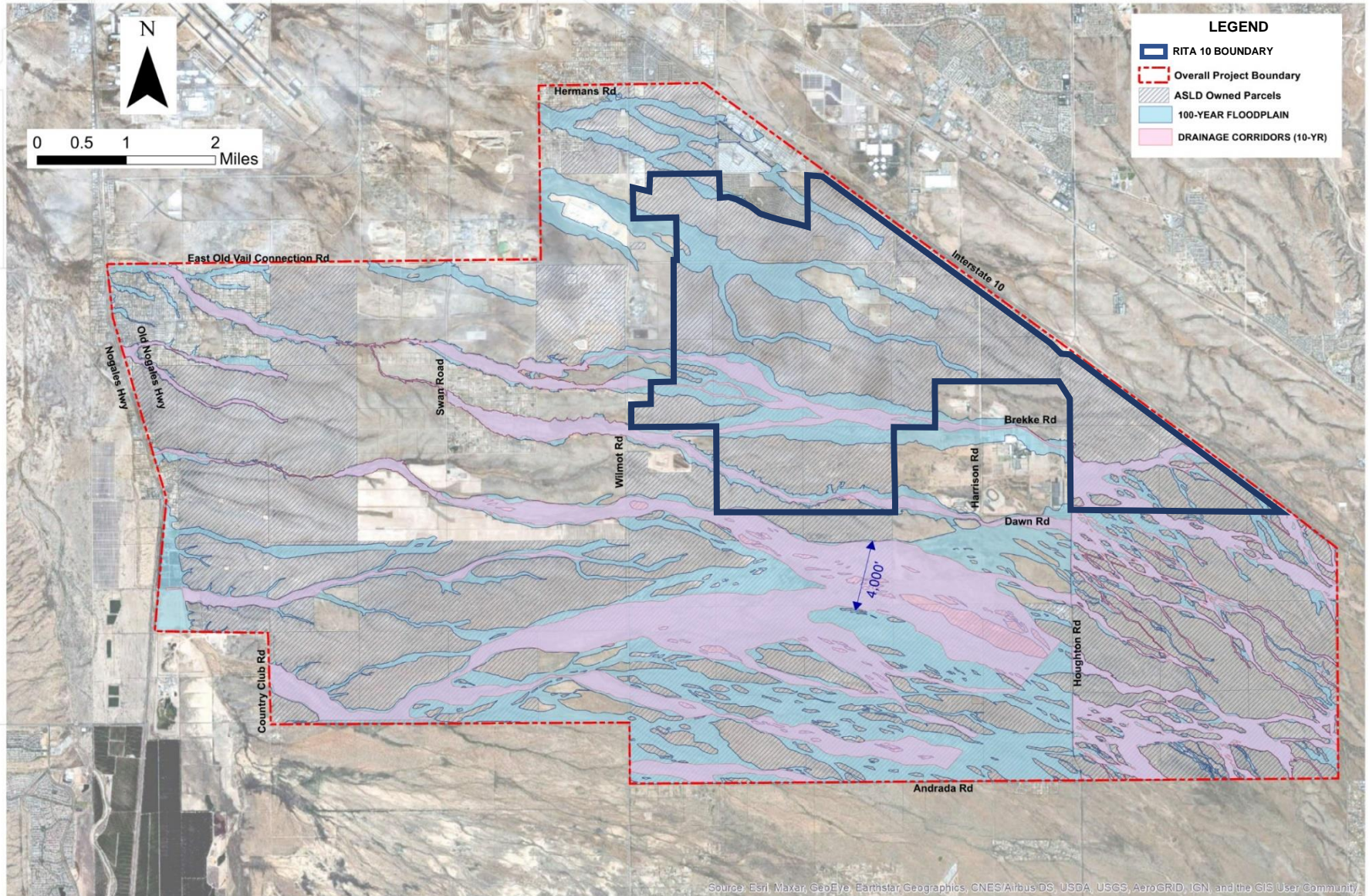
