

FINAL REPORT

# Yuma Parkway

FEASIBILITY STUDY



## Salome Highway to Palo Verde Road



PROJECT NO. TT005, CONTRACT NO. 2010-055

March 2012

Prepared for: Maricopa County Department of Transportation





# Yuma Parkway Feasibility Study – Salome Highway to Palo Verde Road

Contract 2010-055  
Project TT005

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## Final Report

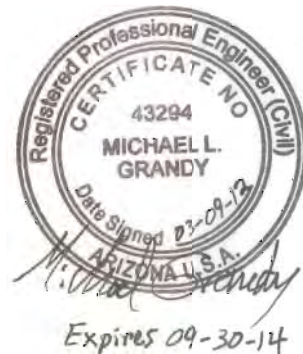
Prepared by:



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March 2012  
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Appendix A: Detailed Preferred Alignment Drawings – Recommended Future Right-of-way Corridor



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### LIST OF APPENDICES PUBLISHED AS A SEPARATE DOCUMENT

- Appendix 1: Technical Memorandum 1 – Existing and Future Corridor Features
- Appendix 2: Technical Memorandum 2 – Environmental Overview
- Appendix 3: Technical Memorandum 3 – Conceptual Drainage Report
- Appendix 4: Technical Memorandum 4 – Candidate Alternative Alignments and Evaluation
- Appendix 5: Technical Memorandum 5 – Detailed Preferred Alignment
- Appendix 6: Technical Memorandum 6 – Public and Stakeholder Participation

## EXECUTIVE SUMMARY

The *Yuma Parkway Feasibility Study* is one in a series of long-range transportation planning studies being conducted by the Maricopa County Department of Transportation (MCDOT) to evaluate future parkways identified in the Maricopa Association of Governments (MAG) framework studies.

The Yuma Parkway study area is approximately 13 miles long and two miles wide, and is generally centered on the Buckeye Road/Yuma Road section line, from one-half mile west of Salome Highway to one-half mile east of Palo Verde Road. The study area boundaries are shown in **Figure ES-1**.

The technical aspects of the study were guided and reviewed by a Technical Advisory Committee (TAC) and stakeholder group that met four times during the study. Findings and recommendations were presented for public review and input at three public open houses.

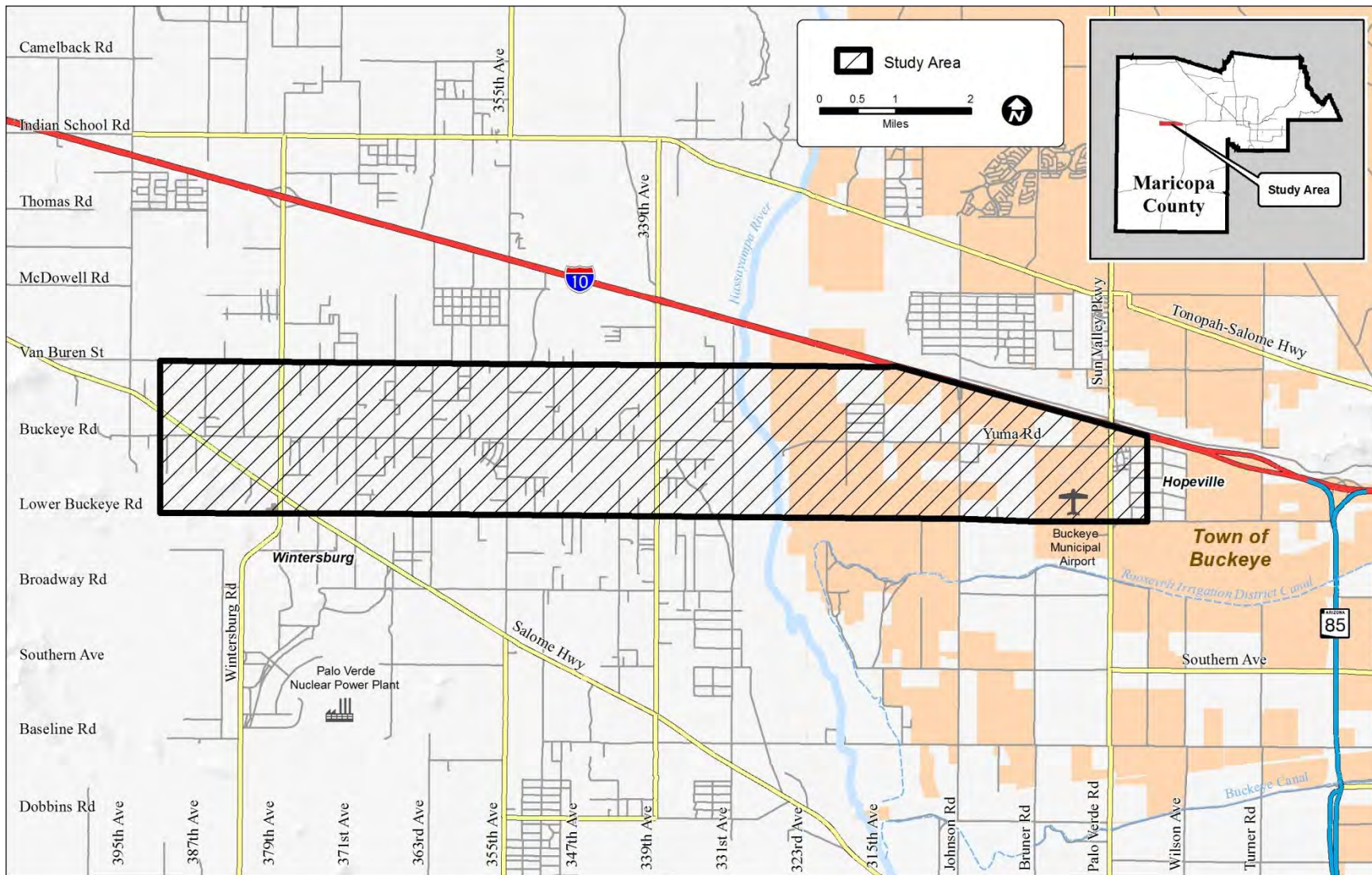
### Background and Study Need

In July 2008, MAG completed the *Interstate 10/Hassayampa Valley Transportation Framework Study (Hassayampa Framework Study)*, which recommended a comprehensive roadway network to meet the future traffic demands that result when the area west of the White Tank Mountains is completely developed (hereafter referred to as buildout travel demand). This long-range regional transportation network includes the “Arizona Parkway” as a new facility type to supplement more traditional roadway classifications in meeting projected travel demand.

The Arizona Parkway is an enhanced arterial roadway with a distinct intersection treatment that prohibits left turns at major cross-street intersections. Left-turn movements are made indirectly using left-turn crossovers in the median downstream of cross-street intersections. This design increases roadway capacity while maintaining local access and a posted speed of 45 miles per hour.

The *Hassayampa Framework Study* recommended Yuma Parkway as an Arizona Parkway to meet buildout travel demands and provide a continuous parkway network. Although today’s land development and travel demands in the study area do not warrant a parkway in the short-term, the buildout forecast for future land development and travel demands does warrant a parkway in the long-term future.

The potential for increased travel demand is evident in the approved development plans already underway converting the vacant lands within the study area to land uses that will generate future traffic. This feasibility study will provide Maricopa County, the Town of Buckeye, area property owners, developers, and other stakeholders with guidelines to preserve a 200-foot wide right-of-way corridor to accommodate the typical Arizona Parkway design.



Source: Maricopa County

**Figure ES-1 – Study Area**

## Study Purpose and Goals

The primary purposes of the *Yuma Parkway Feasibility Study* are to:

- Define and assess the study area for potential opportunities and constraints for alternative alignments;
- Develop and evaluate alternative alignments within the study area;
- Recommend a preferred alignment; and
- Define the characteristics of the preferred alignment in sufficient detail for right-of-way preservation.

The study goals for the *Yuma Parkway Feasibility Study* relate specifically to the proposed Yuma Parkway in the context of the existing and future transportation network in the study area. Specific objectives are listed below for each study goal.

### *Goal #1: Achieve roadway network continuity and connectivity*

- Determine the preferred alignment from a regional transportation perspective;
- Protect and preserve right-of-way for the preferred alignment to maintain its long-term viability;
- Provide future connectivity with primary and regional roadway facilities; and
- Provide crossings of drainage washes and the Hassayampa River.

### *Goal #2: Enhance traffic flow (capacity) and safety*

- Preserve functional integrity of the Arizona Parkway by recommending unique segment-specific solutions to address identified opportunities or constraints;
- Identify areas that may require additional right-of-way or easements, such as crossings of other parkways, drainage washes, and utility corridors; and
- Enhance traffic operations while maintaining reasonable access for developments.

### *Goal #3: Minimize adverse environmental impacts*

- Comply with governing environmental regulations for new roadway development;
- Minimize adverse impacts to the study area environment, including wildlife corridors and archaeological sites;
- Enhance important environmental features (e.g., habitat areas); and
- Minimize adverse impacts to disadvantaged population groups as provided in Title VI regarding environmental justice.

### *Goal #4: Develop consensus-driven improvement alternatives*

- Work with the TAC and key stakeholders in developing feasible alternatives;
- Develop cost-effective roadway improvement alternatives;
- Conduct public outreach to obtain input on alternatives and build consensus; and
- Ensure consistency between the study's transportation actions and regional/local plans.



## Alternatives Development and Evaluation

Through a “brainstorming” process, a wide range of conceptual alternatives were developed and presented to the TAC, stakeholders, and general public for review and input. Based on the input received, the following general recommendations were developed:

- The western terminus for all Yuma Parkway candidate alternatives should be Wintersburg Road rather than Salome Parkway. This recommendation was based on the relatively low buildout traffic projections west of Wintersburg Road, the established low density residential developments in the area, and topographic constraints that will limit development to the south and west of the study area;
- Between the Hassayampa River and Johnson Road, the Yuma Road alignment should be the only candidate alternative considered besides the no-build alternative. This recommendation is compatible with the approved Desert Creek and Cipriani community master plans (CMPs) that have been approved by the Town of Buckeye. The approved master plans include stipulations to reserve 200 feet of right-of-way along Yuma Road for the future Yuma Parkway facility; and
- East of Johnson Road, a special analysis area should be designated for more detailed study. Issues requiring closer examination include expansion plans for the Buckeye Municipal Airport, the Community of Hopeville, planned interchange and frontage road configurations along I-10, and the Town of Buckeye area plan for roadways between Palo Verde Road and State Route 85.

In accordance with these general recommendations, candidate alternatives were developed for more detailed evaluation. Between Wintersburg Road and the Hassayampa River, three candidate alternatives were proposed as follows:

- Alternative A – A 200-foot-wide corridor located one-half mile north of the Buckeye Road alignment;
- Alternative B – A 200-foot-wide corridor located on the Buckeye Road alignment; and
- Alternative C – A 200-foot-wide corridor located one-half mile south of the Buckeye Road alignment.

These alternatives have the least impact on existing subdivided properties, are most compatible with planned developments, and converge at the same general crossing location at the Hassayampa River.

Between the Hassayampa River and Johnson Road, a single alternative, Alternative A, was designated for more detailed evaluation as a candidate alternative. This is the only alternative that is compatible with the approved CMPs in this segment.

Between Johnson Road and Palo Verde Road – which is the special analysis area – three candidate alternatives were developed. These candidate alternatives were developed after conducting more detailed analysis on constraints and opportunities in the special analysis area and meeting with the Town of Buckeye, MAG, and the Federal Highway Administration (FHWA) to discuss the findings of the analysis and the feasibility of various conceptual alternatives. The three candidate alternatives developed for this segment of Yuma Parkway are as follows:

- Alternative A – A 200-foot-wide corridor that matches the preliminary alignment for Yuma Parkway shown in the *Hassayampa Framework Study*. This alternative was based

on the assumption that the Buckeye Municipal Airport primary runway would be extended to the north of Yuma Road and that it would not be feasible to extend Yuma Parkway between Bruner Road and Palo Verde Road. As a result, this alternative terminates at a planned Bruner Road overpass on I-10;

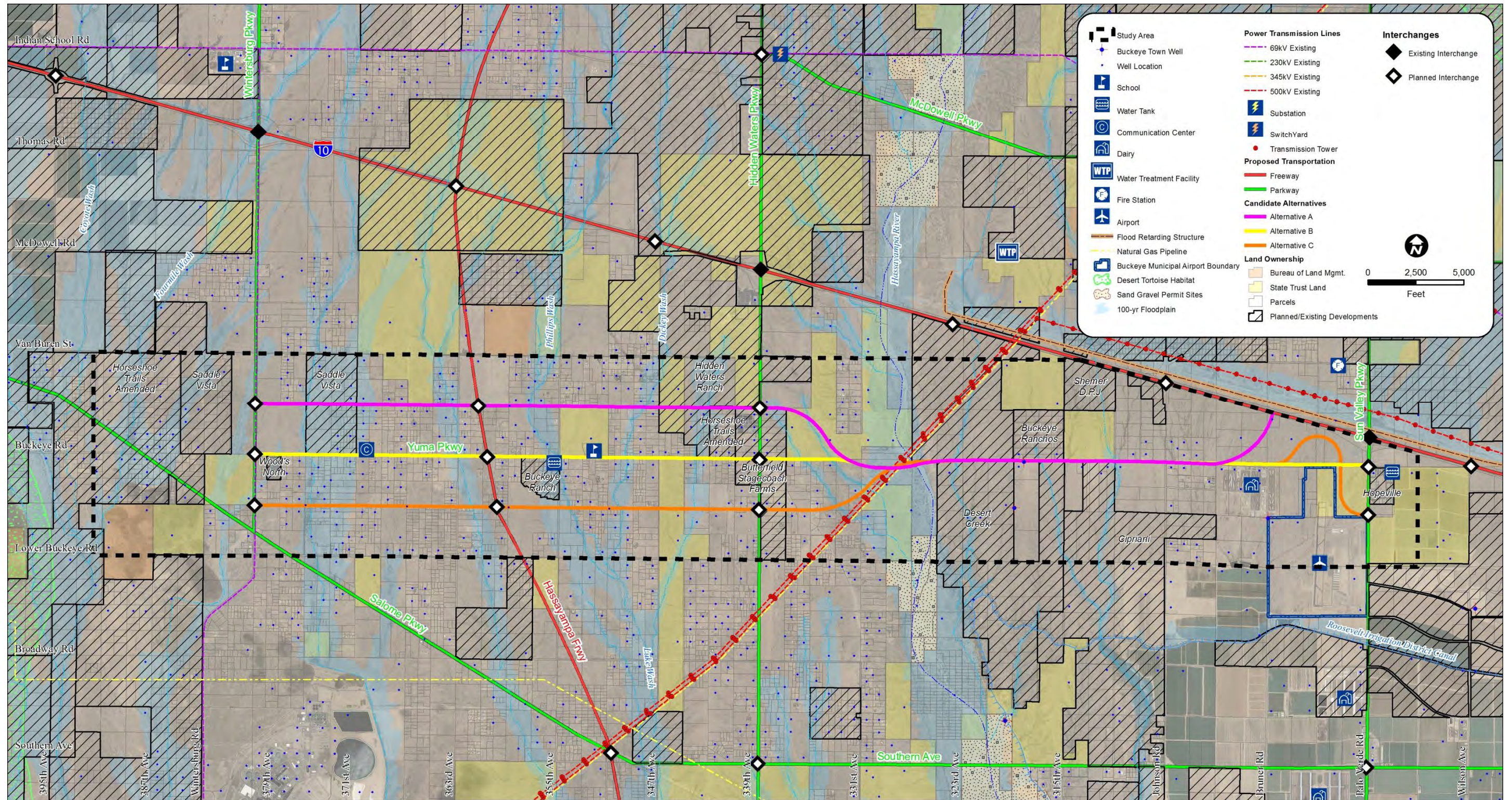
- Alternative B – A 200-foot-wide corridor located on the Yuma Road alignment. This alternative is based on the Town of Buckeye current plan to extend the Buckeye Municipal Airport primary runway to the south rather than the north. This makes it possible to extend the Yuma Parkway between Bruner Road and Palo Verde Road. This alternative would shift the Yuma Parkway centerline sufficiently north to avoid encroaching on existing airport or Hopeville properties; and
- Alternative C – A 200-foot-wide corridor following a curvilinear alignment traversing north of Yuma Road and then south to connect with Palo Verde Road south of Hopeville. This alternative is intended to provide maximum flexibility for expanding the Buckeye Municipal Airport. It also provides greater separation from the I-10 interchange with Palo Verde Road/Sun Valley Parkway and from Hopeville.

The candidate alternatives are shown in **Figure ES-2**.

The candidate alternatives, along with a no-build alternative, were evaluated using the following evaluation criteria:

- System continuity and capacity;
- Building/property impacts;
- Future development compatibility;
- Utility impacts;
- Wildlife impacts;
- Cultural/archaeological impacts;
- Drainage impacts;
- Cost; and
- Public acceptability.

The alternatives development and evaluation process, criteria, and results were presented and discussed at four TAC/stakeholder meetings and three public open house meetings. The meetings were well-attended and there were many favorable comments on the thoroughness of the development and evaluation of alternatives. There was general consensus among the TAC members, stakeholders, and open house participants that the evaluation results are reasonable and valid.



Sources: Maricopa County and MAG

Figure ES-2 – Candidate Alternatives

### Preferred Alternative

For all Yuma Parkway segments, it was determined that the no-build alternative does not address the demonstrated long-term need for a parkway in the study area. The preferred alternative for each Yuma Parkway segment is:

- Between Wintersburg Road and the Hassayampa River – Alternative B (the Buckeye Road alignment);
- Between the Hassayampa River and Johnson Road – Alternative A (the Yuma Road alignment); and
- Between Johnson Road and Palo Verde Road – Alternative B (the Yuma Road alignment).

The overall preferred alternative for Yuma Parkway is shown in **Figure ES-3**. Also included in this figure are the proposed locations where other parkways and a freeway are expected (per the *Hassayampa Framework Study*) to intersect Yuma Parkway. These intersection/interchange locations are preliminary and subject to change.

### Planning Level Construction Cost Estimates

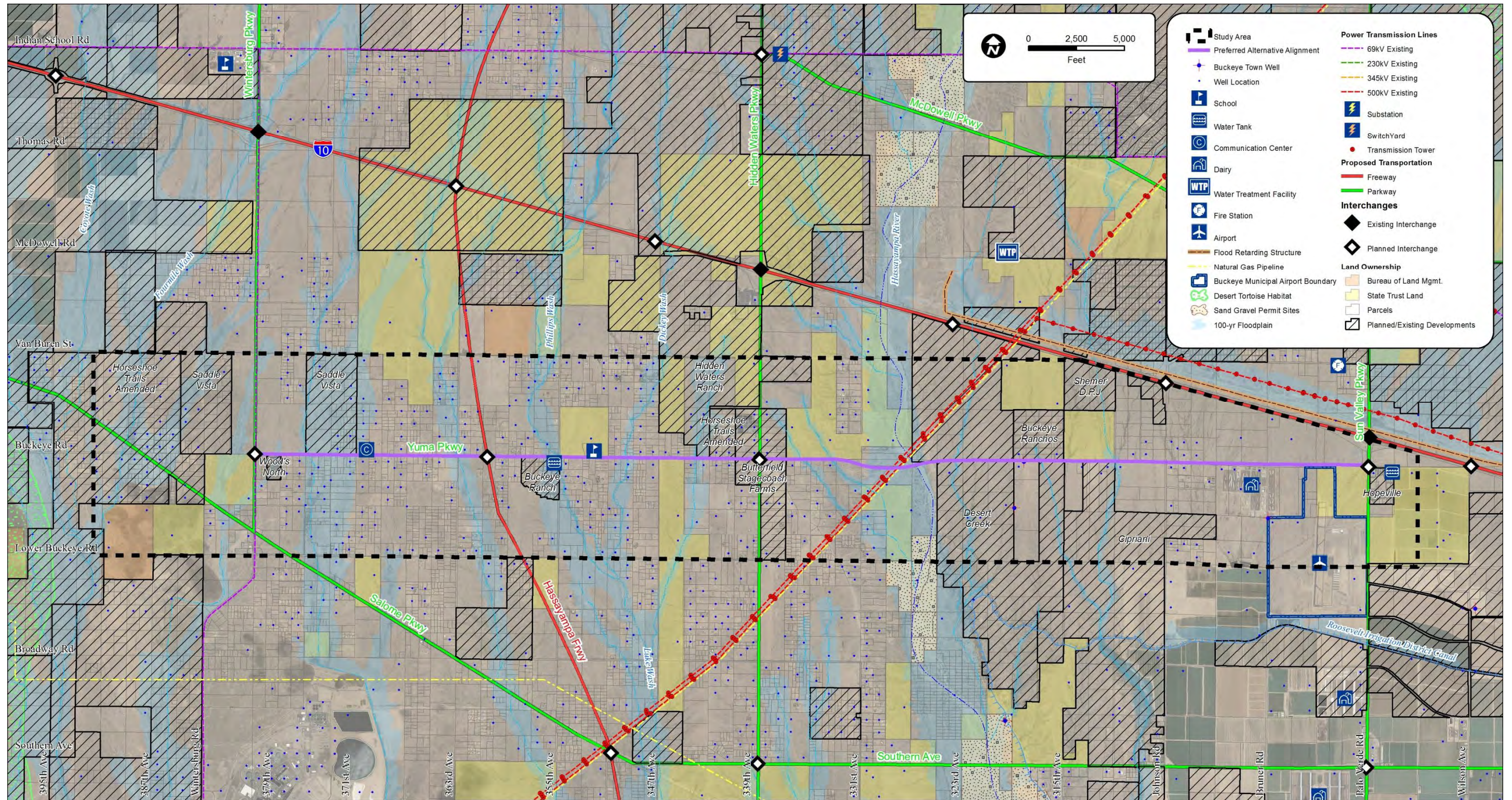
The planning-level construction cost estimate for Yuma Parkway is \$154 million in 2012 dollars. Because this study does not include preparation of an “engineered” roadway alignment and does not address detailed design issues for various features, the construction cost estimate was based on generalized unit costs. Costs exclude the construction costs of a freeway-to-parkway interchange at the planned Hassayampa Freeway – which is subject to further study and design – well as right-of-way acquisition and relocation expenses.

### Next Steps

Agencies with primary responsibility for implementing the recommendations of this study are Maricopa County, Town of Buckeye, and the Arizona Department of Transportation (ADOT). Among the critical long-range planning actions that need to commence are:

- Maricopa County and Town of Buckeye adoption/acceptance of the Arizona Parkway designation and general preferred alignment for Yuma Parkway;
- Right-of-way preservation in developing areas, as needed, to protect the long-term viability of the parkway facilities;
- Preparation of Design Concept Reports for consideration in project programming;
- Appropriation of funding for design, right-of-way acquisition, and construction, as needed, for joint participation with land developers; and
- Coordination among the jurisdictions and key stakeholders on planning, right-of-way preservation, and design.

While the timing of the implementation of Yuma Parkway will be driven by land development, it is up to the public sector agencies to establish the transportation system planning framework now to be responsive to future land development interests while also protecting the broader long-term public interests.



Sources: Maricopa County and MAG

Figure ES-3 – Preferred Alternative



## 1. BACKGROUND INFORMATION

In July 2008, MAG completed the *Interstate 10/Hassayampa Valley Transportation Framework Study (Hassayampa Framework Study)*, which recommended a comprehensive roadway network to meet the future traffic demands that result when the area west of the White Tank Mountains is completely developed (hereafter referred to as buildout travel demand). This long-range regional transportation network includes the “Arizona Parkway” as a new facility type to supplement more traditional roadway classifications in meeting projected travel demand.

The *Hassayampa Framework Study* recommended Yuma Parkway as an Arizona Parkway to meet buildout travel demands and provide a continuous parkway network. Although today’s land development and travel demands in the study area do not warrant a parkway in the short-term, the buildout forecast for future land development and travel demands does warrant a parkway in the long-term future. The potential for increased travel demand is evident in the approved development plans already underway converting the vacant lands within the study area to land uses that will generate future traffic.

This feasibility study will provide Maricopa County, the Town of Buckeye, area property owners, developers, and other stakeholders with guidelines to preserve a 200-foot wide right-of-way corridor to accommodate the typical Arizona Parkway design. This will require significant coordination with various governing bodies, other public agencies, development interests, and the general public.

## 2. EXISTING AND FUTURE CORRIDOR FEATURES

This section summarizes the information gathered and documented in *Technical Memorandum No. 1 – Existing and Future Corridor Features* (contained in **Appendix 1** of separately published appendices). Key exhibits are provided to graphically display the existing and future corridor features that were considered in identifying and evaluating feasible alignments for Yuma Parkway.

### 2.1 Relevant Plans, Reports, and Guidelines

Relevant information on existing and future corridor features was obtained from available studies, reports, and other documents. These documents provided the source information for the figures and tables developed for this study. The following is a listing of the primary documents that were used for this study:

- *ADOT Freeway-to-Parkway Interchange Templates* (October 2010);
- *Arizona State Land Department Draft White Tanks Conceptual Land Use Plan* (February 2007);
- *Buckeye Ranch Phase 1 Replat of Final Plat* (June 1999);
- *Buckeye Ranchos Plat* (December 1959);
- *Butterfield Stagecoach Farms Final Plat* (December 1996);
- *Cipriani Planning Documents* (June 2008);
- *Desert Creek Planning Documents* (October 2006)
- *Hidden Waters Ranch Development Master Plan* (October 2008);
- *Hopeville Final Plat* (December 1984);
- *Horseshoe Trails Amended Plat* (January 1996)
- *MAG Interstate 10/Hassayampa Valley Transportation Framework Study* (July 2008);
- *MAG Regional Transportation Plan 2010 Update* (July 2010);
- *MAG Unofficial Buildout Traffic Volumes and Proposed Parkway Laneage and Interchanges* (June 2009);
- *MAG Unofficial Buildout Travel Demand Volumes* (April 2011);
- *Maricopa County Tonopah/Arlington Area Plan* (September 2000);
- *MCDOT Arizona Parkway Intersection/Interchange Operational Analysis and Design Concepts Study* (August 2009);
- *MCDOT Design Guideline Recommendations for the Arizona Parkway* (August 2008);
- *MCDOT Hidden Waters Parkway Corridor Feasibility Study* (June 2010);
- *MCDOT Maricopa County Major Streets and Routes Plan: Street Classification Atlas* (September 2004 and Update June 2011);
- *MCDOT Maricopa County Transportation System Plan* (February 2007);
- *MCDOT Roadway Management System* (Fiscal Year 2010);
- *MCDOT State of the Systems Report* (Fiscal Year 2011);
- *Saddleback Trails Record of Land Survey* (January 2000);
- *Saddle Vista Record of Land Survey* (May 1997);
- *Shemer D.P.J. Planning Documents* (March 2007);
- *Town of Buckeye Airport Master Plan* (March 2007);
- *Town of Buckeye Airport Strategic Plan* (October 2010);

- *Town of Buckeye Draft Transportation Master Plan* (December 2009);
- *Town of Buckeye General Plan* (January 2008);
- *Town of Buckeye Trails Master Plan* (June 2008);
- *Verma Estates 2 Record of Land Survey* (November 2000);
- *Westwind Planning Documents* (December 2004); and
- *Wood's North Addition to Wintersburg Plat* (November 1939).

## 2.2 Study Area Characteristics

The Yuma Parkway study area is approximately 13 miles long and two miles wide and is generally centered on the Buckeye Road/Yuma Road section line, from one-half mile west of Salome Highway to one-half mile east of Palo Verde Road. The study area boundaries are shown in **Figure 1**.



**Natural desert open space**

The study area currently consists primarily of low-density residential development, agricultural properties, and open space. While the predominant existing land use is natural desert open space, a large percentage of the parcels have been subdivided or are part of a CMP with associated entitlements. As a result, the study area is positioned for a long-term transition to higher density land uses.

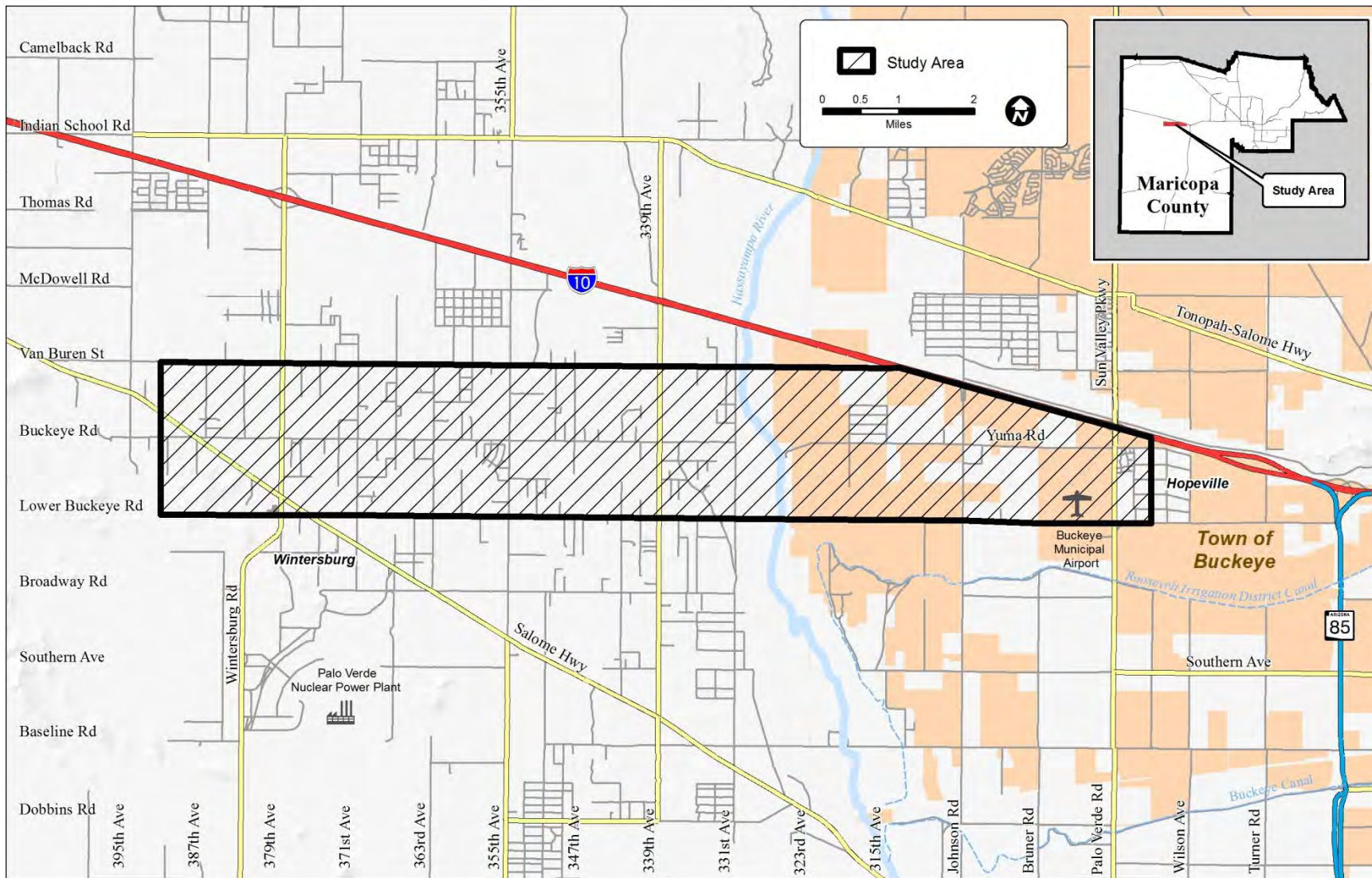
Most of the study area is fairly flat, particularly west of the Hassayampa River and north of Salome Highway. The Hassayampa River, which crosses the study area roughly between the 315<sup>th</sup> Avenue and 339<sup>th</sup> Avenue alignments, is surrounded by rolling terrain, particularly on the east side of the river.

## 2.3 Jurisdictional Responsibilities, Ownership, and Land Use

The entire study area is located within Maricopa County. Maricopa County has jurisdiction over the majority of the land and roadways within the study area. The Town of Buckeye has jurisdiction over the land within its town limits adjacent to and within the study area. Portions of the study area currently under Maricopa County jurisdiction are also within the Buckeye Municipal Planning Area. Jurisdictional boundaries are illustrated in **Figure 2**.

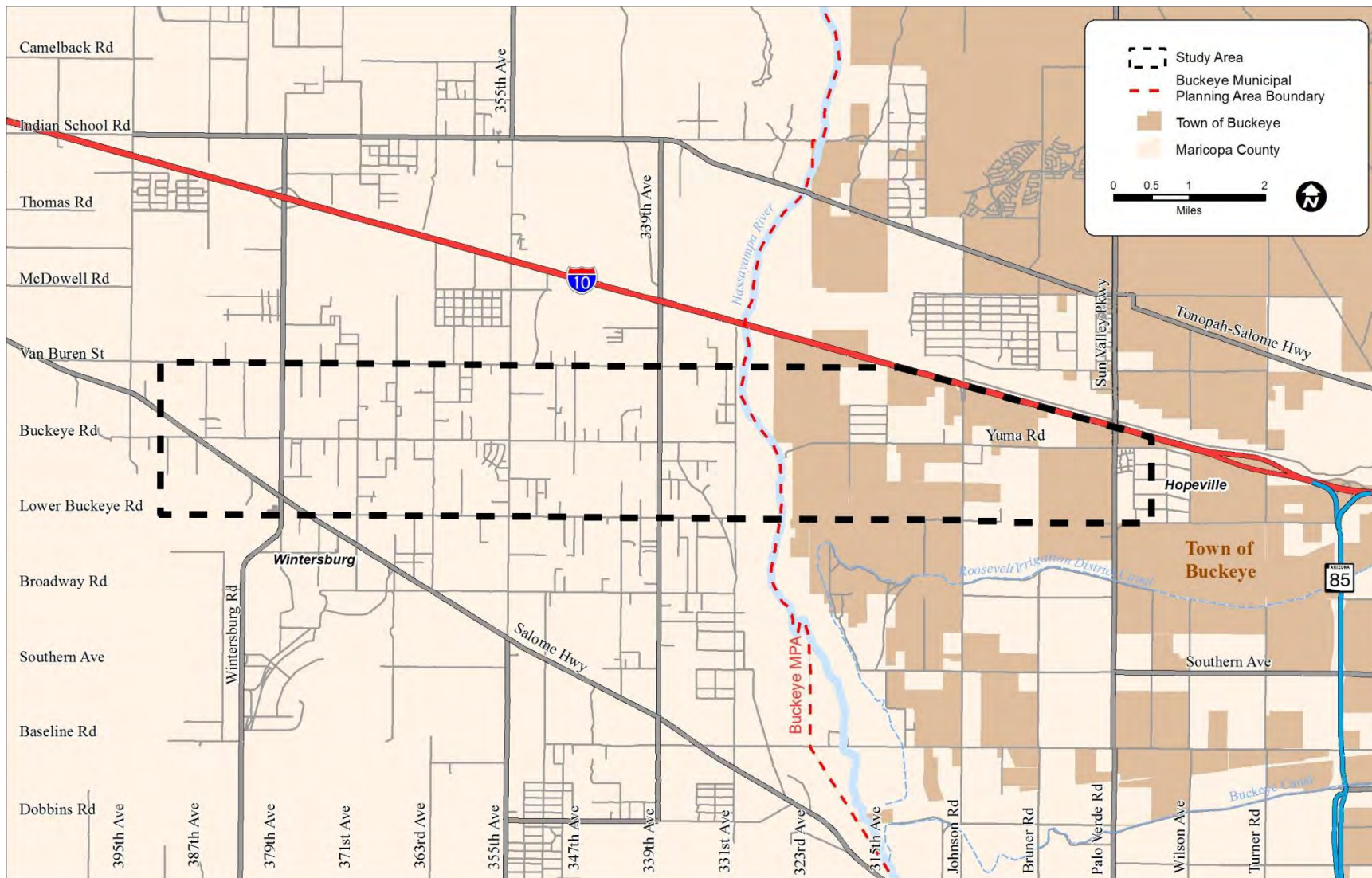
The study area contains a mix of both public and private lands. Approximately 84 percent of the land in the study area is privately owned. Public land owners in the study area include the Arizona State Land Department (ASLD), which owns 15 percent of the study area, and the Bureau of Land Management (BLM), which owns one percent of the study area. Land ownership in the study area is shown in **Figure 3**.





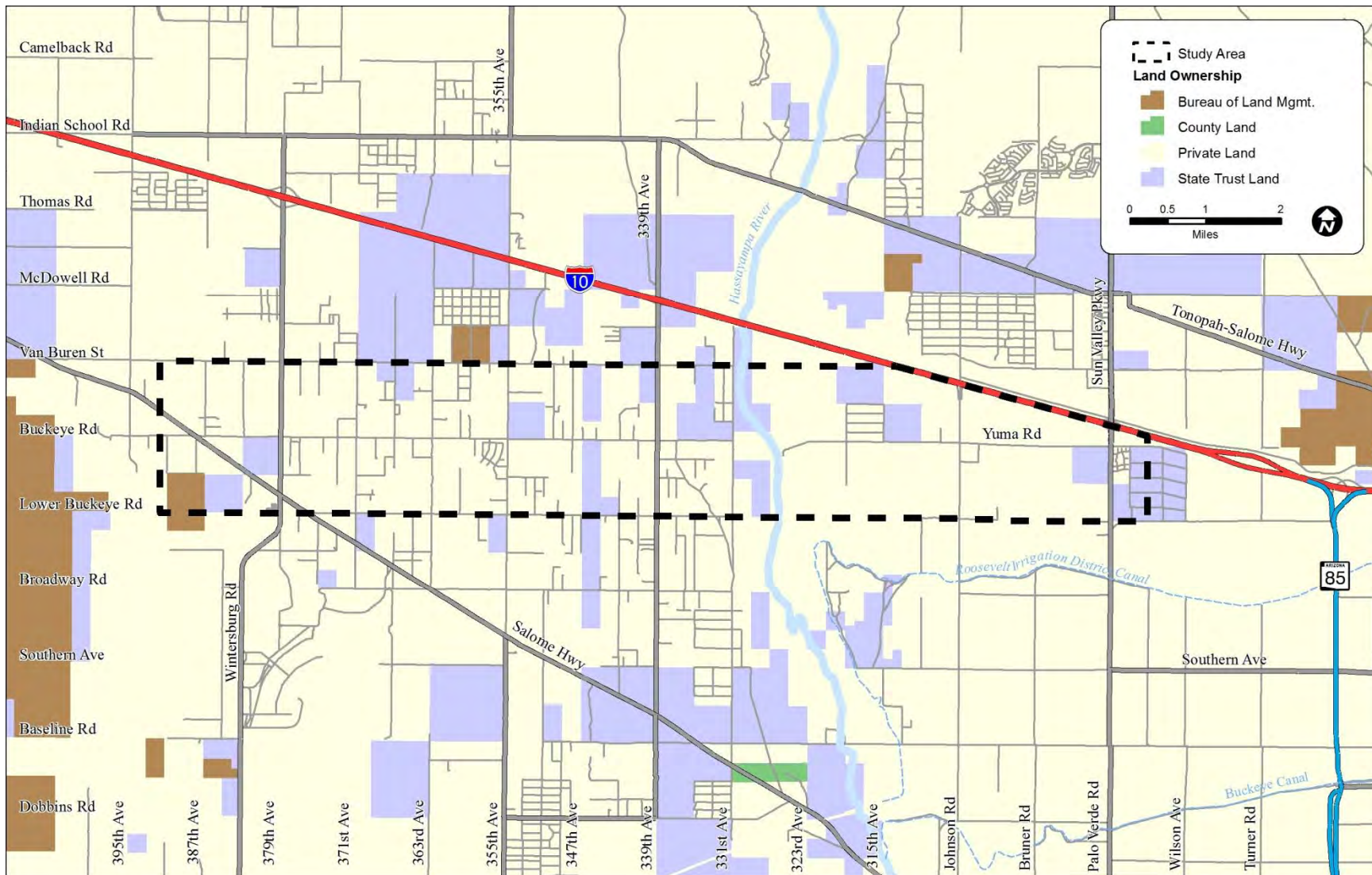
Source: Maricopa County

**Figure 1 – Study Area**



Source: Maricopa County

**Figure 2 – Jurisdictional Boundaries**



Source: Maricopa County

**Figure 3 – Land Ownership**



**Existing subdivision**

**Figure 4** shows the existing land uses in the study area.

The study area is zoned primarily for low density residential uses and planned community uses, with some commercial zoning near Palo Verde Road and industrial zoning near Van Buren Street and 339<sup>th</sup> Avenue. **Figure 5** shows the existing zoning and parcel boundaries in the study area.

Vacant land within the study area is anticipated to be converted to primarily residential land use at buildout. The land west of the Hassayampa River is planned with more low density single family residential uses, while the land to the east of the Hassayampa River is planned with more medium/high density residential and multi-family uses. There are also large areas of retail, office, and industrial land uses planned at major intersections throughout the study area, particularly near the Town of Wintersburg and within the Buckeye MPA (east of the Hassayampa River). These future land use patterns incorporate the land use plans for the master planned communities within the vicinity of the study area. **Figure 6** shows the anticipated future buildout land uses.

## 2.4 Existing and Planned Developments

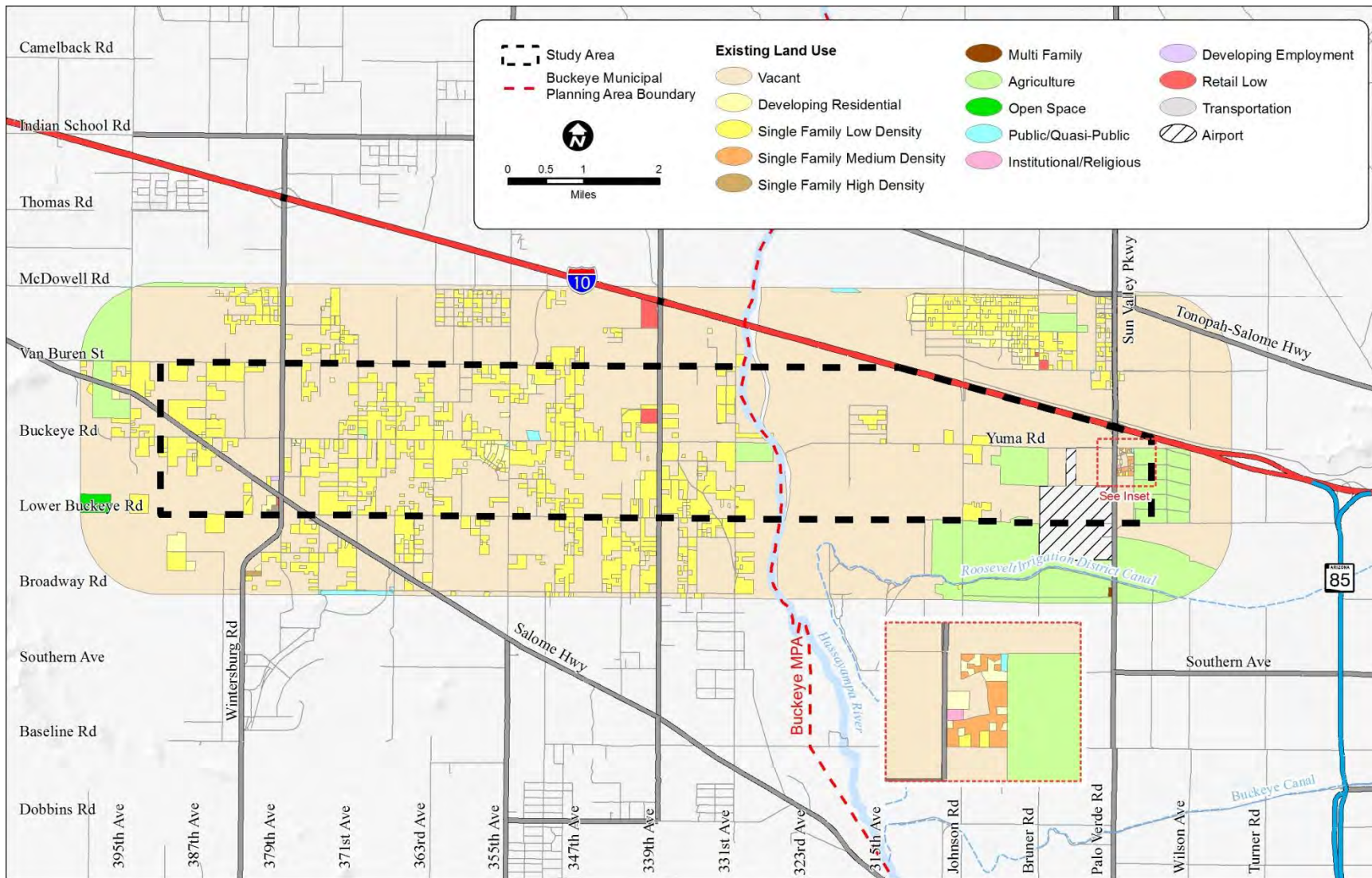
While most of the land within the study area is currently undeveloped, many of the parcels have been subdivided or are part of a development master plan (DMP) or CMP with associated entitlements. Existing low density residential subdivisions within the study area include Buckeye Ranch Phase 1, Buckeye Ranchos, Butterfield Stagecoach Farms, Hopeville, Horseshoe Trails, Saddle Vista, Saddleback Trails, Verma Estates 2, and Wood's North Addition to Wintersburg.

There are four approved planned developments within the Buckeye MPA: Cipriani, Desert Creek, Shemer D.P.J., and Westwind. West of the Hassayampa River there is one planned development under Maricopa County jurisdiction, Hidden Waters Ranch. The State Trust land uses within the study area have been designated to coordinate with the adjacent master-planned communities. **Figure 7** shows the existing and active planned developments around and within the study area.

The predominant existing land use is vacant land (i.e., natural desert open space). Existing development includes: large clusters of single family residential land uses west of the Hassayampa River, Stotz Dairy (located on the south side of Yuma Road east of Johnson Road), the Buckeye Municipal Airport (located near the southeast corner of the study area), one commercial land use (a wholesale plant nursery), and one school (Winters' Well Elementary School, located on Buckeye Road between 355<sup>th</sup> Avenue and 347<sup>th</sup> Avenue).