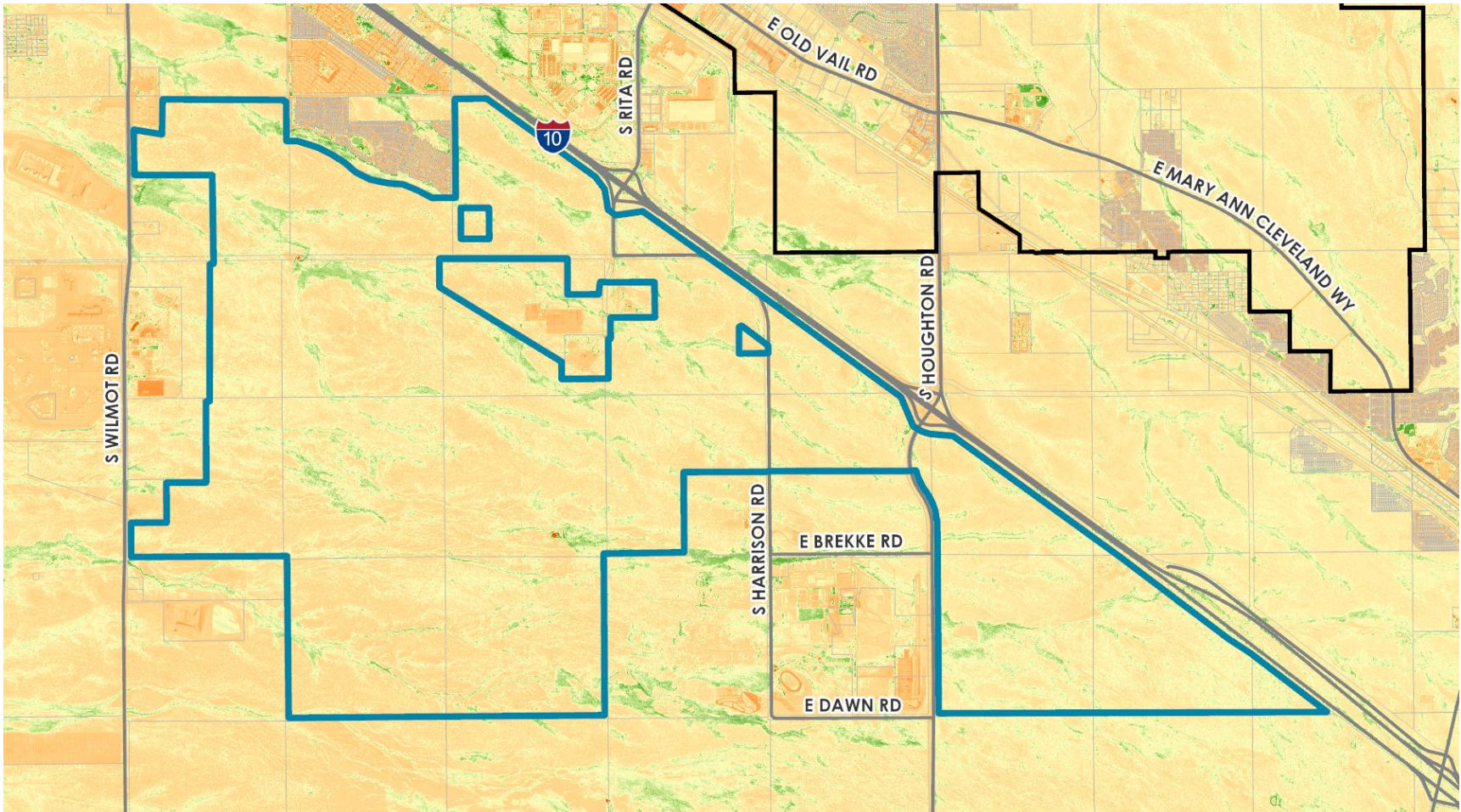