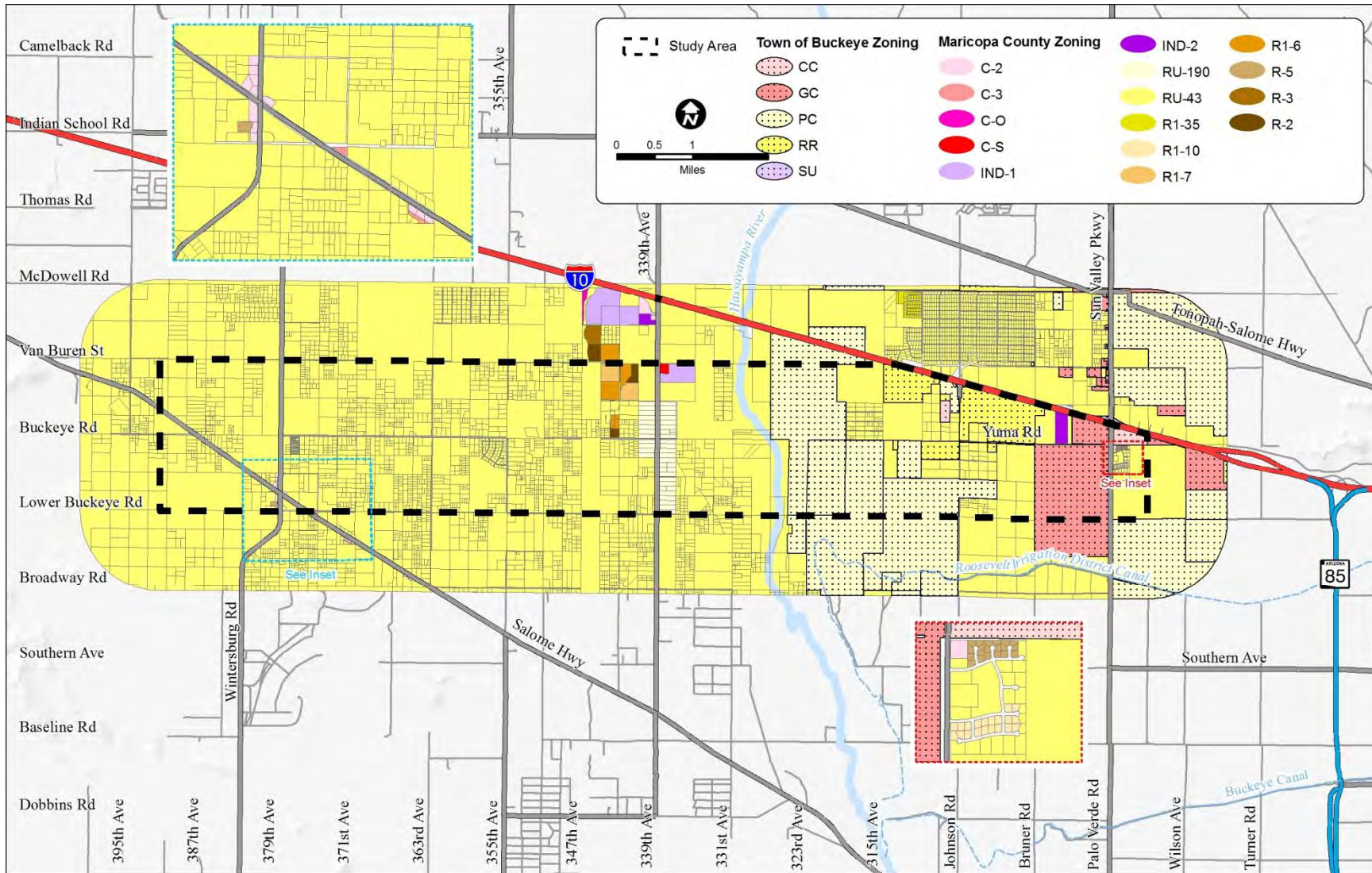


**Existing elementary school**



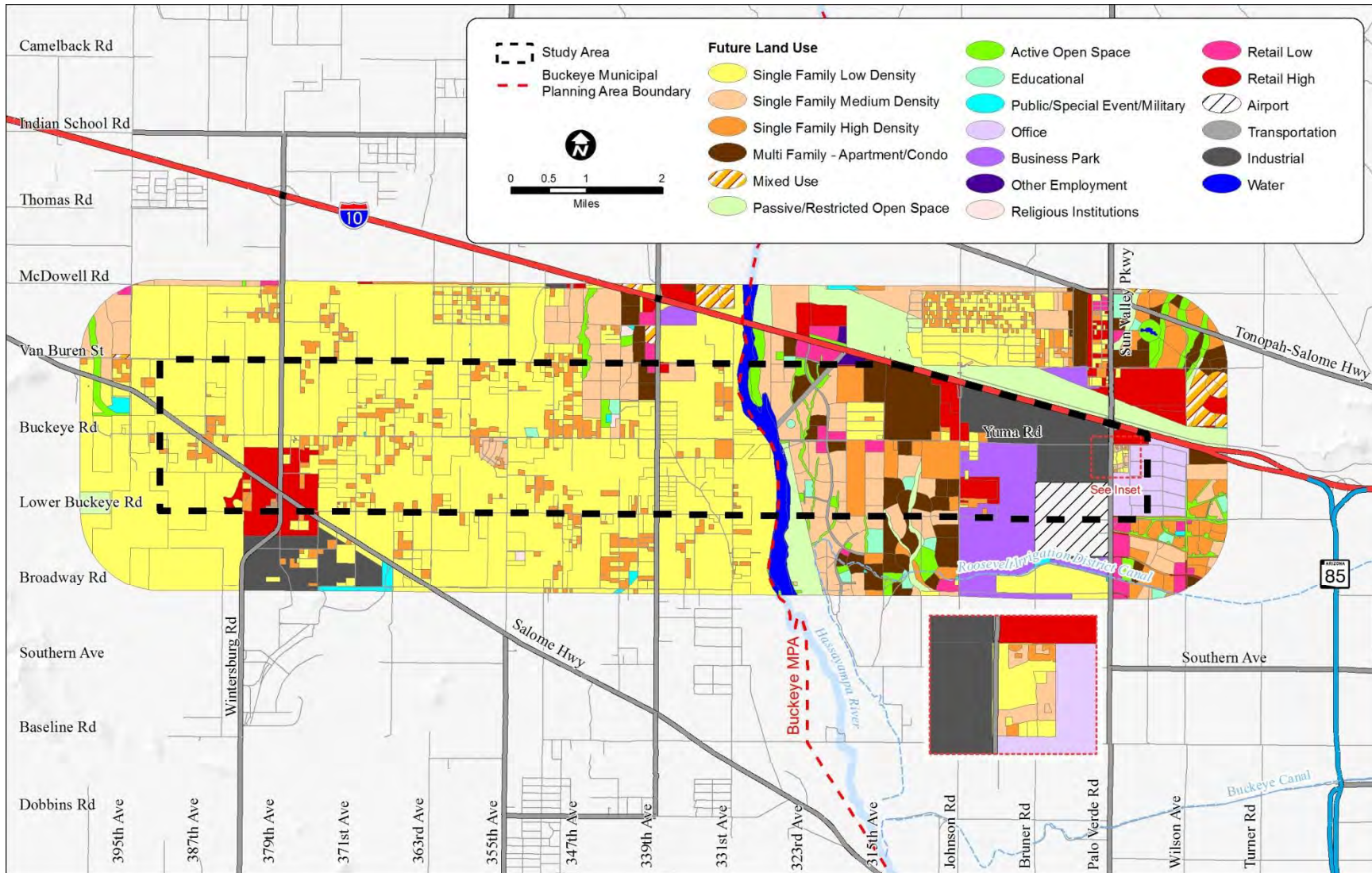
Sources: Maricopa County and MAG

**Figure 4 – Existing Land Use**



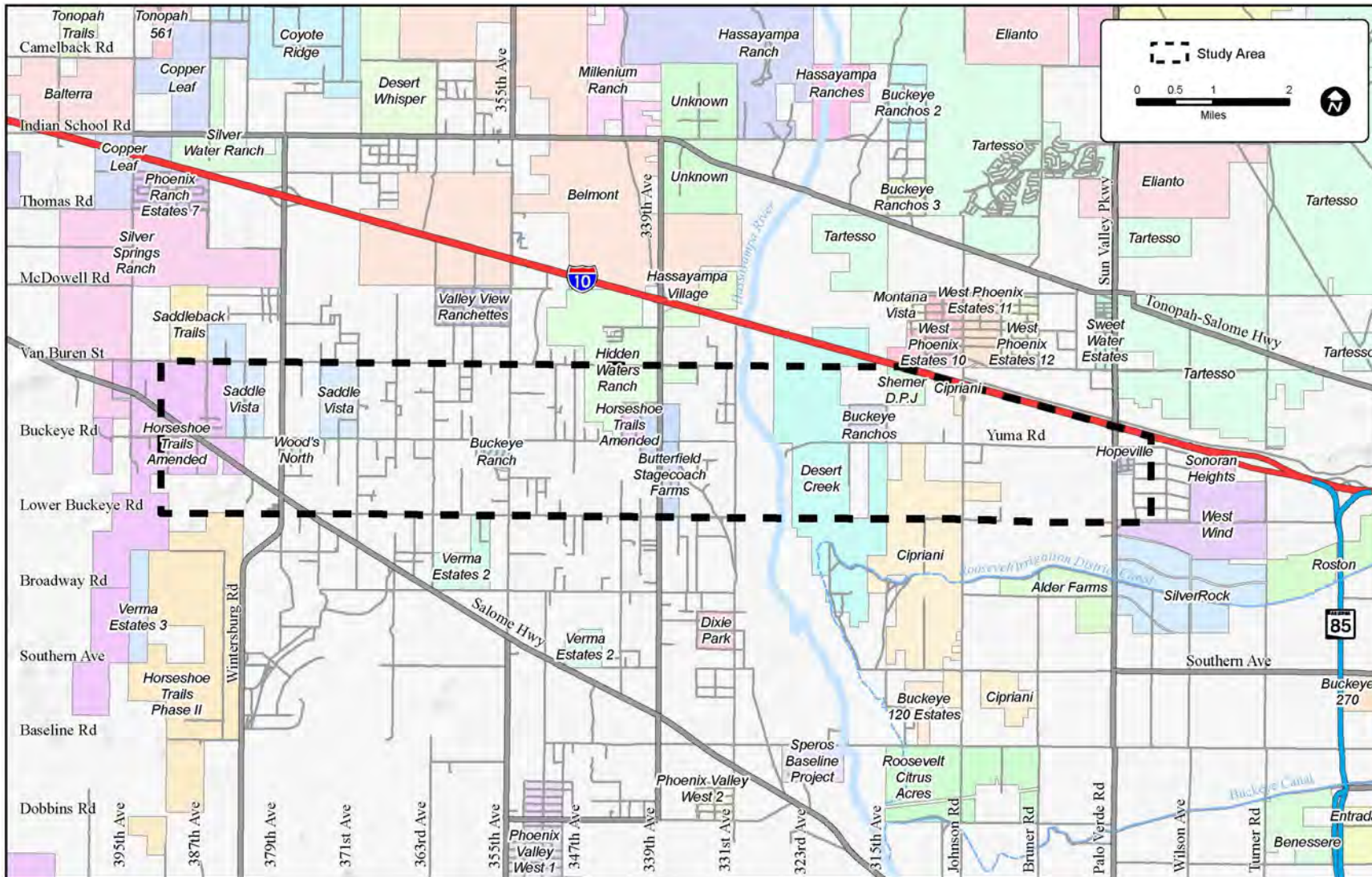
Sources: Maricopa County and MAG

Figure 5 – Zoning



Sources: Maricopa County, Town of Buckeye, and MAG

**Figure 6 – Future Land Use**



Sources: Maricopa County and MAG

**Figure 7 – Existing and Planned Developments**



## 2.5 Existing Transportation Network

Within the study area, Buckeye Road is a paved roadway between Wintersburg Road and 339<sup>th</sup> Avenue. Buckeye Road is unpaved west of Wintersburg Road and east of 339<sup>th</sup> Avenue.



**Existing Yuma Road**

East of the Hassayampa River, the roadway along the Buckeye Road alignment is known as Yuma Road. Yuma Road is paved between Johnson Road and Palo Verde Road. Yuma Road is unpaved west of Johnson Road and east of Palo Verde Road.

Both Buckeye Road and Yuma Road terminate at the Hassayampa River, meaning there is no existing public crossing of the Hassayampa River on the Buckeye Road/Yuma Road alignment.

The other paved major east-west roadway segments in the study area are Van Buren Street between Wintersburg Road and 339<sup>th</sup>

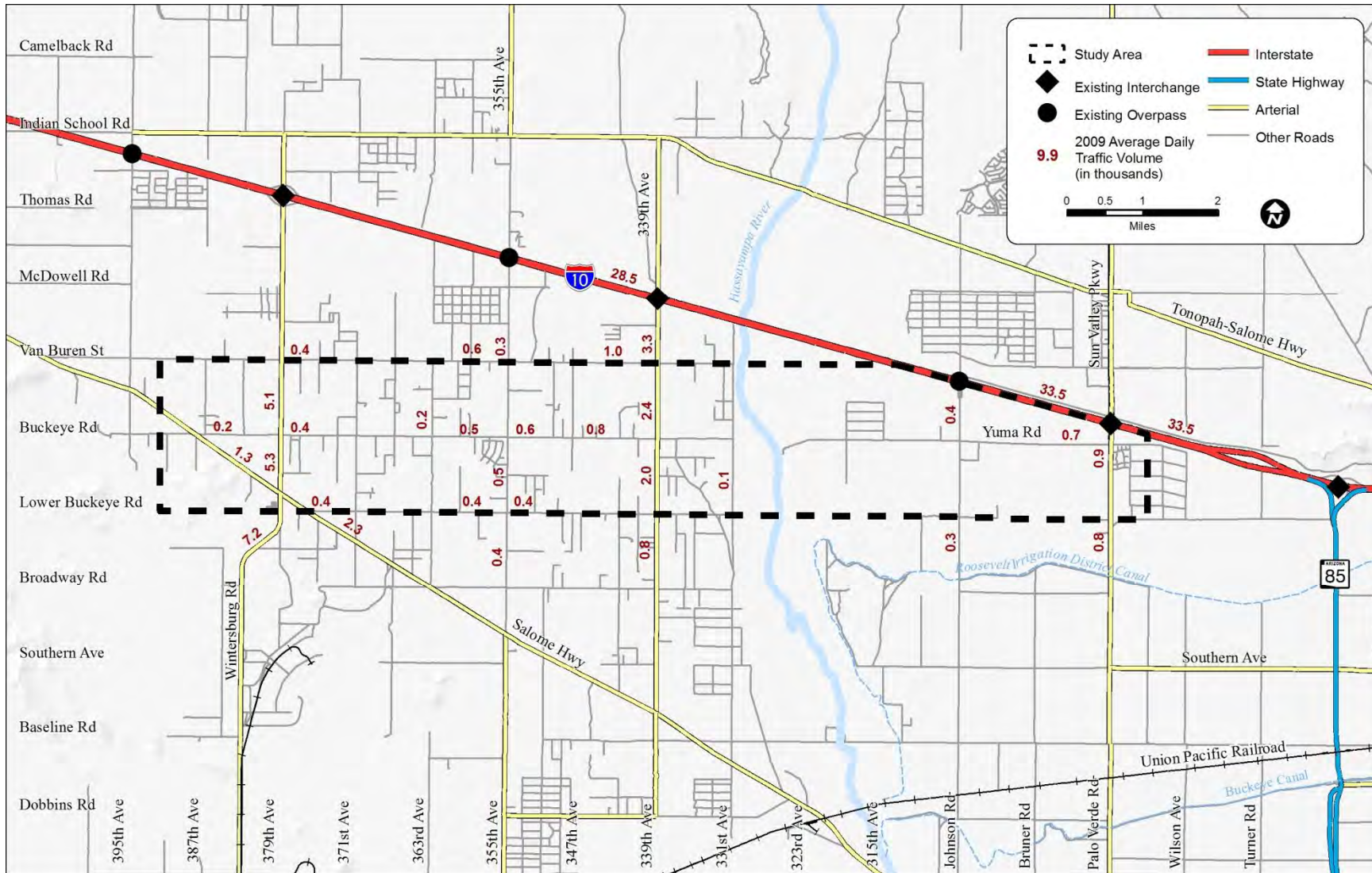
Avenue and Lower Buckeye Road between Salome Highway and 339<sup>th</sup> Avenue. Additional paved roadways in the study area are I-10, Salome Highway, Wintersburg Road (379<sup>th</sup> Avenue), 371<sup>st</sup> Avenue north of Buckeye Road, 363<sup>rd</sup> Avenue north of Buckeye Road, 355<sup>th</sup> Avenue, 339<sup>th</sup> Avenue, Johnson Road, and Palo Verde Road.

All existing study area roadways are operating below roadway capacities. The major features of the existing transportation network are shown in **Figure 8**.

## 2.6 Future Transportation Network

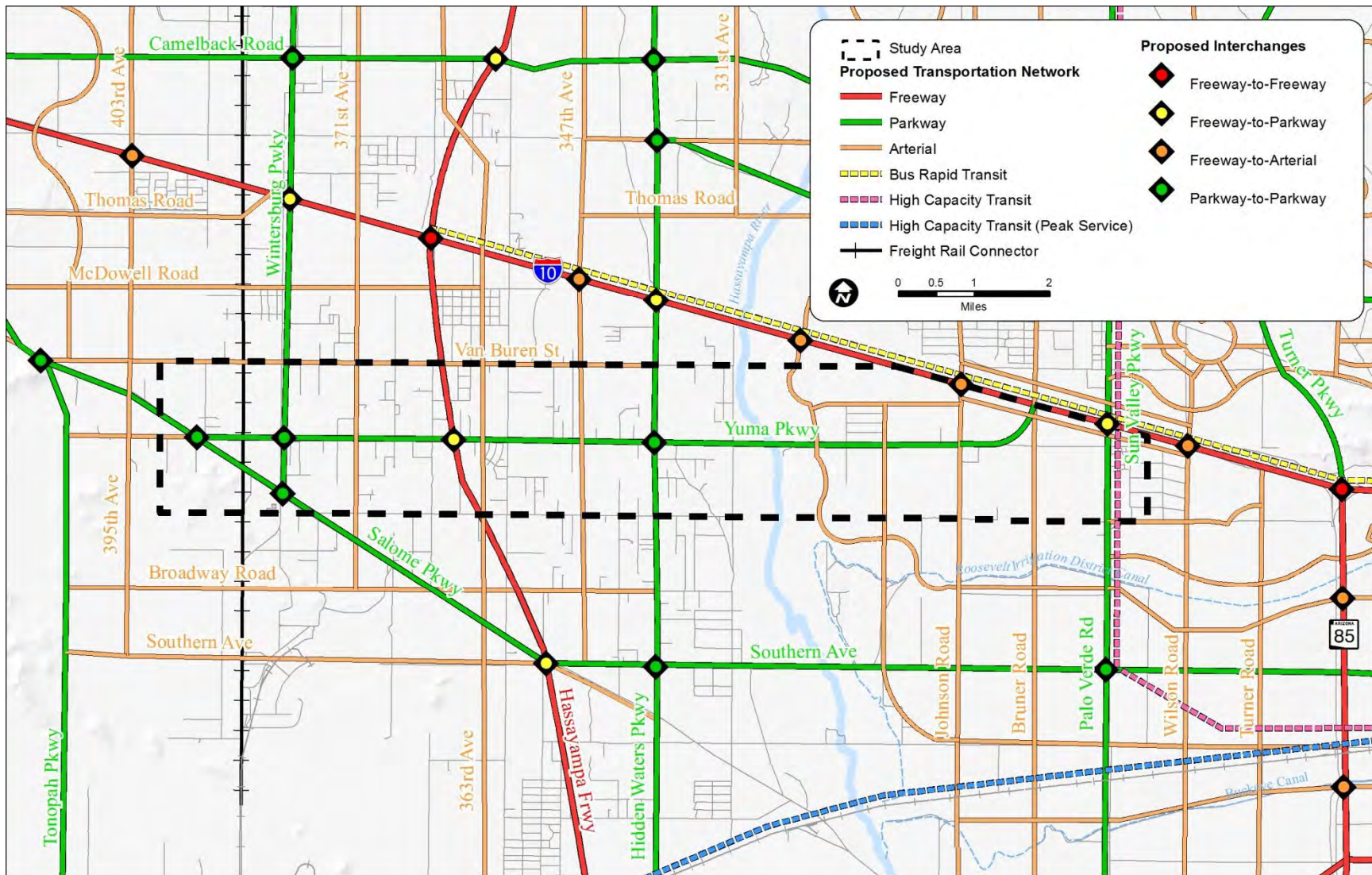
The transportation network in the study area is anticipated to change with future buildout conditions. According to the *Hassayampa Framework Study* and the *MAG 2010 Update to the Regional Transportation Plan (RTP)*, most existing roadways are expected to change to a higher functional classification and be upgraded as the existing transportation network is transformed into an interconnected multimodal network of parkways, freeways, arterials, railroad lines.

In addition to Yuma Parkway, the study area is anticipated to ultimately contain four other parkways (Salome, Wintersburg, Hidden Waters, and Palo Verde Parkways) at buildout. A new freeway known as the Hassayampa Freeway is envisioned to traverse the study area at about the 363<sup>rd</sup> Avenue alignment. Typical arterial roadway spacing is projected to be about one mile from other high-capacity roadways (i.e., freeways, parkways, and arterials), with the spacing being larger in the vicinity of the Hassayampa River. **Figure 9** shows the planned future transportation network.



Source: Maricopa County

Figure 8 – Existing Transportation Network



Source: MAG

**Figure 9 – Future Transportation Network**

## 2.7 Utilities and Facilities

Although much of the study area is currently undeveloped, it does contain a number of existing utilities and facilities, as shown in **Figure 10**.



**Existing 500kV transmission lines**

Arizona Public Service (APS) is the primary electric power service provider in the study area with 12kV power lines along each major roadway.

Two joint APS/Salt River Project (SRP) 500kV transmission lines diagonally cross through the study area between 315<sup>th</sup> Avenue and 339<sup>th</sup> Avenue. A 69kV APS transmission line exists along Wintersburg Road. There are no known additional power transmission lines planned within the study area.

There is an existing 36-inch natural gas pipeline owned by Transwestern that crosses through the study area adjacent and parallel to the existing APS/SRP 500kV transmission lines. There are no known additional gas pipelines planned within the study area.

CenturyLink is the primary telecommunications service provider in the study area with telecommunications lines along most major roadways. There is an existing CenturyLink telecommunications facility on the north side of Buckeye Road just east of 371<sup>st</sup> Avenue.

The developed properties within the study area generally have individual wells to supply water. There is a small private water system in the vicinity of Buckeye Road/355<sup>th</sup> Avenue that is operated by Water Utilities of Greater Tonopah. There is also a small private water system in the vicinity of Hopeville that is operated by the Allenville Water Company.

The Town of Buckeye has a municipal water line along Yuma Road between Powers Butte Road and Johnson Road and along Powers Butte Road and Johnson Road south of Yuma Road. There are also three Town of Buckeye wells within the study area.

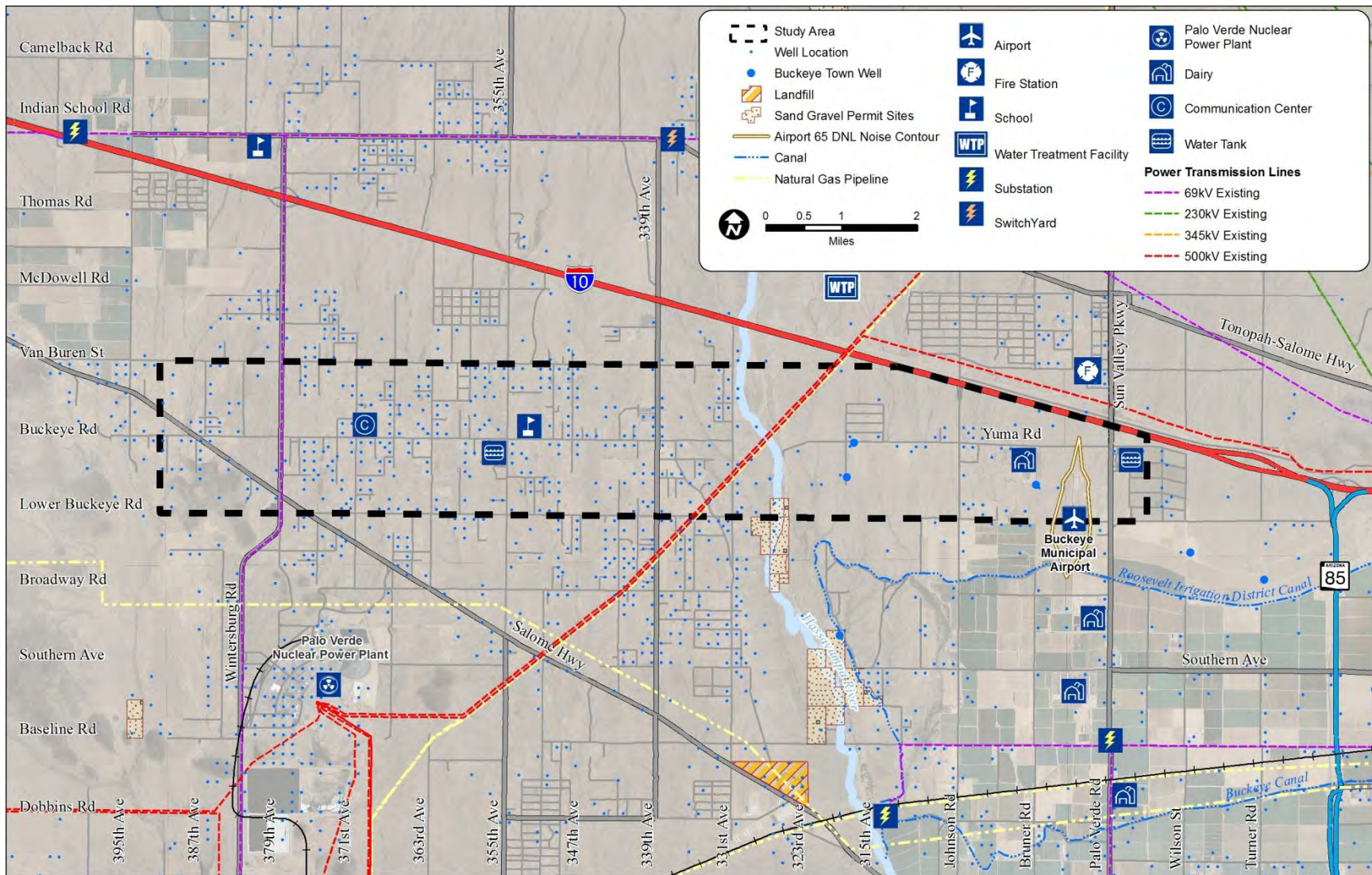
The Buckeye Municipal Airport is located south of Yuma Road and west of Palo Verde Road. The main runway is currently 5,500 feet long. The Town of Buckeye is planning to ultimately extend the runway to 7,300 feet.

There is one major agricultural facility within the study area – Stotz Dairy – along the south side of Yuma Road just west of the airport.

There are sand and gravel operations permit sites along the Hassayampa River floodplain in the southern part of the study area. A future bridge along the river in the study area could impact sand and gravel operations as there are currently restrictions on these operations near bridges.



**Existing agricultural facility**



Sources: Maricopa County, APS, and ASLD

**Figure 10 – Existing Utilities and Facilities**

## 2.8 Topography

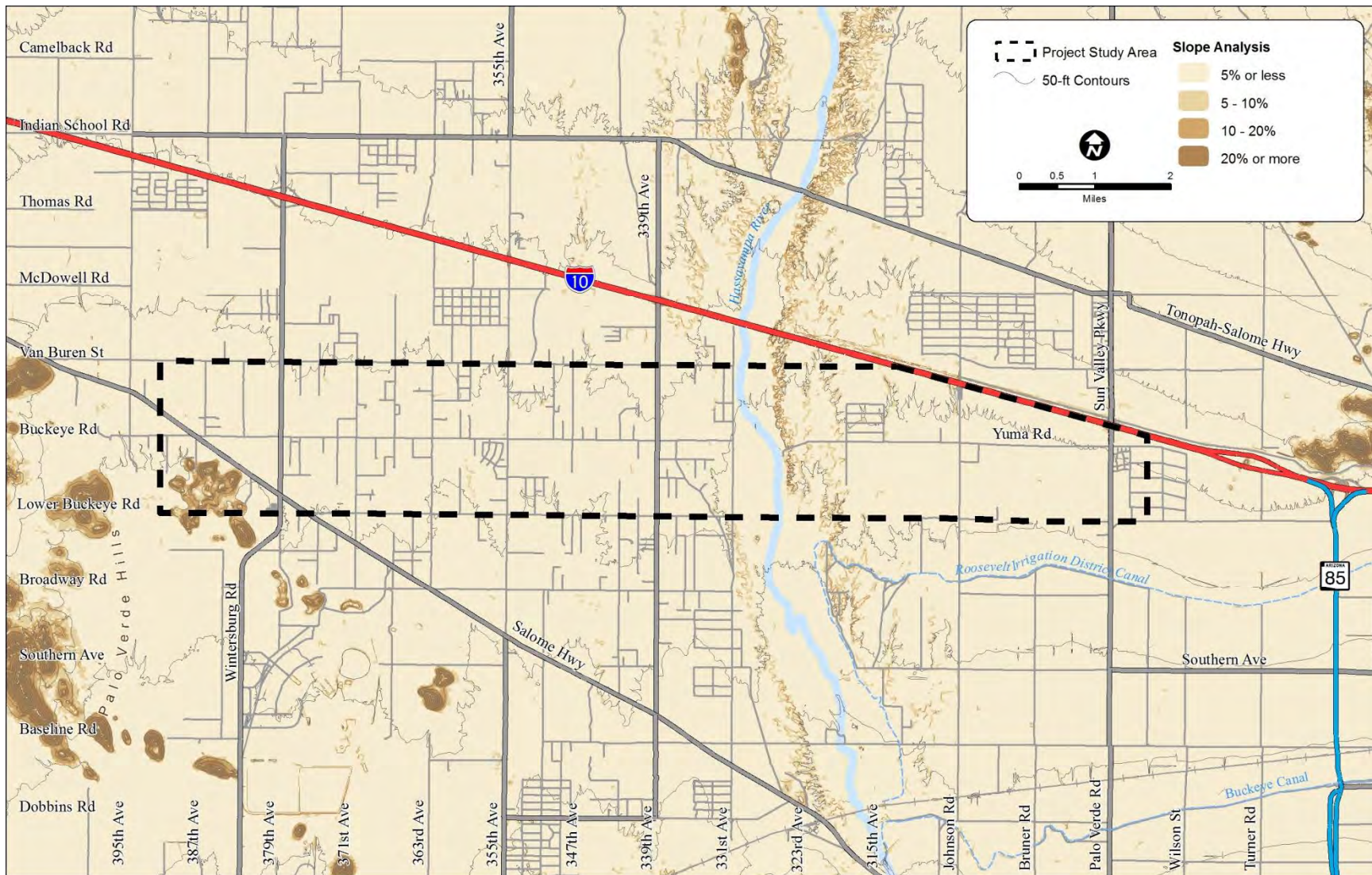
Most of the study area is relatively flat, particularly west of the Hassayampa River and north of Salome Highway. Slopes of more than five percent occur near the Hassayampa River and near the Palo Verde Hills in the southwest corner of the study area. There is a difference of 278 feet between the low elevation of 962 feet and the high elevation of 1,240 feet. Most of the study area has an elevation between 1,000 and 1,100 feet. **Figure 11** illustrates the topography of the study area.



**Undulating terrain near Hassayampa River**

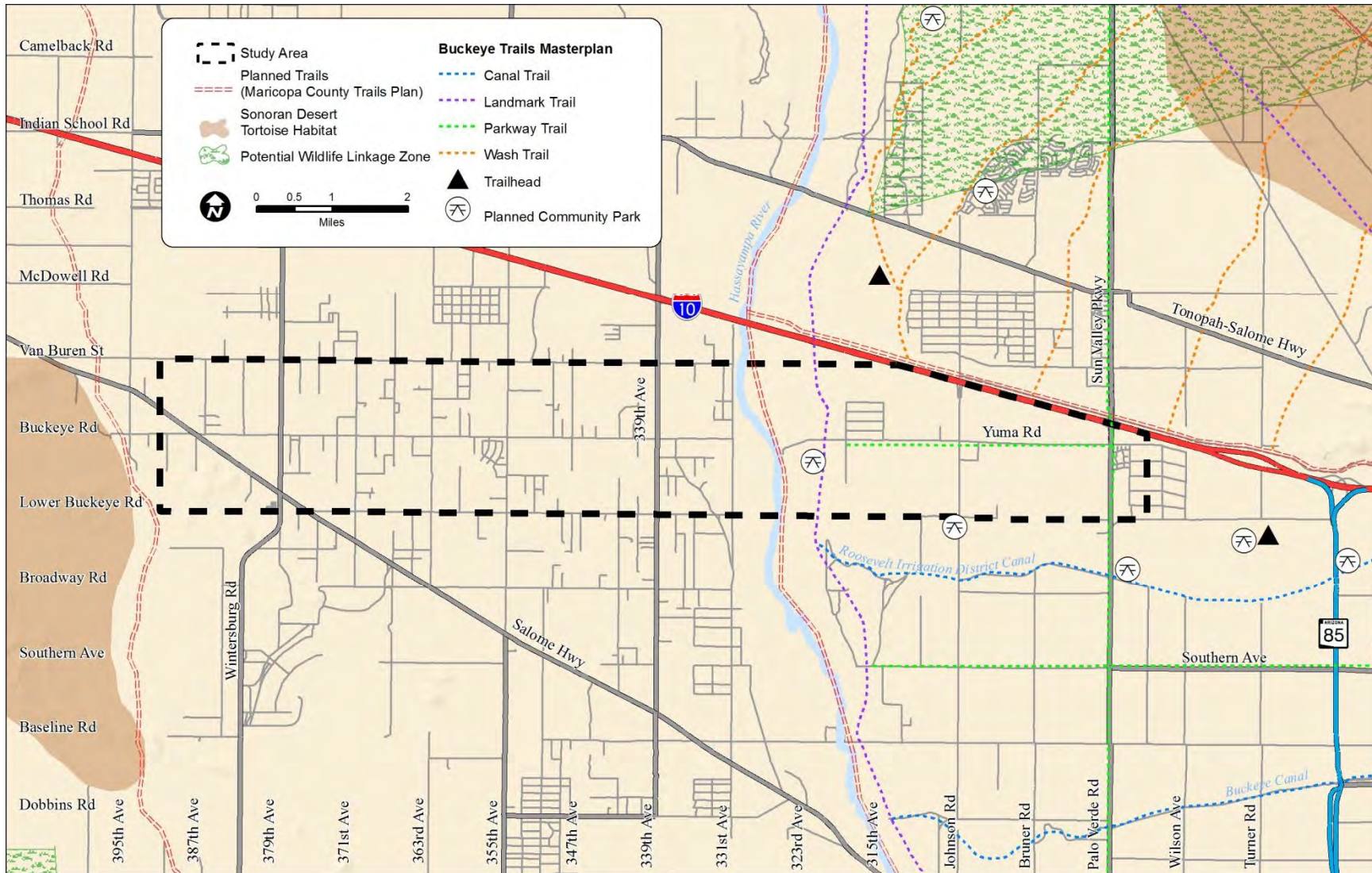
## 2.9 Recreational and Wildlife Areas

There are no potential wildlife linkage zones or designated wildlife habitats within the study area, but there are two Sonoran desert tortoise habitat areas and several wildlife linkage zones just outside the study area. The Hassayampa River should be considered a linkage zone even though no official linkage designation exists because it is a natural drainage channel through which animals regularly move. There are four planned trails and one planned community park within the study area. Recreational and wildlife areas are shown in **Figure 12**.



Source: Maricopa County

Figure 11 – Topography



Sources: Maricopa County and Town of Buckeye

**Figure 12 – Recreational and Wildlife Areas**





### 3. ENVIRONMENTAL SUMMARY

Environmental considerations are documented in *Technical Memorandum No. 2 – Environmental Overview* (contained in **Appendix 2** of separately published appendices). The most significant environmental issues affecting the study area are potential wildlife habitats and linkage zones associated with the Hassayampa River, the presence of prime and unique farmlands, potential discharges into waters of the U.S., potential cultural resources, and possible socioeconomic impacts on the community of Hopeville.

With respect to wildlife habitats, there are suitable habitats within the study area for the Sonoran desert tortoise, Sprague’s pipit, Tucson shovel-nosed snake, western burrowing owl, kit fox, and LeConte’s thrasher. Although it is unlikely that any of these species are present within the study area, they should be noted because suitable habitat is present. No other suitable habitat for threatened or endangered species or species of concern was observed within the study area.

There are no existing potential wildlife linkage zones (PLZ) within or adjacent to the study area, however two PLZs are located within two miles of the study area. Additionally, the Hassayampa River transects the study area and should be considered a “linkage” zone even though no official linkage designation exists. Coordination with the Arizona Game and Fish Department (AZGFD) should occur during final design to incorporate wildlife-friendly crossing treatments where feasible into the roadway crossing of the Hassayampa River.

Prime and unique farmlands in the study area are shown in **Figure 13**. Land is classified as prime farmland “if irrigated” or “if irrigated and either protected from flooding or not frequently flooded during the growing season”. The majority of farmland of unique importance occurs in the western portion of the study area, although there is also a large area near the central portion of the study area. The majority of prime farmland “if irrigated” is located in the eastern portion of the study area. While the *Hassayampa Framework Study* assumed there will be no actively farmed and irrigated land within the study area in the buildout condition, consideration should be given to potential impacts to the prime farmland that may still exist when planned roadways are ultimately implemented within the study area.

Portions of the Hassayampa River have been designated as waters of the U.S. by the U.S. Army Corps of Engineers and will be subject to the provisions of sections 401, 402, and 404 of the Clean Water Act (CWA). During the design phase, a more complete assessment of the CWA requirements associated with the Hassayampa River and washes within the study area will need to be performed.

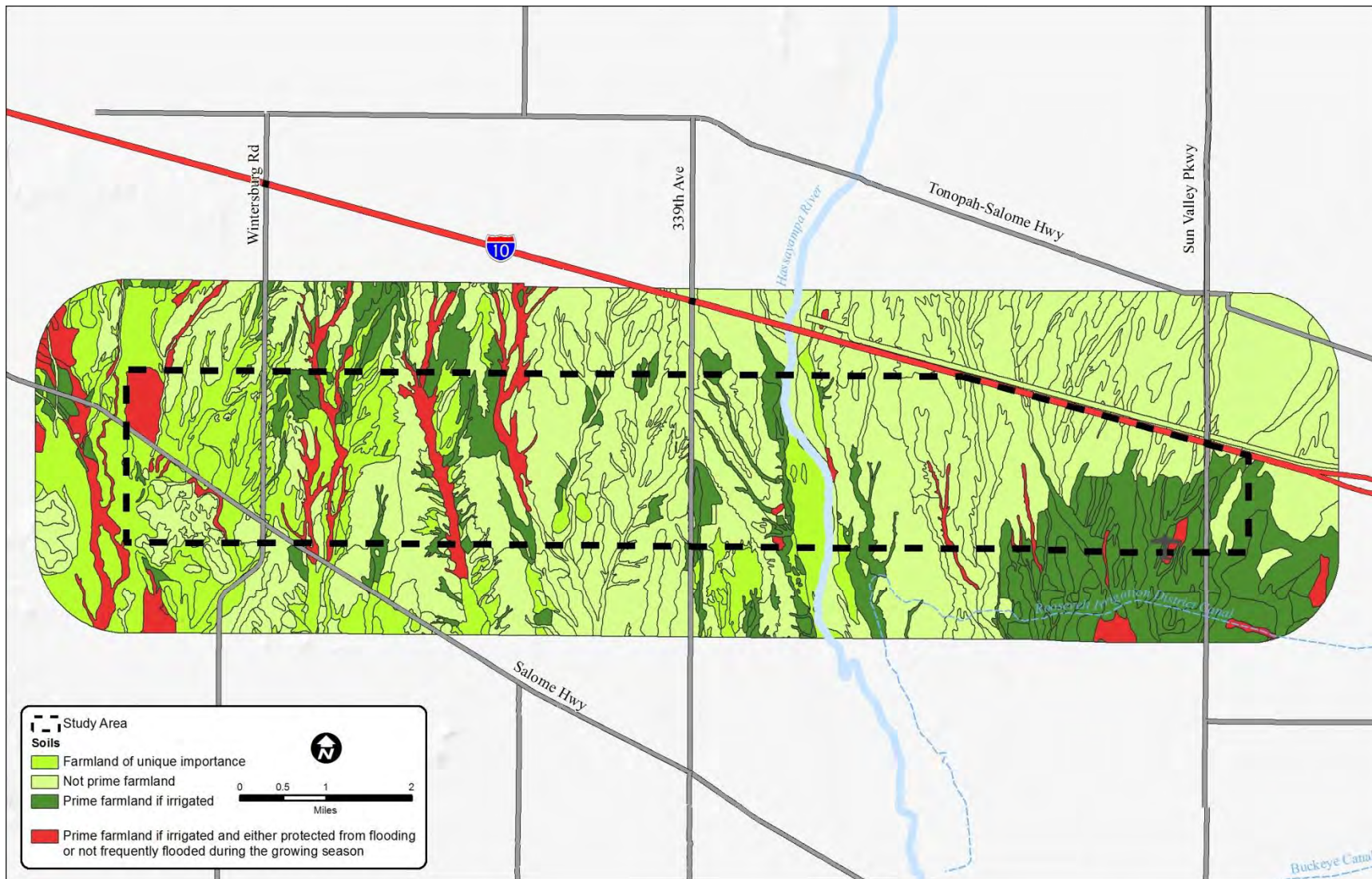
To identify potential cultural resources, site files and information maintained at the Arizona State Historic Preservation Office (SHPO) and in the AZSITE cultural resources database, as well as information from the Flood Control District of Maricopa County (FCDMC) and cadastral survey maps/General Land Office Plats available from the BLM, were analyzed. The records review indicated that a total of 19 cultural resource sites have previously been recorded within the study area. Of these recorded sites, none are currently listed on the National Register of Historic Places (NRHP) and none have been determined eligible for inclusion on the NRHP by SHPO. It should be noted that approximately 50 percent of the study area has not been surveyed for cultural resources. It is recommended that appropriate surveys be performed prior to designing or constructing any segment of this parkway.

Though not reflected in the census data due to the size of the census tracts, the unincorporated community of Hopeville warrants discussion as a socioeconomic consideration. Historically, the unincorporated community of Allenville, located in southern Buckeye, was repeatedly flooded by the Gila River. Most of the Allenville residents were Black/African American and may have met the low

income criteria. Serious flooding in the late 1970's decimated the community and the U.S. Army Corps of Engineers (Corps) and ASLD relocated the residents to a new 105-acre community adjacent to Palo Verde Road in 1981. The new community (Hopeville) consisted of 15 single-family homes, 18 mobile homes, community center with day-care facilities, lodge, park and church constructed for the 100 (approximate) relocated residents.



**Hopeville**



Sources: Maricopa County and AZGFD

**Figure 13 – Prime and Unique Farmland**

## 4. DRAINAGE SUMMARY

*Technical Memorandum No. 3 – Conceptual Drainage Report* identifies and summarizes the existing drainage conditions, features, and hydrologic characteristics within the study area (contained in **Appendix 3** of separately published appendices). Numerous drainage, geologic, groundwater studies and other drainage-related documents have been prepared within or adjacent to the study area.



**Four Mile Wash floodplain**

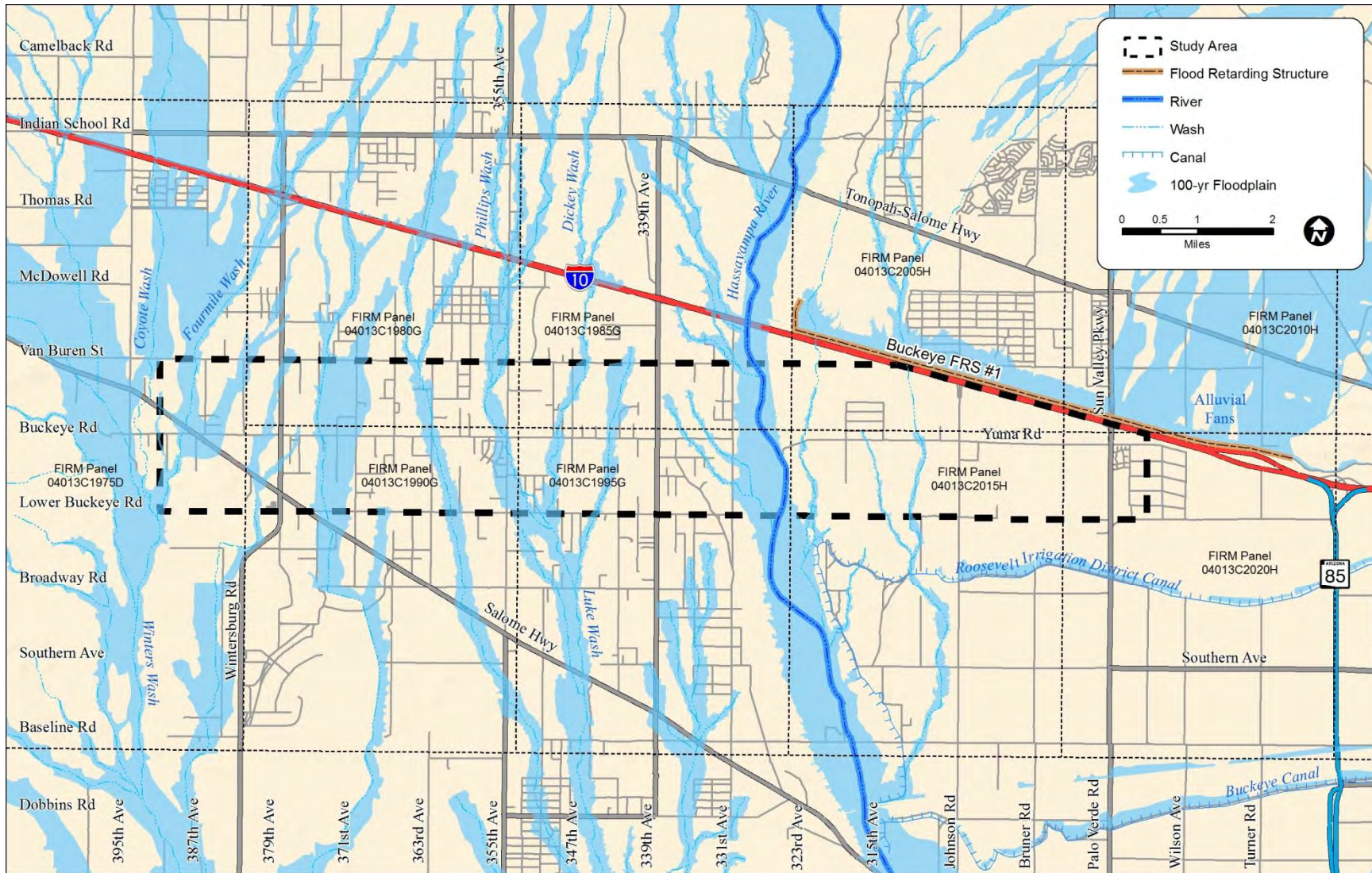
There are fifteen Federal Emergency Management Agency (FEMA) floodplains that drain through the study area. **Figure 14** provides a map of the 100-year floodplain areas and also displays the Flood Insurance Rate Map (FIRM) panels containing the effective floodplain mapping.

Watercourses west of 371<sup>st</sup> Avenue drain south to Centennial Wash, which is a tributary of the Gila River. Washes between 363<sup>rd</sup> Avenue and 339<sup>th</sup> Avenue drain south directly to the Gila River. Watercourses between 339<sup>th</sup> Avenue and Johnson Road drain to the Hassayampa River, which discharges into the Gila River. The study area east of Johnson Road does not contain any regulatory floodplains because the Buckeye Flood Retarding Structure #1 on the north side of I-10 intercepts and retains the upstream flows.

The most critical drainage crossing within the study area is at the Hassayampa River. In addition to floodplain impacts, the location and size of this proposed bridge crossing should take into account the highly dynamic nature of the watercourse. The river has demonstrated a significant potential for lateral migration. The Hassayampa River floodplain is approximately 3,000 feet wide at the section line. Detailed hydraulic and sediment transport studies will be necessary during final design to develop an appropriate bridge crossing of this highly dynamic river.



**Hassayampa River floodplain**



Source: Maricopa County

**Figure 14 – Regulatory Floodplains**

## 5. DEVELOPMENT AND EVALUATION OF ALTERNATIVE ALIGNMENTS

*Technical Memorandum No. 4 – Candidate Alternative Alignments and Evaluation* documents the alternatives development and evaluation process used for this study (contained in **Appendix 4** of separately published appendices). The alternatives development process involved two steps:

The first step was to identify a series of conceptual alternatives that would be subjected to a “fatal flaw” analysis. The conceptual alternatives were developed only to the extent necessary to conduct a meaningful comparative analysis that would produce up to three candidate alternatives that could be defined and evaluated in greater detail.

The second step was to more clearly define the candidate alternatives and evaluate them with respect to a series of evaluation criteria. The conceptual alternatives, candidate alternatives, and evaluation criteria were all developed in consultation with the TAC and stakeholders and were presented for general public input at public open house meetings.

### 5.1 Conceptual Alternatives

As a starting point in the development of conceptual alternatives, potential opportunities and constraints were identified and mapped. Potential opportunities and constraints consist of features that may have some bearing on the location and configuration of conceptual alternatives. Based on the existing and future corridor features discussed previously, the following potential opportunities/constraints were identified (generally listed in order from west to east in the study area) as follows:

- Steep topography associated with Palo Verde Hills;
- BLM land;
- Planned parkway-to-parkway interchanges with Salome Highway and Wintersburg Parkway;
- Segments of existing right-of-way and roadway easements along Yuma Road/Buckeye Road;
- Existing vacancy of land;
- Existing wells and water tanks;
- Planned rail line west of the proposed Wintersburg Parkway;
- High voltage power corridor along Wintersburg Road;
- Partially developed subdivisions, such as Buckeye Ranch Phase 1, Buckeye Ranchos, Butterfield Stagecoach Farms, Horseshoe Trails Amended, Saddle Vista, Saddleback Trails, Verma Estates 2, and Wood’s North Addition to Wintersburg;
- ASLD State Trust land;
- CenturyLink facilities;



**CenturyLink telecommunications facility**

- Planned freeway-to-parkway interchange with the Hassayampa Freeway;
- Planned parkway-to-parkway interchange with Hidden Waters Parkway;
- Winters' Well Elementary School;
- Hidden Waters Ranch DMP;
- Topography changes near the Hassayampa River;
- Lack of existing Hassayampa River crossing;
- Sand and gravel operations along the Hassayampa River;
- High voltage power corridors running diagonally through the eastern half of the study area;
- Transwestern natural gas transmission line running adjacent to the high voltage power corridors;
- Planned trails through the eastern half of the study area;
- Desert Creek master-planned community;
- Shemer D.P.J. planned development;
- Cipriani master-planned community;
- Stotz Dairy;
- Buckeye Municipal Airport;
- Westwind master-planned community;
- Existing Palo Verde Road and utility corridor alignment;
- Connection of Yuma Parkway to I-10 frontage roads or to Palo Verde Road;
- Planned freeway-to-parkway interchange between Palo Verde Parkway/Sun Valley Parkway and I-10;
- Planned community transit route along Palo Verde Road; and
- Community of Hopeville.

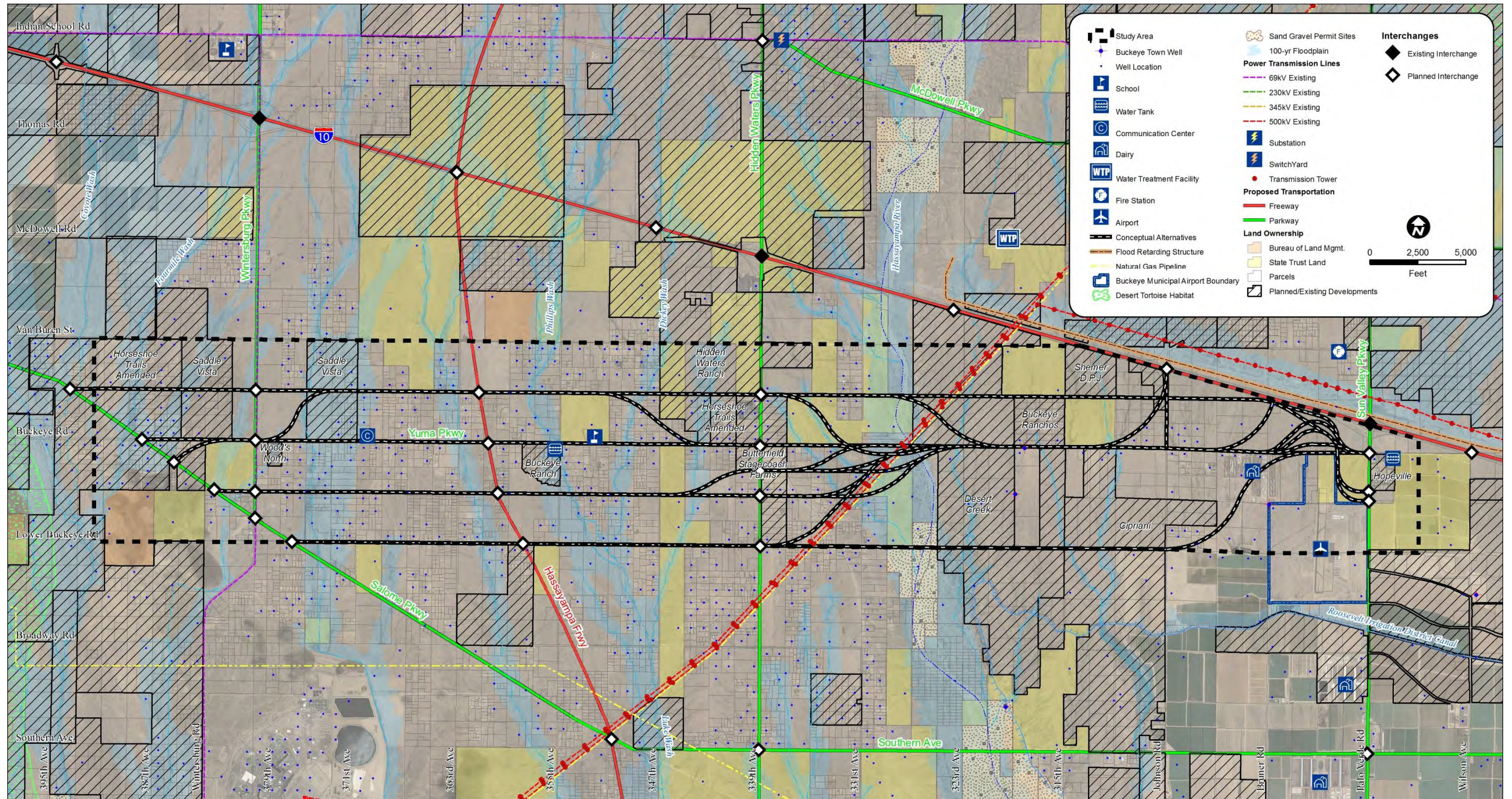


**Buckeye Municipal Airport**

After mapping these opportunities and constraints, a brainstorming session was conducted with study task leaders and the MCDOT project manager to generate a wide range of 200-foot-wide alternatives within the study area. The results of this brainstorming effort were presented to the TAC, stakeholders, and the public and the conceptual alternatives were further refined based on their input.