Exhibit 8: NAIP Infrared Vegetation Coverage (2019)



Legend

-  Rincon/Southeast Subregional Plan
-  RITA 10 Boundary (8,361 ac)
-  Parcels
-  Major Streets

NAIP Vegetation Cover

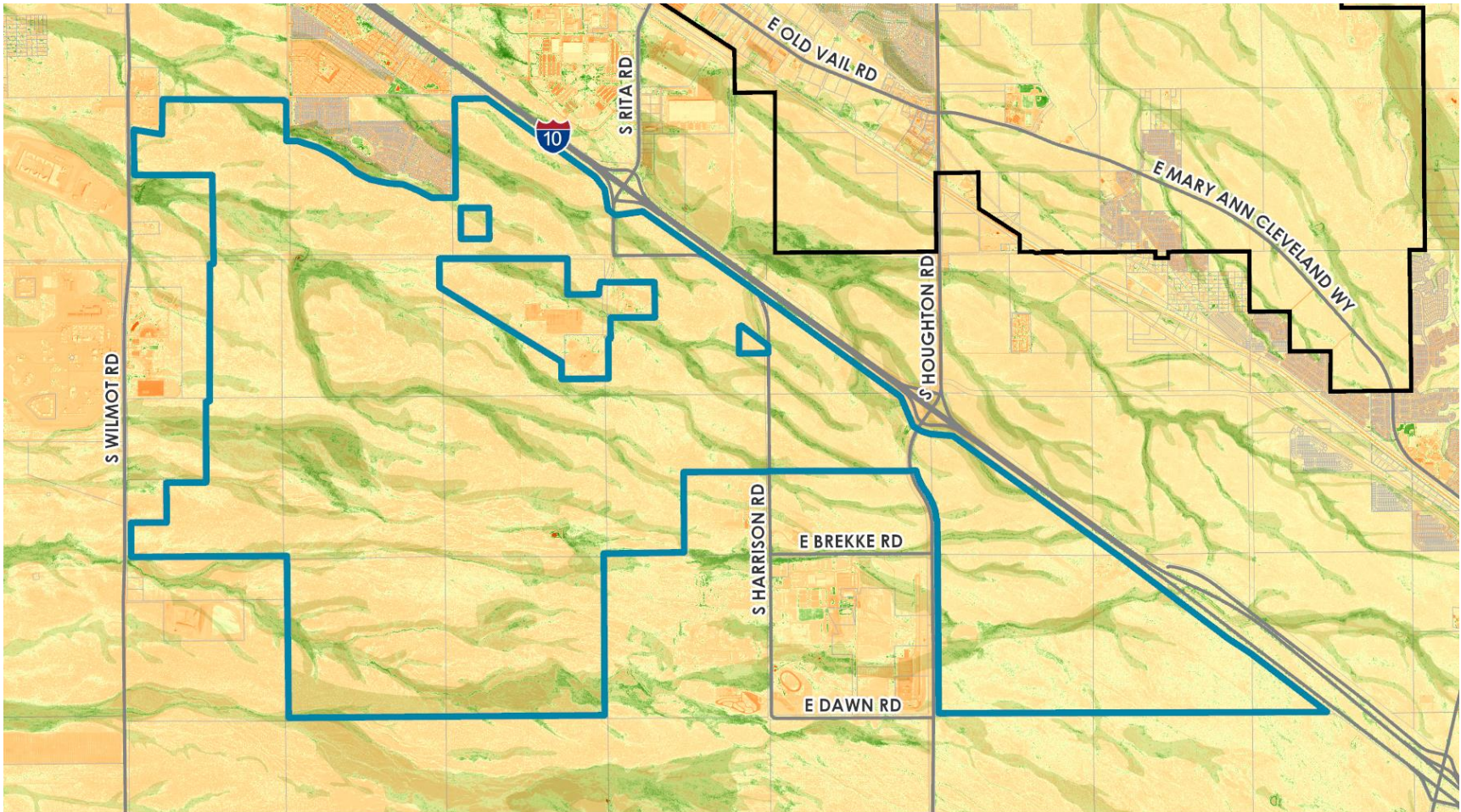
-  Dense Vegetation
-  Sparse Vegetation
-  Bare Ground/Pavement/Water

Source: Esri, USDA Farm Service Agency



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Exhibit 9: Vegetation Studies Composite Map



Legend

-  Rincon/Southeast Subregional Plan
-  RITA 10 Boundary (8,361 ac)