In developing conceptual alternatives, constraints considered to be potential “fatal flaws” were avoided to the extent possible to produce a set of realistic alternatives. Constraints that were considered to be more significant and should be avoided if possible include schools, churches, airports, wildlife areas, communities, floodplains, steep slope areas, approved planned developments, and large utility facilities.

The conceptual alignment alternatives along with potential opportunities and constraints for Yuma Parkway are shown in **Figure 15**. As this figure shows, there are opportunities to assemble multiple combinations of alternatives at common intersecting points to produce numerous options for consideration.



Sources: Maricopa County, MAG, Buckeye, APS, AZGFD, and ASLD

Figure 15 – Conceptual Alternatives



## 5.2 Candidate Alternatives

To narrow the range of alternatives to be evaluated in greater detail, a subjective, qualitative assessment was performed on all conceptual alternatives. This assessment included input from the TAC, stakeholders, and general public.

Based on this assessment, the following general recommendations were developed:

- The western terminus for all Yuma Parkway candidate alternatives should be Wintersburg Road rather than Salome Parkway. This recommendation was based on the relatively low buildout traffic projections west of Wintersburg Road, the established low density residential developments in the area, and topographic constraints that will limit development to the south and west of the study area;
- Between the Hassayampa River and Johnson Road, the Yuma Road alignment should be the only candidate alternative considered besides the no-build alternative. This recommendation is compatible with the approved Desert Creek and Cipriani CMPs that have been approved by the Town of Buckeye. The approved master plans include stipulations to reserve 200 feet of right-of-way along Yuma Road for the future Yuma Parkway facility; and
- East of Johnson Road, a special analysis area should be designated for more detailed study. Issues requiring closer examination include expansion plans for the Buckeye Municipal Airport, the Community of Hopeville, planned interchange and frontage road configurations along I-10, and the Town of Buckeye area plan for roadways between Palo Verde Road and State Route 85.

The TAC and stakeholders concurred with these general recommendations, which were reflected in the selection of candidate alternatives to be evaluated in greater detail for the following three segments within the study area.

Between Wintersburg Road and the Hassayampa River, three candidate alternatives were proposed as follows:

- Alternative A – A 200-foot-wide corridor located one-half mile north of the Buckeye Road alignment;
- Alternative B – A 200-foot-wide corridor located on the Buckeye Road alignment; and
- Alternative C – A 200-foot-wide corridor located one-half mile south of the Buckeye Road alignment.

These alternatives have the least impact on existing subdivided properties, are most compatible with planned developments, and converge at the same general crossing location at the Hassayampa River.

Between the Hassayampa River and Johnson Road, a single alternative, Alternative A, was designated for more detailed evaluation as a candidate alternative. This is the only alternative that is compatible with the approved CMPs in this segment.

Between Johnson Road and Palo Verde Road – which is the special analysis area – three candidate alternatives were developed as follows:

- Alternative A – A 200-foot-wide corridor that matches the preliminary alignment for Yuma Parkway shown in the *Hassayampa Framework Study*. This alternative was based

on the assumption that the Buckeye Municipal Airport primary runway would be extended to the north of Yuma Road and that it would not be feasible to extend Yuma Parkway between Bruner Road and Palo Verde Road. As a result, this alternative terminates at a planned Bruner Road overpass on I-10;

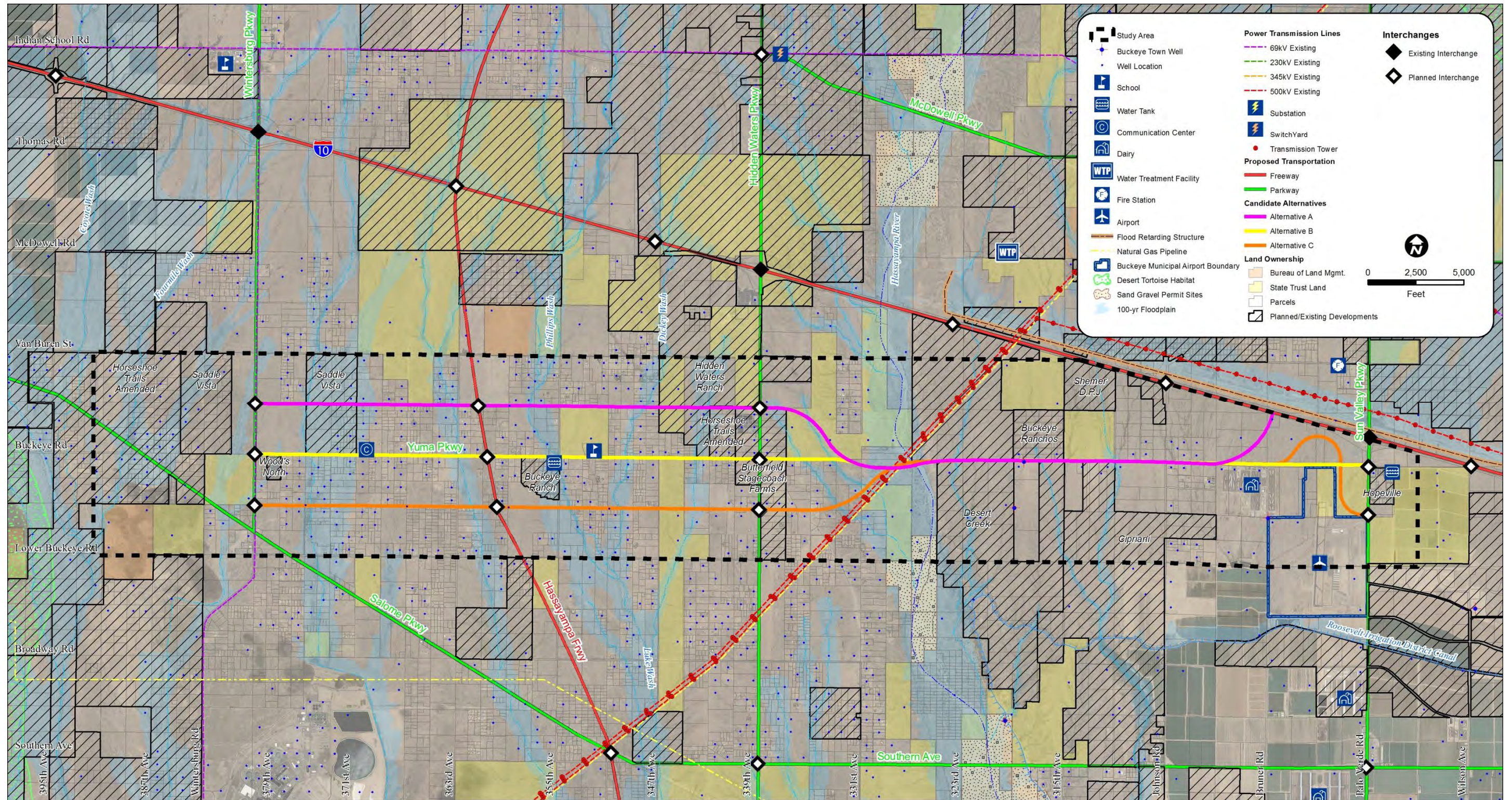
- Alternative B – A 200-foot-wide corridor located on the Yuma Road alignment. This alternative is based on the Town of Buckeye current plan to extend the Buckeye Municipal Airport primary runway to the south rather than the north. This makes it possible to extend the Yuma Parkway between Bruner Road and Palo Verde Road. This alternative would shift the Yuma Parkway centerline sufficiently north to avoid encroaching on existing airport or Hopeville properties; and
- Alternative C – A 200-foot-wide corridor following a curvilinear alignment traversing north of Yuma Road and then south to connect with Palo Verde Road south of Hopeville. This alternative is intended to provide maximum flexibility for expanding the Buckeye Municipal Airport. It also provides greater separation from the I-10 interchange with Palo Verde Road/Sun Valley Parkway and from Hopeville.

Candidate alternatives as recommended by the TAC and stakeholders are shown in **Figure 16**. Schematic drawings showing the candidate alternatives at a scale of 1 inch = 800 feet are included in *Technical Memorandum 4 – Candidate Alternative Alignments and Evaluation* (contained in **Appendix 4** of separately published appendices).

### 5.3 Alternatives Evaluation Criteria

After performing the fatal flaw assessment of the conceptual alternatives and then narrowing the conceptual alternatives to the candidate alternative alignments, the candidate alternatives, along with a no-build alternative, were evaluated using the following criteria:

- *System Continuity and Capacity* – This criterion is a measure of how each alternative contributes to providing a continuous transportation link through the study area with sufficient capacity to serve projected build-out traffic volumes. It also includes consideration of the ability to connect with other existing and planned freeways, parkways, and arterial streets;
- *Building/Property Impacts* – There are a number of low density residential properties and agricultural properties that may be adversely impacted by the parkway. Some residential buildings may have to be relocated or vacated and demolished, and some properties may be fully or partially acquired;
- *Future Development Compatibility* – This criterion addresses the impacts that each alternative has with respect to planned future development and whether or not the alternative is compatible with the planned development. For example, some planned developments in the study area already have stipulations requiring the reservation of a 200-foot-wide corridor for Yuma Parkway along portions of Yuma Road while other planned developments are based on a no-build or arterial street scenario. This criterion does not address the potential benefits of the parkway to future development, only whether or not the future development plan can accommodate Yuma Parkway;
- *Utility Impacts* – Most existing utilities are located adjacent to existing transportation facilities. Some combination of utility relocations and parkway alignment shifts will likely be required;



Sources: Maricopa County, MAG, Buckeye, APS, AZGFD, and ASLD

Figure 16 – Candidate Alternatives

- *Wildlife Impacts* – Some alternatives may have more impacts than other alternatives on the existing suitable habitat for several wildlife species of concern and the de facto wildlife linkage zone along the Hassayampa River within the study area;
- *Cultural/Archaeological Impacts* – Throughout the study area, there are a combination of known and potential cultural and archaeological sites. Some alternatives could have more adverse impacts than others on these resources. This criterion is limited to known cultural and archaeological sites. Further alignment-specific cultural and archaeological analyses will be needed to identify and mitigate unknown resources;
- *Drainage Impacts* – The Hassayampa River and numerous washes are located in the study area. In most cases, implementing a parkway facility will require new drainage structures, which will typically improve existing drainage patterns;
- *Cost* – Some alternatives will have greater right-of-way, utility, drainage, and construction costs than others and can be evaluated on a comparative planning-level cost assessment; and
- *Public Acceptability* – Residents and landowners in the study area have differing opinions regarding the need and desirability of constructing new major roadways through the study area. Public input received through the TAC, stakeholder, and open house meetings provides an indication of the general level of support for each alternative.

#### 5.4 Alternatives Evaluation Conclusions and Recommendations

Most of the evaluation criteria listed in the previous section do not lend themselves to numerical quantification, so the evaluation was performed on a “qualitative” basis using the following descriptors to describe the relative impacts of each of the candidate alternatives plus the no-build alternative:

- Strong advantage;
- Advantage;
- Neutral;
- Disadvantage; and
- Strong disadvantage.

**Table 1** provides a narrative description of the issues that pertain to each of the evaluation criteria and evaluation ratings according to the above descriptors for each of the Yuma Parkway candidate alternatives in the segment between Wintersburg Road and the Hassayampa River. **Table 2** and **Table 3** respectively provide similar evaluations of the Yuma Parkway candidate alternatives in the segment between the Hassayampa River and Johnson Road and in the segment between Johnson Road and Palo Verde Road. **Table 4** graphically summarizes the overall evaluation of the candidate alternatives.

**Table 1 – Yuma Parkway Alternatives Evaluation Matrix: Wintersburg Road to Hassayampa River**

<b>Evaluation Criteria</b>	<b>No-Build Alternative</b>	<b>Alternative A</b>	<b>Alternative B</b>	<b>Alternative C</b>
<b>System Continuity and Capacity</b>	<p>The No-Build Alternative provides an existing two-lane paved arterial centered on the Buckeye Road alignment between Wintersburg Road and 339<sup>th</sup> Avenue. The Maricopa Association of Governments <i>Hassayampa Framework Study</i> calls for a parkway in the general vicinity of the Buckeye Road alignment between Wintersburg Parkway and the Hassayampa River to serve long-term traffic needs. The No-Build Alternative does not conform to the recommended roadway network connectivity of the <i>Hassayampa Framework Study</i> and does not adequately serve long-term traffic needs.</p> <p><i>Net Effect: Strong disadvantage</i></p>	<p>Alternative A generally conforms to the recommended roadway network connectivity of the <i>Hassayampa Framework Study</i> by providing a parkway centered on the Harrison Street alignment between Wintersburg Parkway and the Hassayampa River that adequately serves long-term traffic needs.</p> <p><i>Net Effect: Strong advantage</i></p>	<p>Alternative B generally conforms to the recommended roadway network connectivity of the <i>Hassayampa Framework Study</i> by providing a parkway centered on the Buckeye Road alignment between Wintersburg Parkway and the Hassayampa River that adequately serves long-term traffic needs.</p> <p><i>Net Effect: Strong advantage</i></p>	<p>Alternative C generally conforms to the recommended roadway network connectivity of the <i>Hassayampa Framework Study</i> by providing a parkway centered on the Durango Street alignment between Wintersburg Parkway and the Hassayampa River that adequately serves long-term traffic needs.</p> <p><i>Net Effect: Strong advantage</i></p>
<b>Building/Property Impacts</b>	<p>There are existing residential buildings dispersed throughout this portion of the study area. The No-Build Alternative does not change the current status and therefore will not have positive or negative impacts on adjacent buildings or properties.</p> <p><i>Net Effect: Neutral</i></p>	<p>There is generally no existing public R/W along the Alternative A alignment. An additional 200' of new public R/W will generally be needed for the parkway.</p> <p>Alternative A will likely require the relocation/purchase of 16 existing residential buildings as well as R/W acquisition from 82 privately-owned parcels, including 6 full parcel acquisitions. Alternative A will also likely require R/W acquisitions from 5 State Trust Land parcels, 2 of which will be bisected by the parkway.</p> <p><i>Net Effect: Strong disadvantage</i></p>	<p>There is generally 110' of existing public R/W along the Alternative B alignment. An additional 90' of new public R/W will generally be needed for the parkway.</p> <p>Alternative B will likely require the relocation/purchase of 23 existing residential buildings as well as acquisition from 146 privately-owned parcels, including 14 full parcel acquisitions. One of the parcels from which R/W will likely need to be acquired contains Winters' Well Elementary School. The parking lot and circulation patterns of the elementary school will likely have to be reconfigured. Alternative B will also likely require R/W acquisitions from 3 State Trust Land parcels.</p> <p><i>Net Effect: Strong disadvantage</i></p>	<p>There is generally no existing public R/W along the Alternative C alignment. An additional 200' of new public R/W will generally be needed for the parkway.</p> <p>Alternative C will likely require the relocation/purchase of 23 existing residential buildings as well as R/W acquisition from 120 privately-owned parcels, including 25 full parcel acquisitions. Alternative C will also likely require R/W acquisitions from 2 State Trust Land parcels, both of which will be bisected by the parkway</p> <p><i>Net Effect: Strong disadvantage</i></p>
<b>Future Development Compatibility</b>	<p>The No-Build Alternative provides an existing two-lane paved arterial centered on the Buckeye Road alignment between Wintersburg Road and 339<sup>th</sup> Avenue that typically has 110' of right-of-way (R/W).</p> <p>The Hidden Waters Ranch planned development is stipulated to provide 100' of half-street right-of-way for a 200' parkway centered on the Buckeye Road alignment between 344<sup>th</sup> Avenue and 343<sup>rd</sup> Avenue.</p> <p>While a roadway does exist along the Buckeye Road alignment where planned development had assumed a roadway would be provided, the No-Build Alternative is not compatible with the approved Hidden Waters Ranch planned development, which assumed a 200' parkway on Buckeye Road instead of a 110' arterial to accommodate the projected traffic demands in the area.</p> <p><i>Net Effect: Disadvantage</i></p>	<p>Alternative A provides a 200' parkway centered on the Harrison Street alignment (1/2 mile north of Buckeye Road).</p> <p>The Hidden Waters Ranch planned development is stipulated to provide an 80' collector on the Harrison Street alignment between 347<sup>th</sup> Avenue and 339<sup>th</sup> Avenue.</p> <p>Providing a 200' parkway on the Harrison Street alignment is not compatible with the approved Hidden Waters Ranch planned development. Hidden Waters Ranch will be required to provide an additional 120' of R/W to accommodate the parkway. Planned land uses along the Harrison Street alignment that will be impacted by the wider required R/W for a parkway include an elementary school, a park, and small-lot single family residential.</p> <p><i>Net Effect: Strong disadvantage</i></p>	<p>Alternative B provides a 200' parkway centered on the Buckeye Road alignment.</p> <p>The Hidden Waters Ranch planned development is stipulated to provide 100' of half-street right-of-way for a 200' parkway along Buckeye Road between 344<sup>th</sup> Avenue and 343<sup>rd</sup> Avenue.</p> <p>Providing a 200' parkway on the Buckeye Road alignment is compatible with the approved Hidden Waters Ranch planned development,</p> <p><i>Net Effect: Advantage</i></p>	<p>Alternative C provides a 200' parkway centered on the Durango Street alignment (1/2 mile south of Buckeye Road).</p> <p>While there are no approved planned developments through which a parkway on the Durango Street alignment will traverse, the Hidden Waters Ranch planned development assumed the parkway would be centered on the Buckeye Road alignment between 344<sup>th</sup> Avenue and 343<sup>rd</sup> Avenue.</p> <p>Providing a 200' parkway on the Durango Street alignment is not compatible with the approved Hidden Waters Ranch planned development.</p> <p><i>Net Effect: Disadvantage</i></p>
<b>Utility Impacts</b>	<p>The existing major utilities identified as being located within this portion of the study area include a natural gas line, overhead 69kV and 500kV electrical lines, a CenturyLink telecommunications building along Buckeye Road east of 371<sup>st</sup> Avenue, and water wells/tanks dispersed throughout the study area. The No-Build Alternative does not change the current status and therefore will not have positive or negative impacts on identified utilities.</p> <p><i>Net Effect: Neutral</i></p>	<p>Alternative A will cross the natural gas line and overhead 500kV and 69kV electrical lines but should not significantly impact these utilities. Alternative A will likely require the relocation of one water well.</p> <p><i>Net Effect: Disadvantage</i></p>	<p>Alternative B will cross the natural gas line and overhead 500kV and 69kV electrical lines but should not significantly impact these utilities. Alternative B will likely require the relocation of the CenturyLink telecommunications building along Buckeye Road east of 371<sup>st</sup> Avenue unless the parkway alignment can be shifted to the south.</p> <p><i>Net Effect: Strong disadvantage</i></p>	<p>Alternative C will cross the natural gas line and overhead 500kV and 69kV electrical lines but should not significantly impact these utilities. Alternative C will likely require the relocation of four water wells.</p> <p><i>Net Effect: Disadvantage</i></p>

Source: Kimley-Horn and Associates, Inc.

**Table 1 – Yuma Parkway Alternatives Evaluation Matrix: Wintersburg Road to Hassayampa River (continued)**

<b>Evaluation Criteria</b>	<b>No-Build Alternative</b>	<b>Alternative A</b>	<b>Alternative B</b>	<b>Alternative C</b>
<b>Wildlife Impacts</b>	<p>There are no designated wildlife linkage zones in this portion of the study area, but the Hassayampa River is a de facto wildlife linkage zone. Roadways in the study area do not currently provide wildlife crossing treatments, but wildlife-vehicle conflicts have not been identified as a common occurrence within this portion of the study area. The No-Build Alternative does not change the current status and therefore will not have positive or negative impacts on wildlife.</p> <p><i>Net Effect: Neutral</i></p>	<p>Alternative A will result in a new roadway centered primarily on the Harrison Street alignment that creates an additional barrier to wildlife crossings, particularly where Alternative A crosses the Hassayampa River. The adverse impacts of this additional barrier could be mitigated to some degree by incorporating wildlife crossing treatments into the new roadway design, particularly at the Hassayampa River.</p> <p><i>Net Effect: Disadvantage</i></p>	<p>Alternative B will result in a wider roadway footprint than currently exists on Buckeye Road, increasing the crossing distance for wildlife. Alternative B will also result in a new roadway across the Hassayampa River that creates an additional barrier to wildlife crossings. The increase in crossing distance and additional barrier could be mitigated to some degree by incorporating wildlife crossing treatments into the new roadway design, particularly at the Hassayampa River.</p> <p><i>Net Effect: Disadvantage</i></p>	<p>Alternative C will result in a new roadway centered primarily on the Durango Street alignment that creates an additional barrier to wildlife crossings, particularly where Alternative A crosses the Hassayampa River. The adverse impacts of this additional barrier could be mitigated to some degree by incorporating wildlife crossing treatments into the new roadway design, particularly at the Hassayampa River.</p> <p><i>Net Effect: Disadvantage</i></p>
<b>Cultural/Archaeological Impacts</b>	<p>There are identified cultural or archaeological resources dispersed throughout this portion of the study area. The No-Build Alternative does not change the current status and therefore will not have positive or negative impacts on identified cultural or archaeological resources. It should be noted that approximately 50 percent of the study area has not been surveyed for cultural or archaeological resources.</p> <p><i>Net Effect: Neutral</i></p>	<p>Alternative A will likely impact one identified cultural or archaeological resource. Because approximately 50 percent of the study area has not been surveyed for cultural or archaeological resources, it is possible that future surveys conducted as Alternative A is designed could potentially identify additional cultural or archaeological resources that could be impacted by Alternative A.</p> <p><i>Net Effect: Disadvantage</i></p>	<p>Alternative B will likely impact three cultural or archaeological resources. Because approximately 50 percent of the study area has not been surveyed for cultural or archaeological resources, it is possible that future surveys conducted as Alternative B is designed could potentially identify additional cultural or archaeological resources that could be impacted by Alternative B.</p> <p><i>Net Effect: Disadvantage</i></p>	<p>Alternative C will likely impact one cultural or archaeological resource. Because approximately 50 percent of the study area has not been surveyed for cultural or archaeological resources, it is possible that future surveys conducted as Alternative C is designed could potentially identify additional cultural or archaeological resources that could be impacted by Alternative C.</p> <p><i>Net Effect: Disadvantage</i></p>
<b>Drainage Impacts</b>	<p>Phillips Wash, Dickey Wash, and several other smaller unnamed washes carry water through this portion of the study area and across Buckeye Road during flood events, causing occasional roadway closures due to roadway pavement erosion and sedimentation build-up. There are currently no drainage structures to control the flow and lateral migration of the Hassayampa River.</p> <p>The No-Build Alternative does not provide a continuous all-weather roadway, will not correct any of the identified drainage issues, and could result in additional future adverse impacts from drainage issues such as roadway erosion and sedimentation.</p> <p><i>Net Effect: Strong disadvantage</i></p>	<p>Alternative A provides a continuous all-weather roadway that will include culverts to convey cross-drainage at smaller washes and structures to convey cross-drainage at larger washes such as Phillips Wash and Dickey Wash and to control the flow and lateral migration of the Hassayampa River.</p> <p><i>Net Effect: Strong advantage</i></p>	<p>Alternative B provides a continuous all-weather roadway that will include culverts to convey cross-drainage at smaller washes and structures to convey cross-drainage at larger washes such as Phillips Wash and Dickey Wash and to control the flow and lateral migration of the Hassayampa River.</p> <p><i>Net Effect: Strong advantage</i></p>	<p>Alternative C provides a continuous all-weather roadway that will include culverts to convey cross-drainage at smaller washes and structures to convey cross-drainage at larger washes such as Phillips Wash and Dickey Wash and to control the flow and lateral migration of the Hassayampa River.</p> <p><i>Net Effect: Strong advantage</i></p>
<b>Cost</b>	<p>The No-Build Alternative will not have right-of-way or construction costs but it will have continued on-going maintenance costs related to cross-drainage pavement repairs.</p> <p><i>Net Effect: Neutral</i></p>	<p>Because there is little existing public R/W along the Alternative A alignment and the parkway alignment is curvilinear, Alternative A will likely have right-of-way, construction, and maintenance costs that exceed Alternative B costs and are similar to Alternative C costs.</p> <p><i>Net Effect: Strong disadvantage</i></p>	<p>Because there is considerable existing public R/W along the Alternative B alignment and the parkway alignment is straight, Alternative B will likely have right-of-way, construction, and maintenance costs that are less than the costs of Alternative A and Alternative C.</p> <p><i>Net Effect: Disadvantage</i></p>	<p>Because there is little existing public R/W along the Alternative C alignment and the parkway alignment is curvilinear, Alternative C will likely have right-of-way, construction, and maintenance costs that exceed Alternative B costs and are similar to Alternative A costs.</p> <p><i>Net Effect: Strong disadvantage</i></p>
<b>Public Acceptability</b>	<p>Public input was mixed regarding the No-Build Alternative. Some residents and property owners expressed concerns about property impacts associated with implementing the parkway while others expressed support for the parkway because it will provide roadway network continuity across the Hassayampa River and provide additional roadway capacity.</p> <p><i>Net Effect: Neutral</i></p>	<p>Public input from those in favor of one of the “build” alternatives was generally less supportive of Alternative A than Alternative B.</p> <p><i>Net Effect: Disadvantage</i></p>	<p>Public input from those in favor of one of the “build” alternatives was generally more supportive of Alternative B than Alternative A or Alternative C.</p> <p><i>Net Effect: Neutral</i></p>	<p>Public input from those in favor of one of the “build” alternatives was generally less supportive of Alternative C than Alternative B.</p> <p><i>Net Effect: Disadvantage</i></p>

Source: Kimley-Horn and Associates, Inc.

**Table 2 – Yuma Parkway Alternatives Evaluation Matrix: Hassayampa River to Johnson Road**

Evaluation Criteria	No-Build Alternative	Alternative A
<b>System Continuity and Capacity</b>	<p>The No-Build Alternative does not provide a continuous roadway between the Hassayampa River and Johnson Road within the study area.</p> <p>The Maricopa Association of Governments <i>Hassayampa Framework Study</i> calls for a parkway in the general vicinity of the Yuma Road alignment between the Hassayampa River and Johnson Road to serve long-term traffic needs. The No-Build Alternative does not conform to the recommended roadway network connectivity of the <i>Hassayampa Framework Study</i> and does not adequately serve long-term traffic needs.</p> <p><i>Net Effect: Strong disadvantage</i></p>	<p>Alternative A generally conforms to the recommended roadway network connectivity of the <i>Hassayampa Framework Study</i> by providing a parkway centered on the Yuma Road alignment between the Hassayampa River and Johnson Road that adequately serves long-term traffic needs.</p> <p><i>Net Effect: Strong advantage</i></p>
<b>Building/Property Impacts</b>	<p>There are few existing buildings in this portion of the study area. The No-Build Alternative does not change the current status and therefore will not have positive or negative impacts on adjacent buildings or properties.</p> <p><i>Net Effect: Neutral</i></p>	<p>There are generally 0'-65' of existing public R/W along the Alternative A alignment. Most of the adjacent parcels in this portion of the study area are part of the approved Desert Creek or Cipriani planned developments and as such would not require additional R/W beyond what is already stipulated in the development agreements for a parkway.</p> <p>Alternative A will not require the relocation/purchase of any residential buildings. Alternative A will likely require R/W acquisition from 39 privately-owned parcels, including nine full parcel acquisitions. Alternative A will also likely require R/W acquisition from one State Trust Land parcel.</p> <p><i>Net Effect: Disadvantage</i></p>
<b>Future Development Compatibility</b>	<p>The No-Build Alternative does not provide any paved roadway between the Hassayampa River and Johnson Road within the study area.</p> <p>The Desert Creek and Cipriani planned developments are stipulated to provide 100' of half-street right-of-way (R/W) for a 200' parkway centered on the Yuma Road alignment between the Hassayampa River and Johnson Road. The No-Build Alternative is not compatible with the approved Desert Creek and Cipriani planned developments, which had assumed a 200' parkway would provide access between the Hassayampa River and Johnson Road and the needed capacity to accommodate the projected traffic demands in the area.</p> <p><i>Net Effect: Strong disadvantage</i></p>	<p>Alternative A provides a 200' parkway centered on the Yuma Road alignment.</p> <p>The Desert Creek and Cipriani planned developments are stipulated to provide 100' of half-street R/W for a 200' parkway centered on the Yuma Road alignment between the Hassayampa River and Johnson Road. Providing a 200' parkway on the Yuma Road alignment is compatible with the approved Desert Creek and Cipriani planned developments.</p> <p><i>Net Effect: Strong advantage</i></p>
<b>Utility Impacts</b>	<p>The existing major utilities identified as being located within this portion of the study area are water wells, most notably the water well owned by the Town of Buckeye along Yuma Road east of Powers Butte Road. The No-Build Alternative does not change the current status and therefore will not have positive or negative impacts on the identified utility.</p> <p><i>Net Effect: Neutral</i></p>	<p>Alternative A will likely require the relocation of the water well owned by the Town of Buckeye unless the parkway alignment can be shifted to the north.</p> <p><i>Net Effect: Disadvantage</i></p>
<b>Wildlife Impacts</b>	<p>There are no designated wildlife linkage zones in this portion of the study area and no wildlife-vehicle conflicts have been identified as a common occurrence within this portion of the study area. The No-Build Alternative does not change the current status and therefore will not have positive or negative impacts on wildlife.</p> <p><i>Net Effect: Neutral</i></p>	<p>Alternative A will result in a new roadway centered on the Yuma Road alignment that creates an additional barrier to wildlife crossings. The adverse impacts of this additional barrier could be mitigated to some degree by incorporating wildlife crossing treatments into the new roadway design.</p> <p><i>Net Effect: Disadvantage</i></p>
<b>Cultural/Archaeological Impacts</b>	<p>There are identified cultural or archaeological resources dispersed throughout this portion of the study area. The No-Build Alternative does not change the current status and therefore will not have positive or negative impacts on identified cultural or archaeological resources. It should be noted that approximately 50 percent of the study area has not been surveyed for cultural or archaeological resources.</p> <p><i>Net Effect: Neutral</i></p>	<p>Alternative A will likely impact two identified cultural or archaeological resources. Because approximately 50 percent of the study area has not been surveyed for cultural or archaeological resources, it is possible that future surveys conducted as Alternative A is designed could potentially identify additional cultural or archaeological resources that could be impacted by Alternative A.</p> <p><i>Net Effect: Disadvantage</i></p>
<b>Drainage Impacts</b>	<p>Several small unnamed washes carry water through this portion of the study area during flood events, although the magnitude of the wash flows is relatively small due to the upstream presence of the flood retarding structure just north of I-10. The No-Build Alternative does not provide a continuous all-weather roadway.</p> <p><i>Net Effect: Disadvantage</i></p>	<p>Alternative A provides a continuous all-weather roadway that will include culverts to convey cross-drainage at the small washes.</p> <p><i>Net Effect: Advantage</i></p>
<b>Cost</b>	<p>The No-Build Alternative will not have right-of-way or construction costs but it will have continued on-going maintenance costs related to dust control and grading for the unpaved roadway between Powers Butte Road and Johnson Road.</p> <p><i>Net Effect: Neutral</i></p>	<p>Alternative A will have right-of-way, construction, and maintenance costs that are more than the No-Build Alternative costs.</p> <p><i>Net Effect: Disadvantage</i></p>
<b>Public Acceptability</b>	<p>Public input was mixed regarding the No-Build Alternative. Some residents and property owners expressed concerns about property impacts associated with implementing the parkway while others expressed support for the parkway because it will provide east-west roadway network continuity and provide additional roadway capacity.</p> <p><i>Net Effect: Neutral</i></p>	<p>Public input was mixed regarding Alternative A. Some residents and property owners expressed concerns about property impacts associated with implementing the parkway while others expressed support for the parkway because it will provide east-west roadway network continuity and provide additional roadway capacity.</p> <p><i>Net Effect: Neutral</i></p>

Source: Kimley-Horn and Associates, Inc.

**Table 3 – Yuma Parkway Alternatives Evaluation Matrix: Johnson Road to Palo Verde Road**

Evaluation Criteria	No-Build Alternative	Alternative A	Alternative B	Alternative C
<b>System Continuity and Capacity</b>	<p>The No-Build Alternative provides an existing two-lane paved arterial centered on the Yuma Road alignment between Johnson Road and Palo Verde Road. The Maricopa Association of Governments <i>Hassayampa Framework Study</i> calls for a parkway in the general vicinity of the Yuma Road alignment between Johnson Road and I-10 to serve long-term traffic needs. The parkway alignment recommended in the <i>Hassayampa Framework Study</i> assumed the airport runway extension would be to the north, meaning a direct east-west connection along the existing Yuma Road alignment would not be feasible. Now that the airport runway extension is planned to be to the south, a direct east-west connection between Johnson Road and I-10 is feasible. The No-Build Alternative does not conform to the recommended roadway network connectivity of the <i>Hassayampa Framework Study</i> and does not adequately serve long-term traffic needs.</p> <p><i>Net Effect: Strong disadvantage</i></p>	<p>Alternative A generally conforms to the recommended roadway network connectivity of the <i>Hassayampa Framework Study</i> by providing a parkway centered on the existing Yuma Road alignment that curves at Bruner Road to connect to I-10 via proposed frontage roads. Alternative A will likely adequately serve long-term traffic needs, although there may be capacity-related issues resulting from bringing frontage roads into the I-10/Palo Verde Road/Sun Valley Parkway interchange.</p> <p><i>Net Effect: Advantage</i></p>	<p>Alternative B generally conforms to the recommended roadway network connectivity of the <i>Hassayampa Framework Study</i> by providing a parkway along the general Yuma Road alignment that connects directly to Palo Verde Road, which then connects to I-10. Alternative B adequately serves long-term traffic needs.</p> <p><i>Net Effect: Strong advantage</i></p>	<p>Alternative C generally conforms to the recommended roadway network connectivity of the <i>Hassayampa Framework Study</i> by providing a parkway centered on the existing Yuma Road alignment that curves near the airport and Hopeville and then connects to Palo Verde Road, which then connects to I-10. Alternative C will likely adequately serve long-term traffic needs, although it may not be feasible to provide median breaks through the curved portions of Alternative C, which could result in capacity-related issues at the median breaks on either side of the curved portions.</p> <p><i>Net Effect: Advantage</i></p>
<b>Building/Property Impacts</b>	<p>There are existing residential buildings dispersed throughout this portion of the study area. The No-Build Alternative does not change the current status and therefore will not have positive or negative impacts on adjacent buildings or properties.</p> <p><i>Net Effect: Neutral</i></p>	<p>There is generally 90' of existing public R/W along the straight portion and 0' of existing public R/W along the curved portion of the Alternative A alignment. An additional 110' of new public R/W will generally be needed for the straight portion and 200' of new public R/W for the curved portion of the parkway.</p> <p>Alternative A will likely not require the relocation/purchase of any existing residential buildings and R/W acquisition from 15 privately-owned parcels but no full parcel acquisitions.</p> <p><i>Net Effect: Disadvantage</i></p>	<p>There are generally 90' of existing public R/W along the Alternative B alignment. An additional 110' of new public right-of-way will generally be needed for the parkway.</p> <p>Alternative B will likely not require the relocation/purchase of any existing residential buildings. Alternative B will likely require R/W acquisition from 15 privately-owned parcels and one State Trust Land parcel but no full parcel acquisitions.</p> <p><i>Net Effect: Disadvantage</i></p>	<p>There is generally 90' of existing public R/W along the straight portion and 0' of existing public R/W along the curved portion of the Alternative C alignment. An additional 110' of new public R/W will generally be needed for the straight portion and 200' of new public R/W for the curved portion of the parkway.</p> <p>Alternative C will likely not require the relocation/purchase of any existing residential buildings. Alternative C will likely require R/W acquisition from 14 privately-owned parcels and one State Trust Land parcel that will be bisected by the parkway but no full parcel acquisitions.</p> <p><i>Net Effect: Disadvantage</i></p>
<b>Future Development Compatibility</b>	<p>The No-Build Alternative provides an existing two-lane paved arterial centered on the Yuma Road alignment between Johnson Road and Palo Verde Road that typically has 90' of right-of-way (R/W). There are two approved planned developments (Desert Creek and Cipriani) just west of this portion of the study area that assumed their developments would ultimately be connected to I-10 via a parkway or other high-capacity roadway to accommodate the projected traffic demands that the planned developments will generate. The planned Buckeye Municipal Airport runway extension to the south impacts this portion of the study area because it is a change from its initial plan for a runway extension to the north, which would have required the realignment or elimination of Yuma Road near the airport. The runway extension to the south will not require the realignment or elimination of Yuma Road near the airport.</p> <p>While a roadway does exist along the Yuma Road alignment where planned developments had assumed a roadway would be provided, the No-Build Alternative is not compatible with the approved planned developments, which had assumed a 200' parkway on Yuma Road instead of a 90' arterial to accommodate the projected traffic demands.</p> <p><i>Net Effect: Disadvantage</i></p>	<p>Alternative A provides a 200' parkway centered on the existing Yuma Road alignment from Johnson Road that curves north to cross over I-10 at Bruner Road with no interchange. Proposed frontage roads provide access to I-10 at Johnson Road and Palo Verde Road. This parkway alignment reflects the general alignment recommended in the <i>Hassayampa Framework Study</i>, which was conducted when the airport runway extension was still planned to be to the north. The curved segment of Alternative A bisects some of the parcels near I-10, which could adversely impact the development potential of these properties.</p> <p>Alternative A provides a connection to I-10 via proposed frontage roads at Bruner Road, but it is not the direct connection to I-10 via Palo Verde Road that the planned developments prefer now that the airport runway extension will be to the south instead of to the north.</p> <p><i>Net Effect: Disadvantage</i></p>	<p>Alternative B provides a 200' parkway centered on the existing Yuma Road alignment between Johnson Road and Palo Verde Road that shifts slightly to the north in the vicinity of the Stotz Dairy and Buckeye Municipal Airport.</p> <p>Alternative B is compatible with the approved planned developments just west of this portion of the study area because it provides a connection to I-10 via Palo Verde Road. Alternative B is compatible with the airport's planned runway expansion to the south and the development of adjacent land to the north of the airport.</p> <p><i>Net Effect: Advantage</i></p>	<p>Alternative C provides a 200' parkway centered on the existing Yuma Road alignment between Johnson Road and Palo Verde Road that curves north of the Buckeye Municipal Airport and then curves south to connect to Palo Verde Road south of Hopeville. Due to space constraints, these curves will likely require superelevation of approximately 4%, which can make it challenging to provide access points to adjacent properties, thereby adversely impacting the potential for future development through the curves.</p> <p>Alternative C is compatible with the approved planned developments just west of this portion of the study area because it provides a connection to I-10 via Palo Verde Road. The curved segments of Alternative C are likely not compatible with future development of adjacent land.</p> <p><i>Net Effect: Neutral</i></p>

Source: Kimley-Horn and Associates, Inc.



**Table 3 - Yuma Parkway Alternatives Evaluation Matrix: Johnson Road to Palo Verde Road (continued)**

<b>Evaluation Criteria</b>	<b>No-Build Alternative</b>	<b>Alternative A</b>	<b>Alternative B</b>	<b>Alternative C</b>
<b>Utility Impacts</b>	The existing major utilities identified as being located within this portion of the study area are water wells. The No-Build Alternative does not change the current status and therefore will not have positive or negative impacts on identified utilities.  <i>Net Effect: Neutral</i>	Alternative A will likely require the relocation of one water well.  <i>Net Effect: Disadvantage</i>	Alternative B will likely not require the relocation of any water wells.  <i>Net Effect: Neutral</i>	Alternative C will likely not require the relocation of any water wells.  <i>Net Effect: Neutral</i>
<b>Wildlife Impacts</b>	There are no designated wildlife linkage zones in this portion of the study area. No roadways in the study area currently provide wildlife crossing treatments, but wildlife-vehicle conflicts have not been identified as a common occurrence within this portion of the study area. The No-Build Alternative does not change the current status and therefore will not have positive or negative impacts on wildlife.  <i>Net Effect: Neutral</i>	The straight portion of Alternative A will result in a wider roadway footprint than currently exists on Yuma Road, increasing the crossing distance for wildlife. The curved portion of Alternative A will result in a new roadway that creates an additional barrier to wildlife crossings. The increase in crossing distance and additional barrier could be mitigated to some degree by incorporating wildlife crossing treatments into the new roadway design.  <i>Net Effect: Disadvantage</i>	Alternative B will result in a wider roadway footprint than currently exists on Yuma Road, increasing the crossing distance for wildlife. This increase in crossing distance could be mitigated to some degree by incorporating wildlife crossing treatments into the new roadway design.  <i>Net Effect: Disadvantage</i>	The straight portion of Alternative C will result in a wider roadway footprint than currently exists on Yuma Road, increasing the crossing distance for wildlife. The curved portions of Alternative C will result in a new roadway that creates an additional barrier to wildlife crossings. The increase in crossing distance and additional barrier could be mitigated to some degree by incorporating wildlife crossing treatments into the new roadway design.  <i>Net Effect: Disadvantage</i>
<b>Cultural/ Archaeological Impacts</b>	There are no identified cultural or archaeological resources within this portion of the study area. The No-Build Alternative does not change the current status and therefore will not have positive or negative impacts on identified cultural or archaeological resources. It should be noted that approximately 50 percent of the study area has not been surveyed for cultural or archaeological resources.  <i>Net Effect: Neutral</i>	Alternative A will likely impact no known cultural or archaeological resources. Because approximately 50 percent of the study area has not been surveyed for cultural or archaeological resources, it is possible that future surveys conducted as Alternative A is designed could potentially identify additional cultural or archaeological resources that could be impacted by Alternative A.  <i>Net Effect: Neutral</i>	Alternative B will likely impact no known cultural or archaeological resources. Because approximately 50 percent of the study area has not been surveyed for cultural or archaeological resources, it is possible that future surveys conducted as Alternative B is designed could potentially identify additional cultural or archaeological resources that could be impacted by Alternative B.  <i>Net Effect: Neutral</i>	Alternative C will likely impact no known cultural or archaeological resources. Because approximately 50 percent of the study area has not been surveyed for cultural or archaeological resources, it is possible that future surveys conducted as Alternative C is designed could potentially identify additional cultural or archaeological resources that could be impacted by Alternative C.  <i>Net Effect: Neutral</i>
<b>Drainage Impacts</b>	There are no identified washes or floodplains in this portion of the study area due to the upstream presence of the flood retarding structure just north of I-10. No drainage issues on the existing paved roadway have been identified. The No-Build Alternative does not change the current status and therefore will not have positive or negative impacts on drainage.  <i>Net Effect: Neutral</i>	Alternative A provides a continuous all-weather roadway that will be designed to avoid creating drainage issues.  <i>Net Effect: Neutral</i>	Alternative B provides a continuous all-weather roadway that will be designed to avoid creating drainage issues.  <i>Net Effect: Neutral</i>	Alternative C provides a continuous all-weather roadway that will be designed to avoid creating drainage issues. The superelevation required on the curves near the airport and Hopeville will require more complex drainage design and drainage control measures than the other alternatives.  <i>Net Effect: Disadvantage</i>
<b>Cost</b>	The No-Build Alternative will not have right-of-way or construction costs but it will have continued on-going maintenance costs related to cross-drainage pavement repairs.  <i>Net Effect: Neutral</i>	Because there is little existing public R/W along the Alternative A alignment and the parkway length is short, Alternative A will likely have right-of-way, construction, and maintenance costs that are less than the Alternative C costs and similar to the Alternative B costs.  <i>Net Effect: Disadvantage</i>	Because there is considerable existing public R/W along the Alternative A alignment and the parkway alignment is straight, Alternative B will likely have right-of-way, construction, and maintenance costs that are less than the Alternative C costs and similar to the Alternative A costs.  <i>Net Effect: Disadvantage</i>	Because there is minimal existing public R/W along the Alternative C alignment and the parkway alignment is curvilinear, Alternative C will likely have right-of-way, construction, and maintenance costs that exceed the costs of Alternative A and Alternative B.  <i>Net Effect: Strong disadvantage</i>
<b>Public Acceptability</b>	Public input was mixed regarding the No-Build Alternative. Some residents and property owners have expressed concerns about property impacts associated with implementing the parkway while others have expressed support for the parkway because it will provide east-west roadway network continuity and provide additional roadway capacity.  <i>Net Effect: Neutral</i>	Public input from those in favor of one of the "build" alternatives was generally less supportive of Alternative A than Alternative B.  <i>Net Effect: Disadvantage</i>	Public input from those in favor of one of the "build" alternatives was generally more supportive of Alternative B than Alternative A or Alternative C.  <i>Net Effect: Neutral</i>	Public input from those in favor of one of the "build" alternatives was generally less supportive of Alternative C than Alternative B.  <i>Net Effect: Disadvantage</i>

Source: Kimley-Horn and Associates, Inc.

**Table 4 – Yuma Parkway Candidate Alternatives Evaluation Matrix Summary**

Evaluation Criteria	Wintersburg Road to Hassayampa River				Hassayampa River to Johnson Road		Johnson Road to Palo Verde Road			
	No-Build	Alt. A	Alt. B	Alt. C	No-Build	Alt. A	No-Build	Alt. A	Alt. B	Alt. C
System Continuity and Capacity	●	◐	◐	◐	●	◐	●	◐	◐	◐
Building/Property Impacts	○	●	●	●	○	◐	○	◐	◐	◐
Future Development Compatibility	◐	●	◐	◐	●	◐	◐	◐	◐	○
Utility Impacts	○	◐	●	◐	○	◐	○	◐	○	○
Wildlife Impacts	○	◐	◐	◐	○	◐	○	◐	◐	◐
Cultural/Archaeological Impacts	○	◐	◐	◐	○	◐	○	○	○	○
Drainage Impacts	●	◐	◐	◐	◐	◐	○	○	○	◐
Cost	○	●	◐	●	○	◐	○	◐	◐	●
Public Acceptability	○	◐	○	◐	○	○	○	◐	○	◐

LEGEND: Strong advantage ◐ Advantage ◐ Neutral ○ Disadvantage ◐ Strong disadvantage ●

Source: Kimley-Horn and Associates, Inc.

A visual inspection of **Table 4**, without applying weighting factors to the evaluation criteria, indicates that the No-Build Alternative and Alternative B for the segment between Wintersburg Road and the Hassayampa River have the most positive ratings (i.e., more Strong advantage and Advantage ratings and/or fewer Strong disadvantage and Disadvantage ratings). For the segment between the Hassayampa River and Johnson Road, Alternative A has a slightly more positive overall rating than the No-Build Alternative. For the segment between Johnson Road and Palo Verde Road, Alternative B has a slightly more positive overall rating.

The evaluation results were presented to TAC members and stakeholders at the November 29, 2011 TAC/stakeholder meeting for review and discussion. The evaluation results were also presented for review and input at the third open house on December 6, 2011.

Based on TAC, stakeholder, and general public review and feedback on the evaluation results, the preferred alternative for each Yuma Parkway segment is:

- Between Wintersburg Road and the Hassayampa River – Alternative B (the Buckeye Road alignment);
- Between the Hassayampa River and Johnson Road – Alternative A (the Yuma Road alignment); and
- Between Johnson Road and Palo Verde Road – Alternative B (the Yuma Road alignment).

The ratings for the preferred alternative for each Yuma Parkway segment are highlighted in **Table 4**.

Factors that support the selection of the preferred alternative for the three Yuma Parkway study segments include the following:

#### **Wintersburg Road to the Hassayampa River**

- The No-Build Alternative will not provide a continuous, all-weather roadway and will not adequately serve projected traffic volumes associated with anticipated build-out land uses. Even though it may be many years before land uses and traffic volumes justify construction of a parkway facility, the transition to higher-intensity land uses is already occurring. Steps need to be taken now to preserve the long-term viability of constructing a parkway in the future by delineating the footprint and preferred location for Yuma Parkway;
- Alternative B is generally consistent with the *Hassayampa Framework Study* in that it provides a direct east-west connection between Wintersburg Road and the Hassayampa River, including a bridge across the Hassayampa River, that adequately serves projected traffic volumes associated with anticipated build-out land uses;
- Alternative B generally follows the Buckeye Road section line, making maximum use of existing roadway right-of-way;
- Alternative B will result in equitable right-of-way acquisition by generally being centered on the Buckeye Road section line;
- Alternative B is compatible with the approved Hidden Waters Ranch DMP, which has a stipulation requiring right-of-way preservation for a 200-foot-wide parkway facility along the Buckeye Road section line;
- Alternative B provides improved drainage facilities that better control cross-drainage and provide opportunities to incorporate wildlife crossing treatments; and

- Alternative B received the most stakeholder and public support from those in favor of one of the “build” alternatives.

### **Hassayampa River to Johnson Road**

- The No-Build Alternative will not provide a continuous, all-weather roadway and will not adequately serve projected traffic volumes associated with anticipated build-out land uses. Even though it may be many years before land uses and traffic volumes justify construction of a parkway facility, the transition to higher-intensity land uses is already occurring. Steps need to be taken now to preserve the long-term viability of constructing a parkway in the future by delineating the footprint and preferred location for Yuma Parkway;
- Alternative A is generally consistent with the *Hassayampa Framework Study* in that it provides a direct east-west connection between the Hassayampa River and Johnson Road that adequately serves projected traffic volumes associated with anticipated build-out land uses;
- Alternative A generally follows the Yuma Road section line, making maximum use of existing roadway right-of-way;
- Alternative A will result in equitable right-of-way acquisition by generally being centered on the Yuma Road section line;
- Alternative A is compatible with planned developments. The Desert Creek and Cipriani CMPs both have stipulations requiring right-of-way preservation for a 200-foot-wide parkway facility along the Yuma Road section line;
- Alternative A provides improved drainage facilities that better control cross-drainage and provide opportunities to incorporate wildlife crossing treatments; and
- Alternative A received the most stakeholder and public support from those in favor of a “build” alternative.