-  Parcels
-  Major Streets

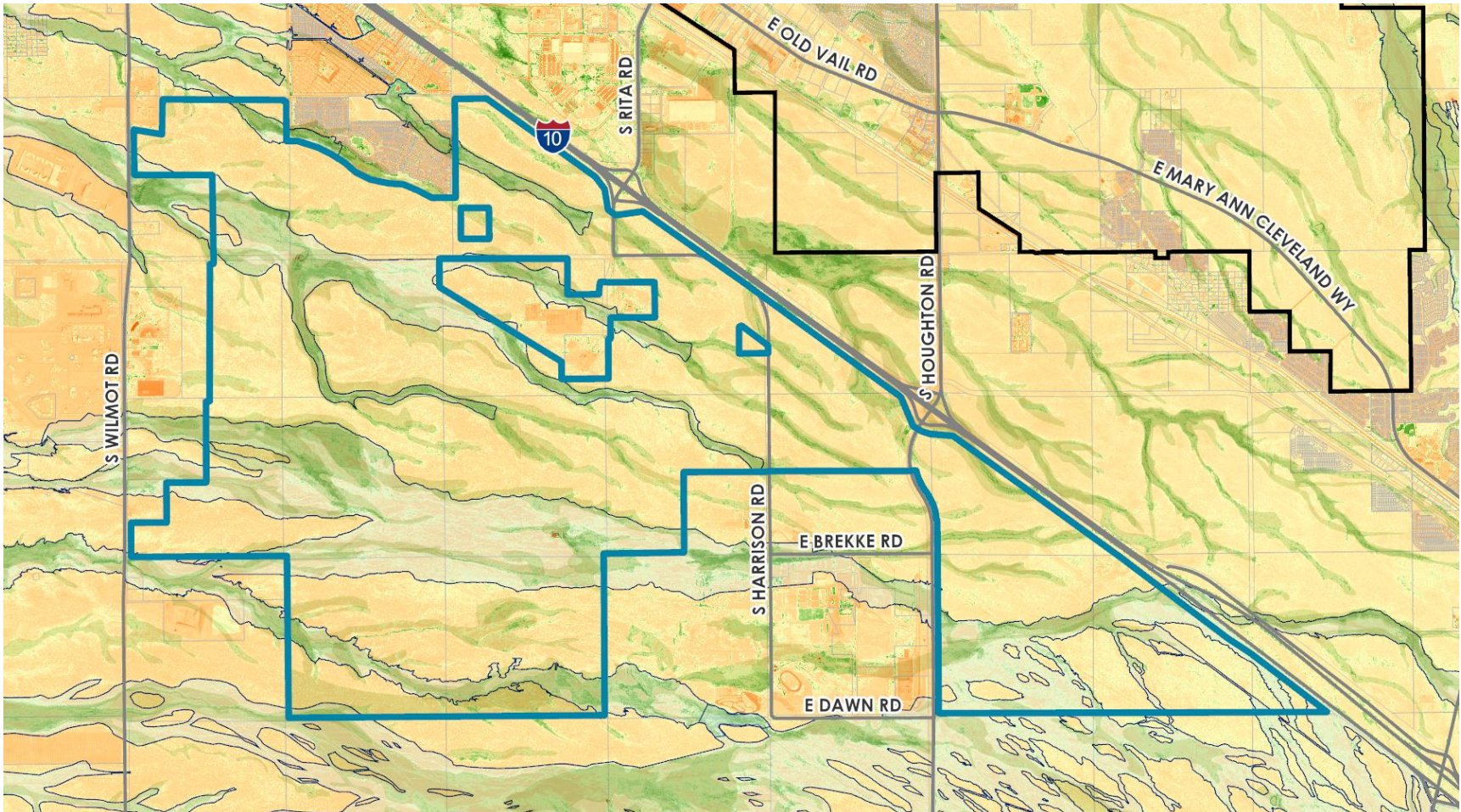
Composite of Vegetation Studies

-  All 5 Studies Overlap
-  4 Studies Overlap
-  3 Studies Overlap
-  2 Studies Overlap
-  1 Study Coverage



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Exhibit 10: Vegetation Studies & Floodplain Map