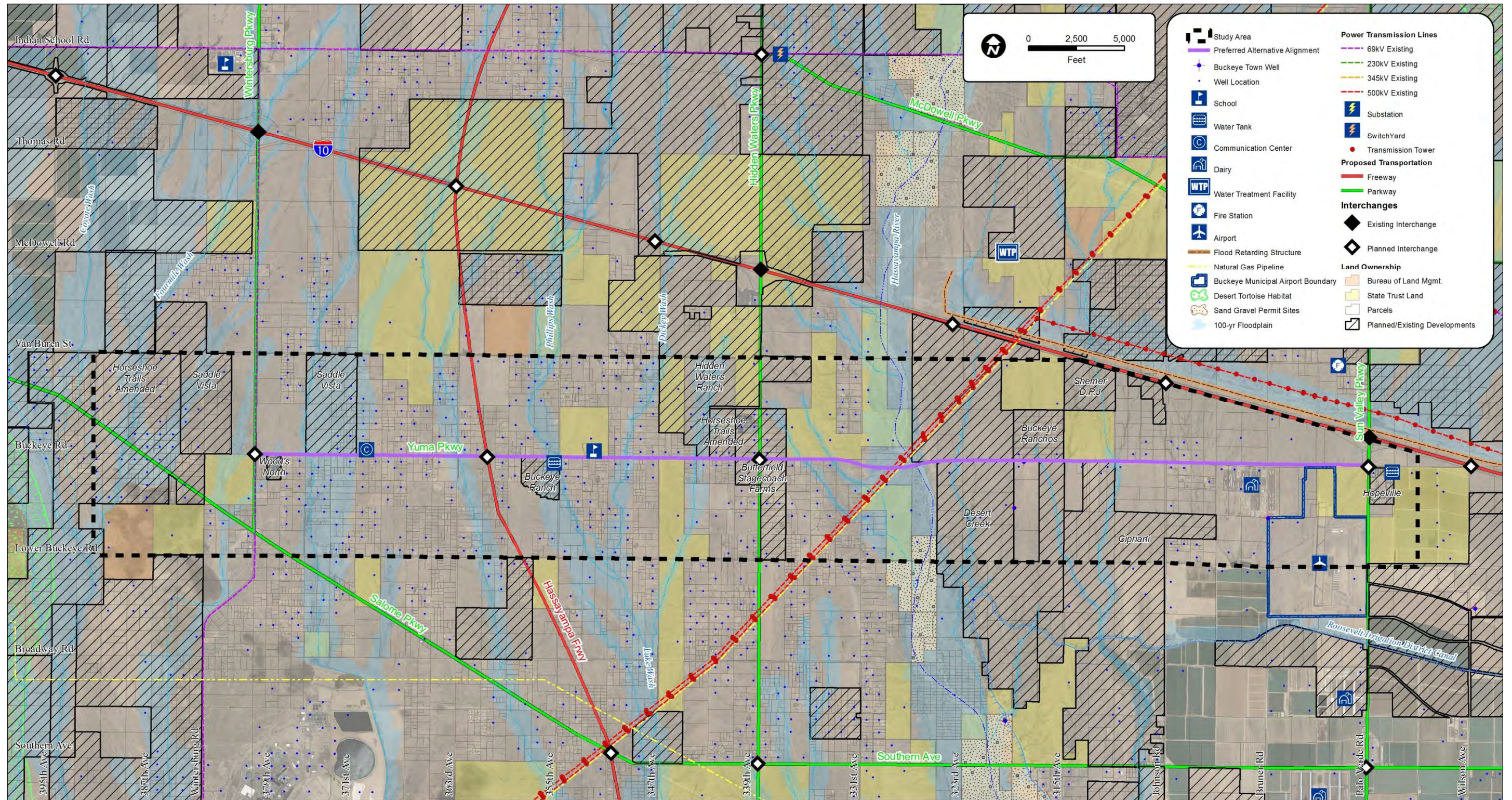
### **Johnson Road to Palo Verde Road**

- The No-Build Alternative will not provide a continuous, all-weather roadway and will not adequately serve projected traffic volumes associated with anticipated build-out land uses. Even though it may be many years before land uses and traffic volumes justify construction of a parkway facility, the transition to higher-intensity land uses is already occurring. Steps need to be taken now to preserve the long-term viability of constructing a parkway in the future by delineating the footprint and preferred location for Yuma Parkway;
- Alternative B is generally consistent with the *Hassayampa Framework Study* in that it provides a direct, continuous east-west connection between Johnson Road and Palo Verde Road that adequately serves projected traffic volumes associated with anticipated build-out land uses;
- Alternative B generally follows the Yuma Road section line, making maximum use of existing roadway right-of-way while minimizing adverse right-of-way impacts on Stotz Dairy and the Buckeye Municipal Airport;
- Alternative B is compatible with the planned developments of Desert Creek and Cipriani and with the Buckeye Municipal Airport’s planned runway expansion to the south and the development of adjacent land to the north of the airport; and



- Alternative B provides improved drainage facilities that better control cross-drainage and provide opportunities to incorporate wildlife crossing treatments; and
- Alternative B received the most stakeholder and public support from those in favor of one of the “build” alternatives.

For the reasons enumerated above, the preferred alternative is Alternative B (Buckeye Road alignment) between Wintersburg Road and the Hassayampa River; Alternative A (Yuma Road alignment) between the Hassayampa River and Johnson Road; and Alternative B (Yuma Road alignment) between Johnson Road and Palo Verde Road. The overall preferred alternative for Yuma Parkway is shown in **Figure 17**.



Sources: Maricopa County and MAG

Figure 17 – Preferred Alternative

## 6. DETAILED PREFERRED ALIGNMENTS

*Technical Memorandum No. 5 – Detailed Preferred Alignment* provides detailed information on the proposed alignments and design considerations of the preferred alternative for Yuma Parkway (contained in **Appendix 5** of separately published appendices).

### 6.1 Parkway Design Guidelines and Typical Cross-Sections

The Arizona Parkway, by design, is an enhanced arterial roadway which utilizes a distinct intersection treatment that prohibits left turns at major cross-street intersections and controls intersection traffic movements with two-phased traffic signal control. Left-turn movements are made indirectly using left-turn crossovers in the median immediately downstream of cross-street intersections. This design improves the functionality of the parkway, allowing traffic to flow more freely. The improved functionality increases capacity while maintaining local access and a posted speed of 45 miles per hour (mph). The typical right-of-way width for an Arizona Parkway is 200 feet.

Guidelines for implementation of an Arizona Parkway are documented in the MCDOT publications *Enhanced Parkway Study*, *Design Guideline Recommendations for the Arizona Parkway*, and *Arizona Parkway Intersection/Interchange Operational Analysis and Design Concepts Study*. Typical urban parkway basic design guidelines and recommendations are summarized as follows:

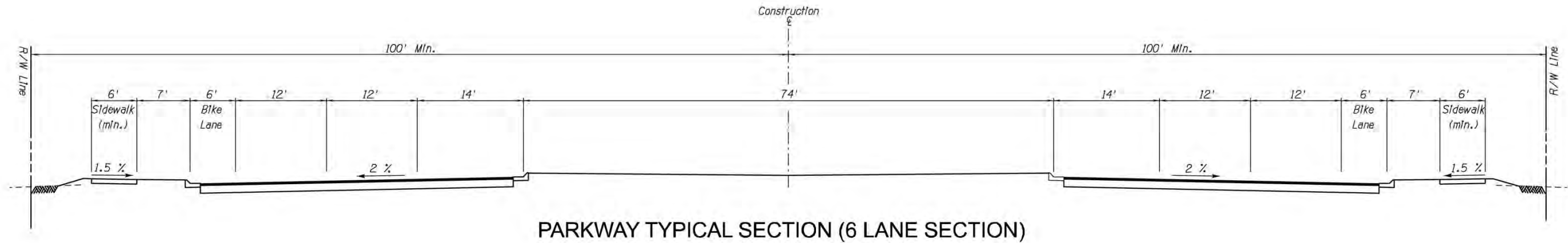
- Minimum 200-foot-wide right-of-way. Additional right-of-way and/or easements may be needed for intersections, turn lanes, bus bays, drainage structures, drainage facilities, side slopes, utilities, and landscaping;
- Twelve-foot-wide outside travel lanes;
- Fourteen-foot-wide inside lanes (adjacent to the median);
- A six-foot-wide bicycle lane adjacent to the outside travel lane;
- Curb, gutter, and a detached six-foot-wide sidewalk;
- Median width varies based on the number of lanes;
- Minimum design speeds are 50 mph for rolling terrain and 55 mph for level terrain; and
- WB-50 is the design vehicle.

Parkway typical cross-sections from the *Design Guideline Recommendations for the Arizona Parkway* are shown in **Figure 18**. The basic Yuma Parkway design configuration is recommended as a six-lane parkway west of Hidden Waters Parkway and an eight-lane parkway east of Hidden Waters Parkway to accommodate projected traffic volumes per the *Arizona Parkway Intersection/Interchange Operational Analysis and Design Concepts Study*.

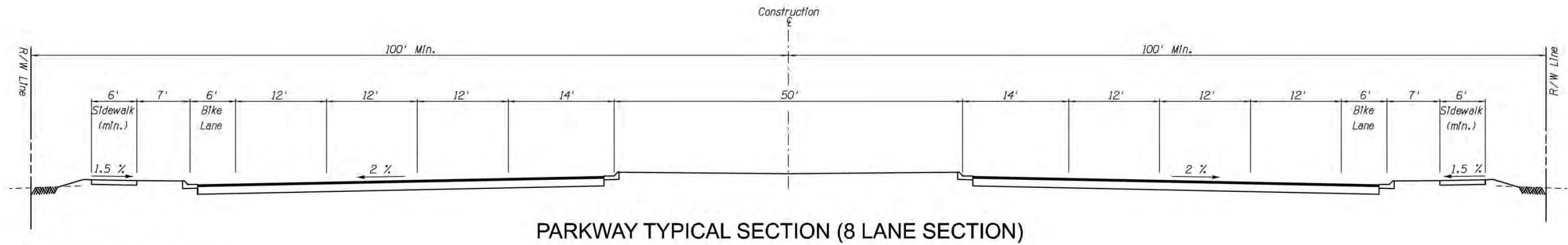
### 6.2 Crossing Features

There are a number of locations where major roadways, utilities, drainage washes, and other features will cross the parkway. These crossings will require more detailed analyses during design. The following design considerations relate to the crossing features:

- Minimum right-of-way width for at-grade parkway-to-parkway intersections is 225 feet on each approach for a distance of 300 feet to accommodate dual right-turn lanes on both parkways;



PARKWAY TYPICAL SECTION (6 LANE SECTION)



PARKWAY TYPICAL SECTION (8 LANE SECTION)

Note:  
When curb is present, dimensions are to face of curb

Source: MCDOT Design Guideline Recommendations for the Arizona Parkway

Figure 18 – Parkway Typical Cross-Sections



- There are numerous washes throughout the study area that will require pipe culverts, box culverts, or bridges, which may result in the need for additional right-of-way. For purposes of this study, pipe culverts are assumed to be needed where the peak 100-year flood drainage flows are less than 350 cubic feet per second (cfs), box culverts are assumed to be needed for flows between 350 cfs and 1,400 cfs, and bridges are assumed to be needed for flows greater than 1,400 cfs;
- There are three anticipated at-grade parkway-to-parkway intersections within the study area:
  - Yuma Parkway/Wintersburg Parkway,
  - Yuma Parkway/Hidden Waters Parkway, and
  - Yuma Parkway/Palo Verde Parkway;
- The *ADOT Freeway-to-Parkway Interchange Templates* publication contains guidelines and ten potential design templates for grade-separated freeway-to-parkway interchanges. For purposes of this study, the four templates that support the Arizona Parkway concept and its two-phase signal cycle are considered appropriate potential solutions for the anticipated freeway-to-parkway interchange at Yuma Parkway and the planned Hassayampa Freeway. The four design templates are:
  - Diamond interchange with no direct left turns from the parkway to freeway ramps,
  - Single point urban interchange (SPUI) with no direct left turns from the parkway to the freeway ramps,
  - Diverging diamond interchange (DDI) with cross-overs that allow direct left turns from the parkway to the freeway ramps, and
  - Three-level diamond interchange that provides separate levels for the freeway, parkway, and ramp traffic, allowing for direct left turns on the ramp level only.

### 6.3 Access Management Guidelines

To preserve the operating efficiency of the parkway facilities, a higher level of access management than what is typically applied to arterial streets is recommended. Because MCDOT will not have operational control over all parkway facilities, it will be up to the agencies with jurisdiction over the roadway to apply and enforce access management policies. The following policies are recommended as minimum access management guidelines (per the *Design Guideline Recommendations for the Arizona Parkway*):

- Intersections (full median breaks) will preferably be restricted to one-mile spacing, with a minimum spacing of one-half mile, and are only recommended where intersecting with parkway, arterial, or major collector streets;
- Left turns in any direction are prohibited at all intersections;
- Left turns from a side-street or driveway onto the parkway are prohibited;
- Left turns from the parkway to a cross-street or driveway are discouraged due to conflicts between u-turns and right turns;
- U-turn directional crossovers are recommended to be restricted to a maximum of eight per mile; and
- Recommended minimum driveway spacing is 165 feet for low-volume segments and 330 feet for high-volume segments. The typical driveway will be limited to right-in/right-out maneuvers.

## 6.4 Detailed Preferred Alignment Drawings

Detailed preferred alignment drawings were created that show the parkway centerline and right-of-way limits at a scale of 1 inch = 200 feet. The detailed preferred alignment drawings are provided in **Appendix A**. The preferred alignment centerline and right-of-way limits are subject to more detailed design work that may necessitate some adjustments as roadway profiles, drainage requirements, and land development plans are further defined.

In developing the detailed preferred alignment drawings, existing roadway centerlines, section lines, right-of-way lines, and property lines were reviewed to determine the feasibility of following some or all of these lines to the greatest extent possible. At major roadway and drainage wash crossings along the parkway, additional right-of-way will likely be required beyond the basic 200-foot-wide parkway footprint. Areas that may potentially require additional right-of-way are noted in the detailed preferred alignment drawings as being subject to further study as land development and roadway improvement plans are further defined.

## 6.5 Planning Level Construction Cost Estimates

Planning-level construction cost estimates were developed for the preferred Yuma Parkway alignment. Because this study does not include preparation of an “engineered” roadway alignment and does not address detailed design issues for various features, the construction cost estimate was based on generalized unit costs. The planning-level unit cost estimates were applied to the Yuma Parkway preferred alignment characteristics and are summarized in **Table 5**.

The estimated construction cost for Yuma Parkway is \$154 million in 2012 dollars. This cost estimate excludes the construction costs of a freeway-to-parkway interchange at the planned Hassayampa Freeway, which is subject to further study and design. Right-of-way acquisition and relocation expenses are also excluded from the cost estimate.

A construction unit cost estimate of \$9.6 million per mile in 2012 dollars was used for the six-lane segment of Yuma Parkway between Wintersburg Parkway and Hidden Waters Parkway. The unit cost for a six-lane parkway was developed for the *Turner Parkway Corridor Feasibility Study*, completed by MCDOT in 2010, and is utilized for this study with no inflation factors.

A construction unit cost estimate of \$10.9 million per mile in 2012 dollars was used for the eight-lane parkway segment between Hidden Waters Parkway and Palo Verde Road. The unit cost for an eight-lane parkway was developed by calculating the per-lane-mile cost of the six-lane parkway unit cost, multiplying it by the number of lanes in the eight-lane parkway, and then applying a 15 percent decrease to account for the gained cost efficiency between a six-lane parkway and an eight-lane parkway.

The construction unit costs exclude major structural elements for crossing features but do include 20 percent contingencies for addressing drainage requirements. To give a sense of the amount of required drainage facilities anticipated in the study area, the number of anticipated drainage crossings in the study area, along with their relative size and type, were estimated based off aerial photography and required flow capacities and are summarized in **Table 6**.

The major structural elements in the study area are anticipated to include new all-weather bridges over Phillips Wash, Dickey Wash, and the Hassayampa River. Bridge costs were developed by multiplying the anticipated area of each bridge (in square feet) by a bridge construction unit cost estimate of \$150 per square foot. The unit cost for bridge construction was derived from typical bridge construction costs on other recently completed projects.

**Table 5 – Planning-Level Construction Cost Estimates**

Facility Characteristic	Estimated Units and Costs
6-lane Parkway Segment Length (miles)	5
8-lane Parkway Segment Length (miles)	6
Roadway Construction Cost (in millions)	\$114
Major Structural Elements Bridge Construction Cost (in millions)	
-Phillips Wash Bridge	\$8
-Dickey Wash Bridge	\$8
-Hassayampa River Bridge	\$24
<b>Total Estimated Construction Cost (in millions)</b>	<b>\$154</b>
<p><i>Notes:</i></p> <p>1) The estimated roadway construction unit cost for a 6-lane parkway is \$9.6 million per mile and for an 8-lane parkway is \$10.9 million per mile. Per the MCDOT Arizona Parkway Intersection/Interchange Operational Analysis and Design Concepts Study, a 6-lane parkway will ultimately be needed from Wintersburg Parkway to Hidden Waters Parkway and an 8-lane parkway will ultimately be needed from Hidden Waters Parkway to Palo Verde Road.</p> <p>2) The estimated bridge construction unit cost is \$150 per square foot of bridge.</p> <p>3) Major structural elements do not include a freeway-to-parkway interchange at the planned Hassayampa Freeway, which is subject to further study and design.</p> <p>4) Estimated costs are rounded to the nearest \$5 million and are in 2012 dollars.</p>	

**Table 6 – Anticipated Drainage Crossings**

Crossing Size	Number
Small (pipe culverts)	3
Medium (box culverts)	8
Large (bridge)	3
<b>Total Drainage Crossings</b>	<b>14</b>
<p><i>Notes:</i></p> <p>1) Pipe culverts are assumed to be needed where the peak 100-year flood drainage flows are less than 350 cubic feet per second (cfs).</p> <p>2) Box culverts are assumed to be needed for flows between 350 cfs and 1,400 cfs.</p> <p>3) Bridges are assumed to be needed for flows greater than 1,400 cfs.</p>	

## 6.6 Implementation Strategies

It is important to recognize that the *Yuma Parkway Feasibility Study* is a long-range transportation planning study and is therefore the earliest phase of project development. This study is intended to identify the feasibility of constructing a parkway facility at some future date to accommodate traffic demands that will be associated with future land development within and near the study area.

No public funding is currently allocated for design, right-of-way acquisition, or construction of any elements of Yuma Parkway. The recommended centerline and right-of-way limits will be

used to guide future planning efforts and ensure that subsequent land development proposals and transportation system plans are compatible with future construction of Yuma Parkway. Some refinement and negotiation of the parkway centerline and right-of way requirements may occur as properties are developed and as transportation improvements are implemented.

The following are key issues captured during this study's stakeholder and public involvement process that should be taken into consideration as the recommendations of this study are carried forward into design and construction:

- *Developer Participation* – It is anticipated that land developers will participate in dedicating right-of-way and participating in project design and construction costs;
- *Funding Strategies* – Long-term funding strategies need to be developed that will assist in positioning the parkway corridors to take advantage of future funding opportunities. When and how much funding is needed will be dependent on when and where development occurs, how much developer participation happens, and what the detailed designs call for;
- *Access Management Strategies* – Access management strategies that are consistent with the Arizona Parkway design guidelines should be implemented to ensure the parkway provides efficient traffic flow, safe operations, and reasonable local land access;
- *Environmental Impacts* – Specific impacts on environmental features, such as natural resources, wildlife habitats, cultural and archaeological resources, noise mitigation, and air quality will require further evaluation during future project development. Wildlife crossing features should be considered in the final project design where appropriate and feasible;
- *New Right-of-way Requirements* – Final roadway configurations will need to be developed through a more detailed design process to determine exactly how much land will need to be acquired to accommodate the future parkway;
- *Landscaping Plans* – Final project design should specify the type of landscaping to be used;
- *Drainage Structures* – Bridges and culverts along the new roadway should be designed during subsequent design efforts that ensure that the roadway is designed to provide all-weather crossings during major storm events. Opportunities to create drainage structures that also accommodate wildlife movements across the parkway should be considered where appropriate and feasible;
- *Bicycle, Pedestrian, and Transit Access* – Future projects should be designed to accommodate alternative modes of travel and provide access to planned trails and neighborhoods in the area;
- *Coordination with Other Planned Transportation Facilities* – Implementation of the parkway should be coordinated with the implementation of other planned transportation facilities that intersect or impact the parkway (e.g., intersecting freeways, parkways, and arterials);
- *Corridor Traffic Management* – Intelligent Transportation Systems (ITS) should be implemented in conjunction with roadway construction to promote efficient traffic operations and management along the parkway corridor; and
- *Jurisdictional Coordination* – Implementation of corridor improvement, traffic management, and access management concepts should be coordinated among the responsible jurisdictions to ensure safe, seamless, and efficient transportation facilities.



## 6.7 Next Steps

Agencies with primary responsibility for implementing the recommendations of this study are Maricopa County, Town of Buckeye, and ADOT. Among the critical long-range planning actions that need to commence are:

- Maricopa County and Town of Buckeye adoption/acceptance of the Arizona Parkway designation and general preferred alignment for Yuma Parkway;
- Right-of-way preservation in developing areas as needed to protect the long-term viability of the parkway facilities;
- Preparation of Design Concept Reports for consideration in project programming;
- Appropriation of funding for design, right-of-way acquisition, and construction as needed for joint participation with land developers; and
- Coordination among the jurisdictions and key stakeholders on planning, right-of-way preservation, and design.

While implementation timing of Yuma Parkway will be driven by land development, it is up to the public sector agencies to establish the transportation system planning framework now to be responsive to future land development interests while also protecting the broader long-term public interests.

## 7. PUBLIC INVOLVEMENT OVERVIEW

*Technical Memorandum No. 6 – Public and Stakeholder Participation* documents the results of the interaction with partnering agencies, stakeholders, and the general public throughout the course of the study (contained in **Appendix 6** of separately published appendices). Engaging partnering agencies, stakeholders, and the public in building consensus has been and will continue to be critical to the success of this study, as well as any future implementation of its recommendations.

### 7.1 TAC and Stakeholders

A combined TAC and stakeholder group was established by MCDOT to provide technical oversight and guidance throughout the study duration. The TAC and stakeholder group included over 60 individuals representing the following:

- ADOT;
- ASLD;
- AZGFD;
- BLM;
- Community of Hopeville;
- Community of Wintersburg;
- FHWA;
- FCDMC;
- Land developers;
- MAG;
- MCDOT:
- Maricopa County Farm Bureau;
- Maricopa County Planning and Development Department;
- Maricopa County Supervisor – District 4;
- Private property owners and residents;
- School District representatives;
- Tonopah Valley Fire District;
- Town of Buckeye; and
- Utility providers.



**TAC/stakeholder meeting**

The role and responsibility of the TAC and stakeholder group was to meet at key decision and milestone points during the study to receive information on study progress, offer advice and guidance on study issues, inform the management of their respective agencies and organizations of the study progress, and build consensus on study recommendations. The TAC and stakeholders were also requested to review and comment on all draft technical memoranda and the draft final report.

### 7.2 TAC/Stakeholder Meetings

All individuals in the stakeholder database were invited to participate in four TAC/stakeholder meetings that were scheduled at key milestones throughout the study process as follows:

- *May 23, 2011* – Study Purpose, Data Collection, and Issues Identification;
- *July 26, 2011* – Review Existing and Future Corridor Features, Environmental Overview, Conceptual Drainage Report, Constraints, and Evaluation Criteria;
- *September 22, 2011* – Review Conceptual Alternatives and Develop Candidate Alternatives; and
- *November 29, 2011* – Review Alternatives Evaluation, Discuss Preferred Alignment, and Develop Consensus on Study Recommendations.

Additional one-on-one meetings with stakeholders were conducted where necessary to obtain stakeholder input.

All meetings were well attended with a valuable exchange of questions, answers, and input to the study findings and recommendations.

### 7.3 Public Open Houses

The MCDOT RightRoads Program, with assistance from the study team, conducted three public open house meetings at critical milestones in the study process as follows:

- *May 24, 2011* – “Scoping Phase” public meeting to provide area residents and other impacted stakeholders with an opportunity to inform study team members about the study area issues and local transportation needs. This meeting also provided the study team members with an opportunity to discuss and elicit feedback regarding the study purpose, goals and objectives;
- *October 4, 2011* – “Alternatives Analysis Phase” public meeting to provide the community an opportunity to comment on the roadway alignment alternatives being evaluated for the corridor; and
- *December 6, 2011* – “Study Findings and Recommendations Phase” public meeting to present the findings and recommendations of the study, including the preferred parkway alignment, the right-of-way footprint, and preliminary engineering details for the future Yuma Parkway.

The public meetings were conducted in an “open house” format at the Winters’ Well Elementary School to provide a free, open, and accurate exchange of information between the study team and the public regarding specific issues and questions. Graphics, handouts, aerials, and display board exhibits presented study information. Comment sheets were distributed to all those in attendance so they could provide written comments. Meeting summaries were prepared that summarize the input received from the public.



**Public open house**



Kimley-Horn  
and Associates, Inc.