Legend

-  Rincon/Southeast Subregional Plan
-  RITA 10 Boundary (8,361 ac)
-  Parcels

-  Current 100-year Floodplain Limits
-  Major Streets

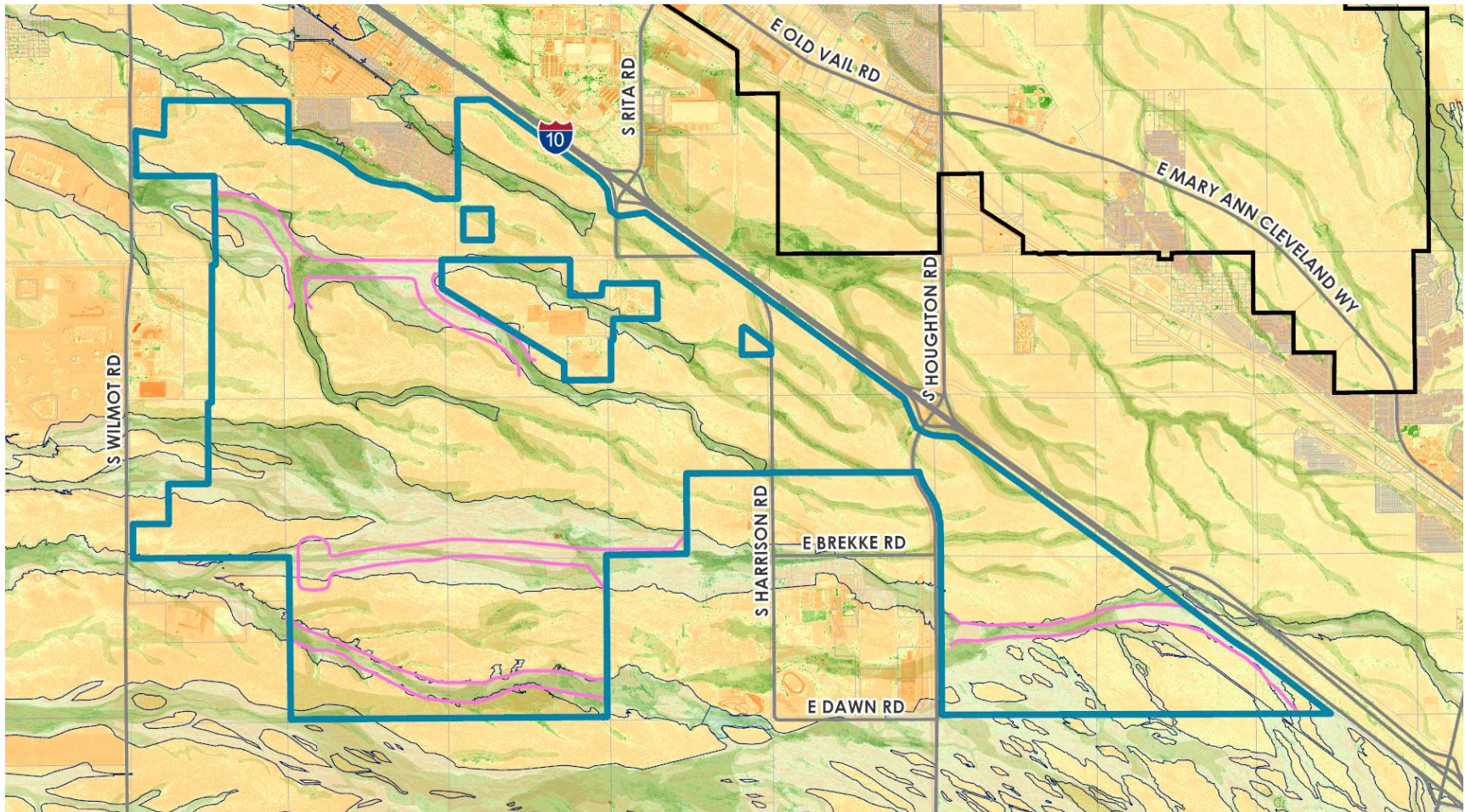
Composite of Vegetation Studies

-  All 5 Studies Overlap
-  4 Studies Overlap
-  3 Studies Overlap
-  2 Studies Overlap
-  1 Study Coverage






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Exhibit 11: Proposed RITA 10 Flow Corridors



Legend

-  Rincon/Southeast Subregional Plan
-  RITA 10 Boundary (8,361 ac)
-  Parcels

-  Current 100-year Floodplain Limits
-  Proposed Flow Corridors
-  Major Streets

Composite of Vegetation Studies

-  All 5 Studies Overlap
-  4 Studies Overlap
-  3 Studies Overlap
-  2 Studies Overlap
-  1 Study Coverage

Disclaimer: The proposed flow corridors depicted in this exhibit do not constitute all future post-development drainageways. Other existing washes may be left undisturbed or minimally impacted depending on size, location, resource value, and/or development footprint.



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