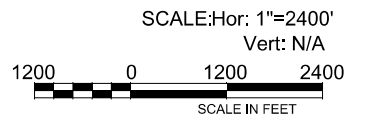
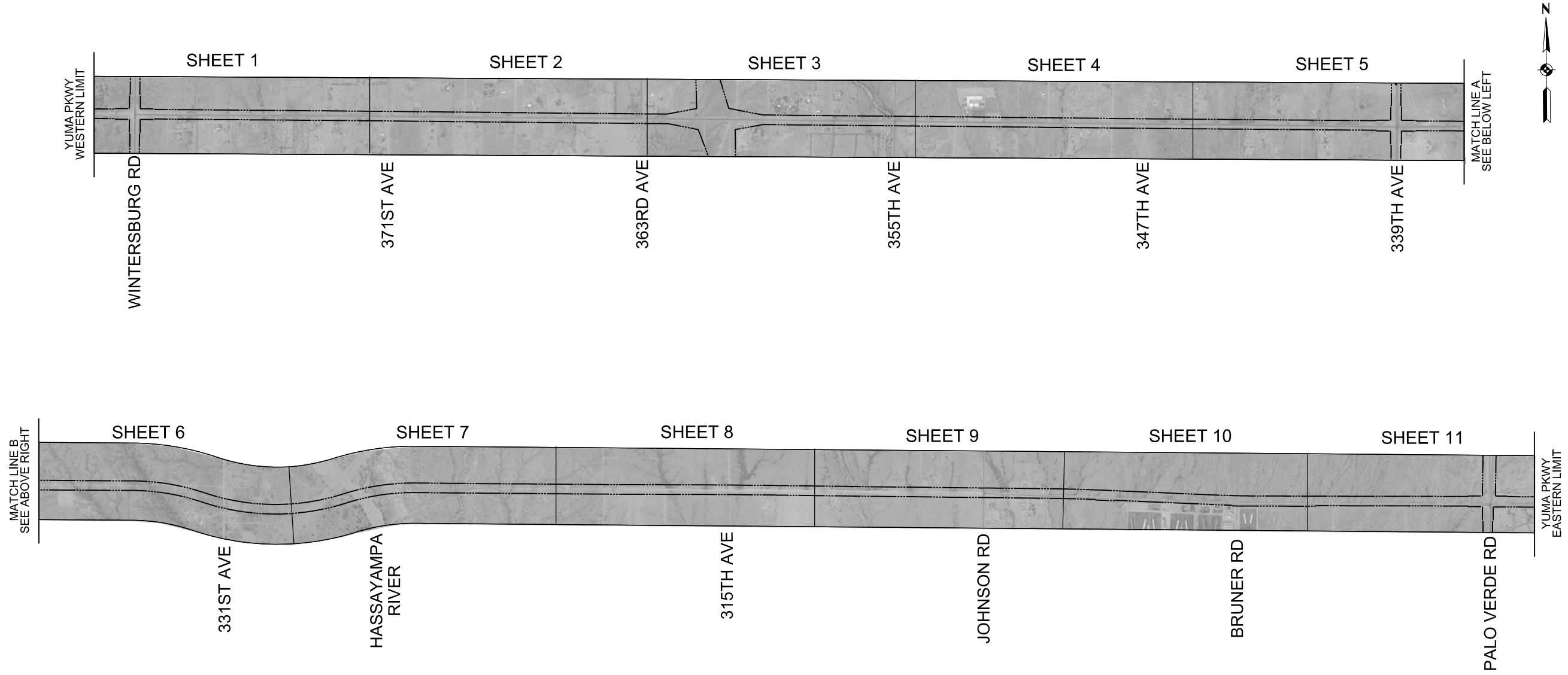


# **APPENDIX A**

## **DETAILED PREFERRED ALIGNMENT DRAWINGS – RECOMMENDED FUTURE RIGHT-OF-WAY CORRIDOR**



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### YUMA PARKWAY FEASIBILITY STUDY

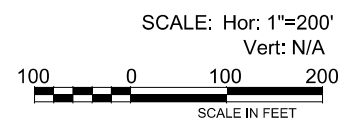
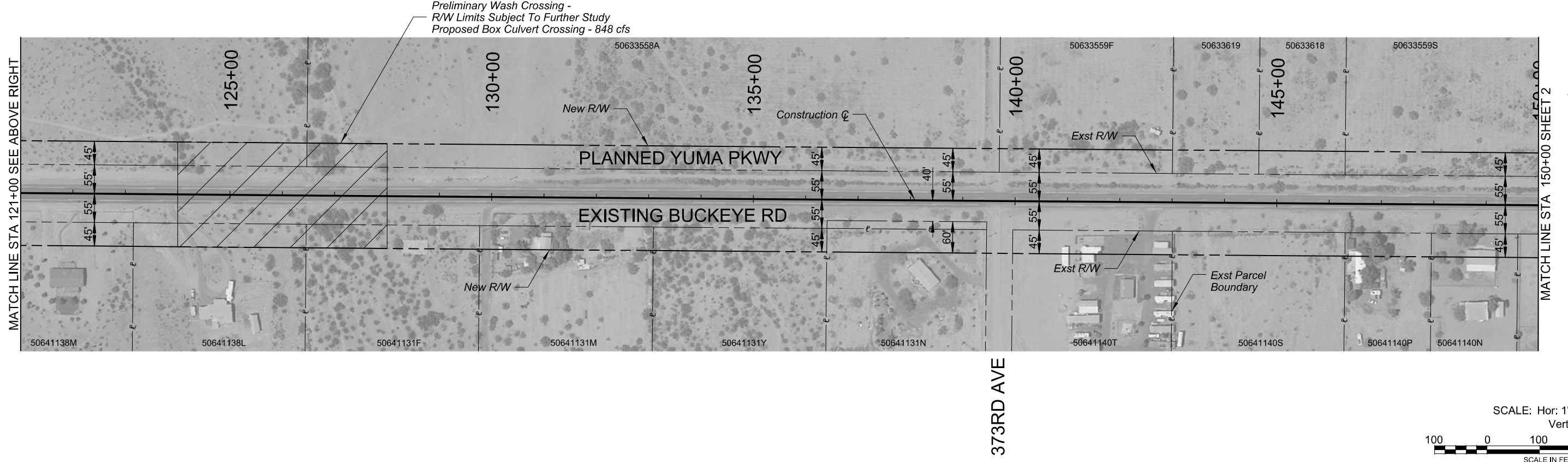
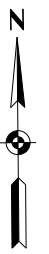
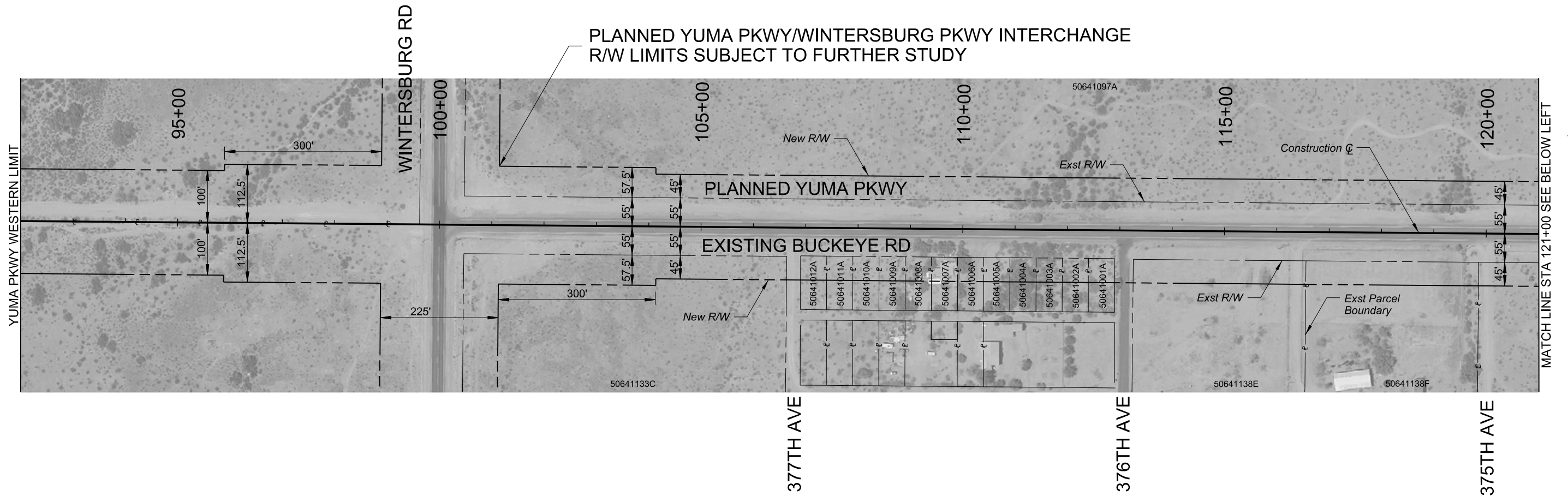
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RECOMMENDED FUTURE  
RIGHT-OF-WAY CORRIDOR

KEY MAP



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### YUMA PARKWAY FEASIBILITY STUDY

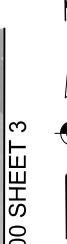
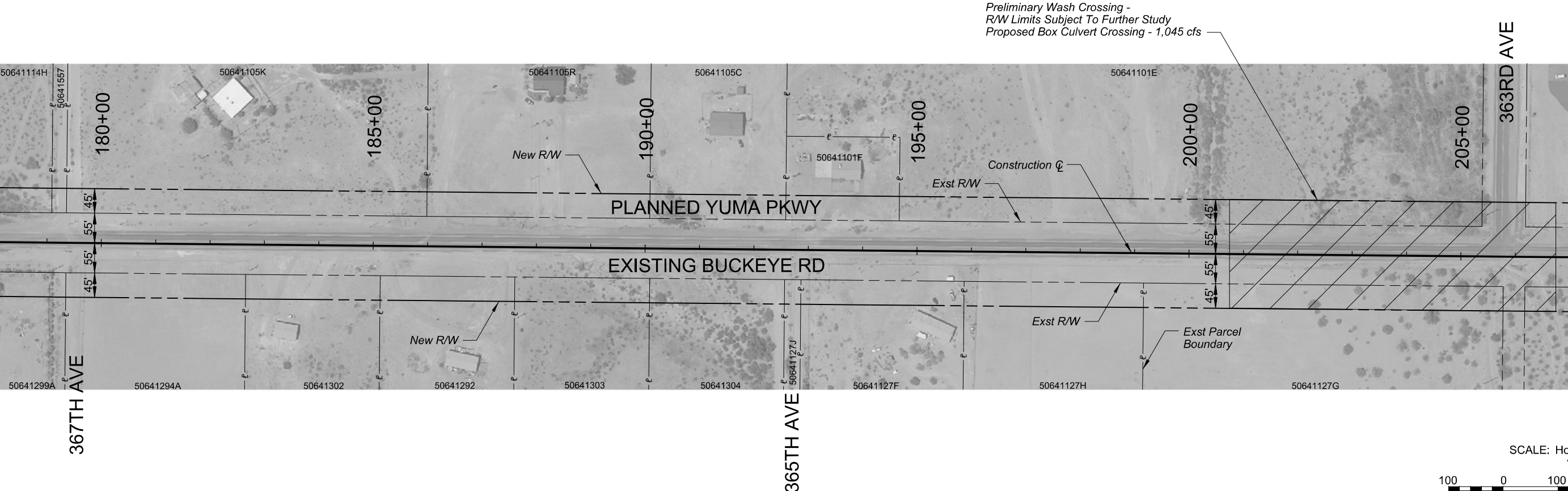
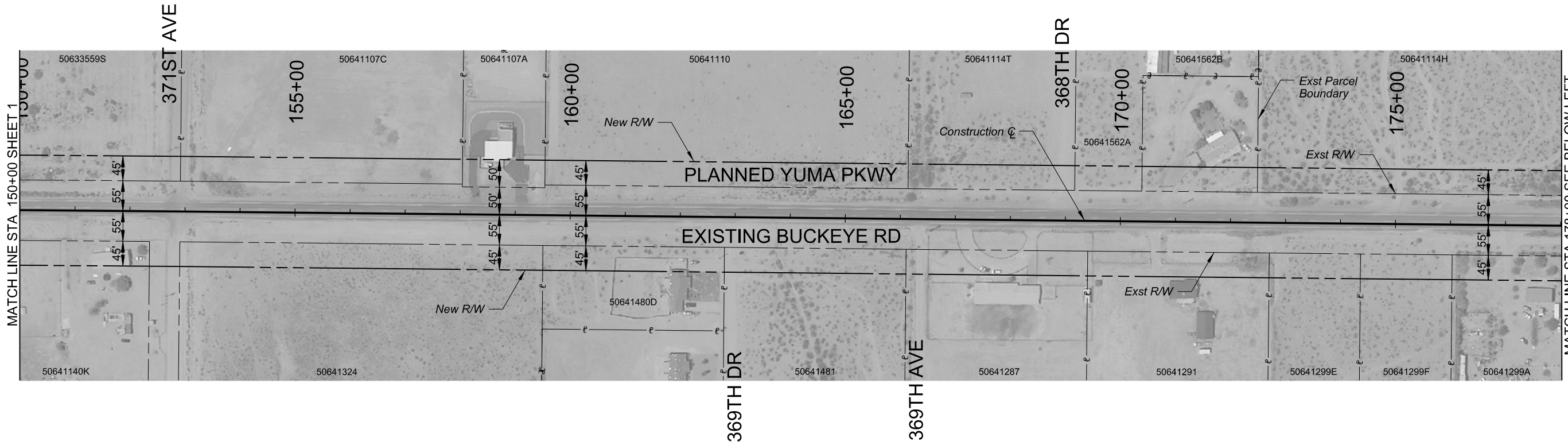
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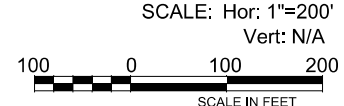


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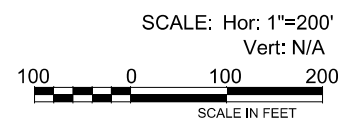
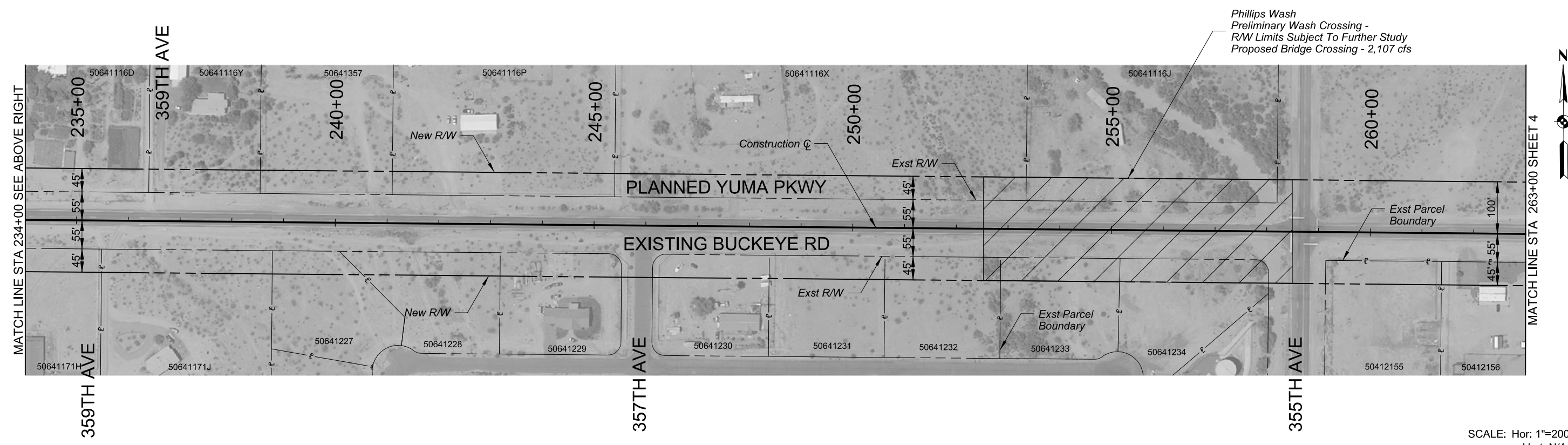
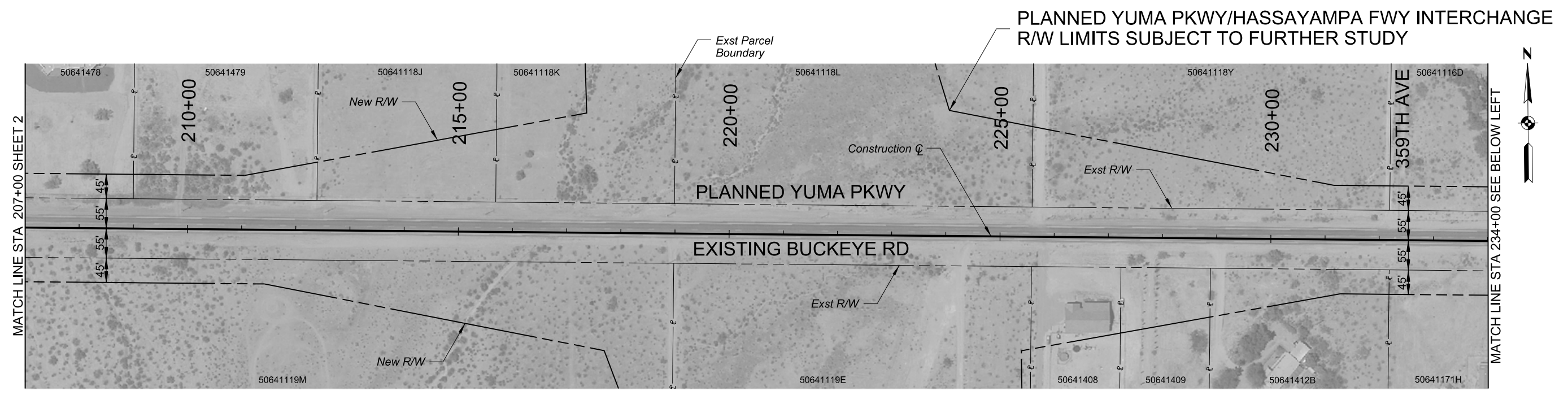
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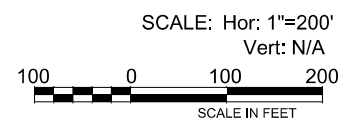
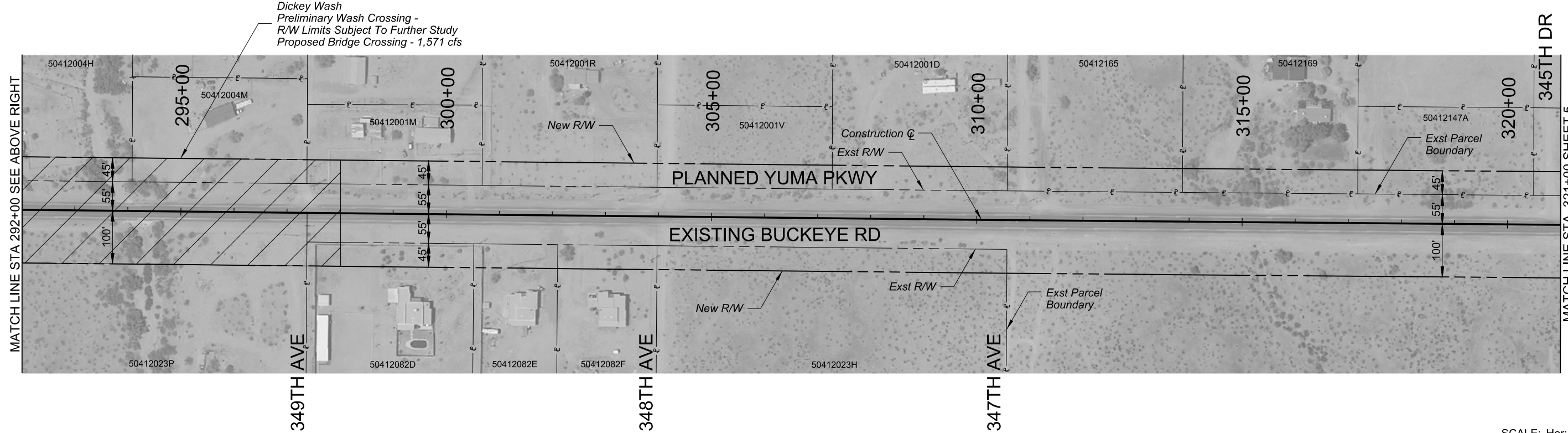
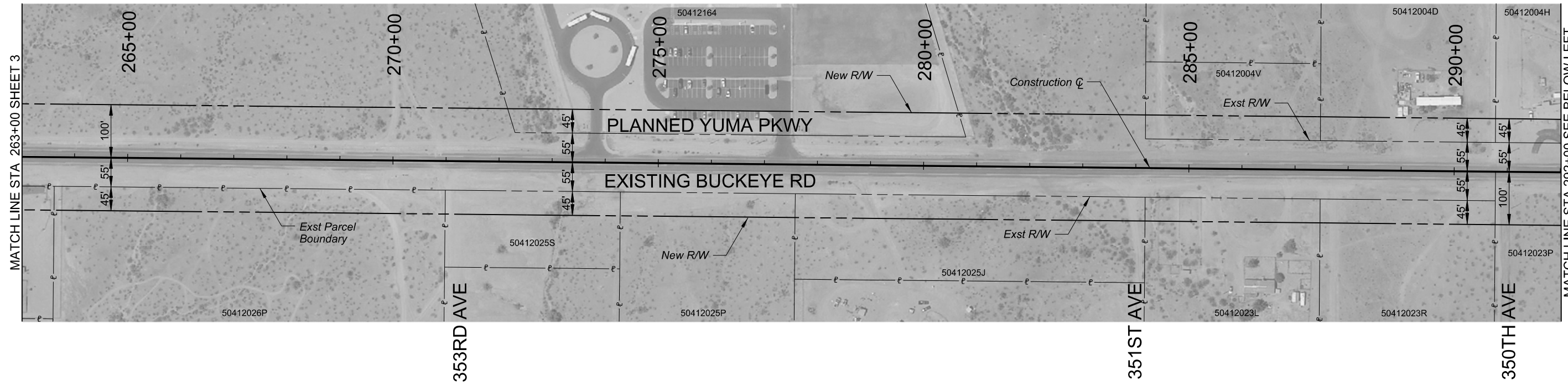
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YUMA PARKWAY FEASIBILITY STUDY

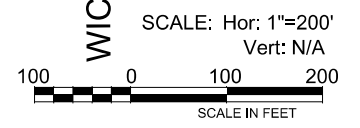
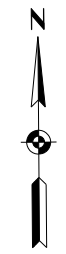
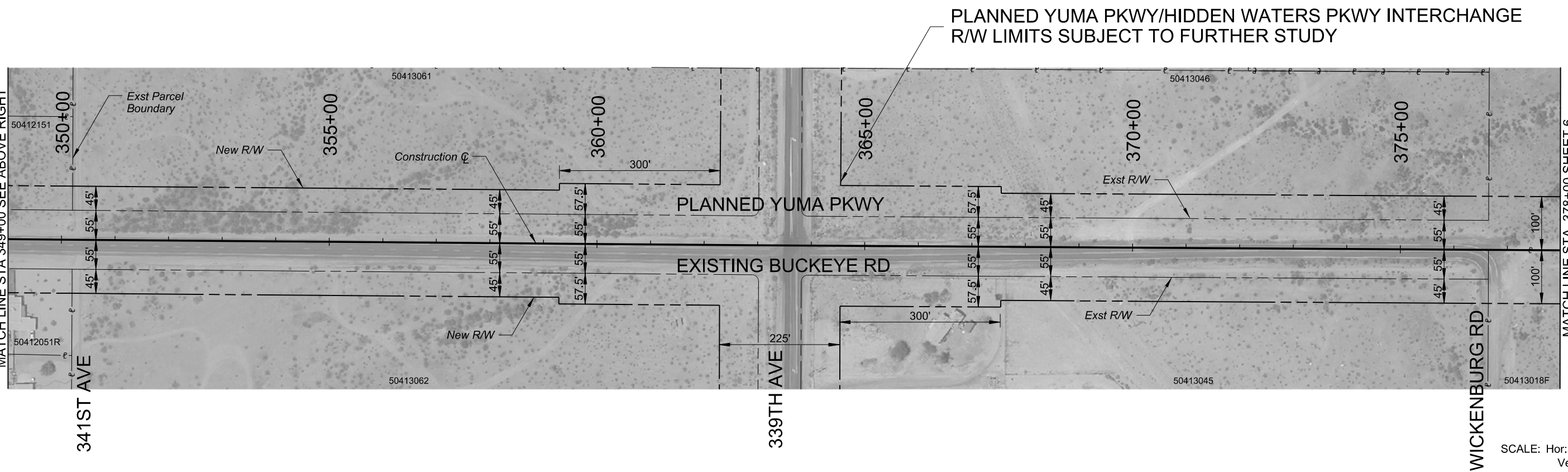
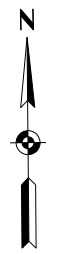
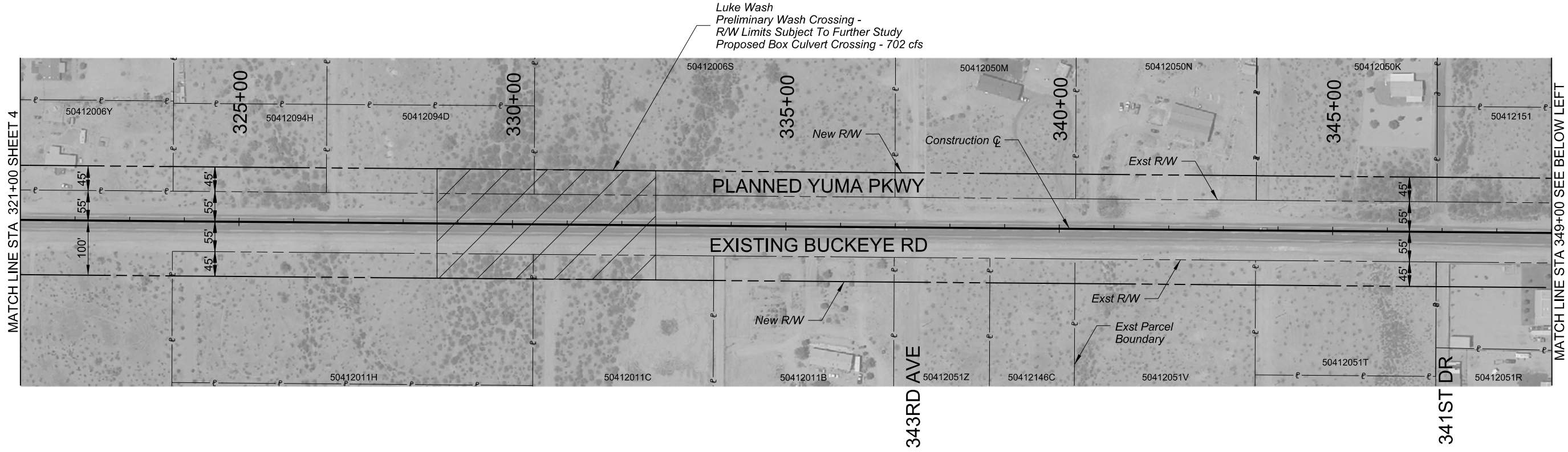
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DEPARTMENT OF TRANSPORTATION

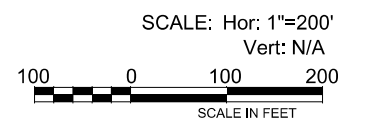
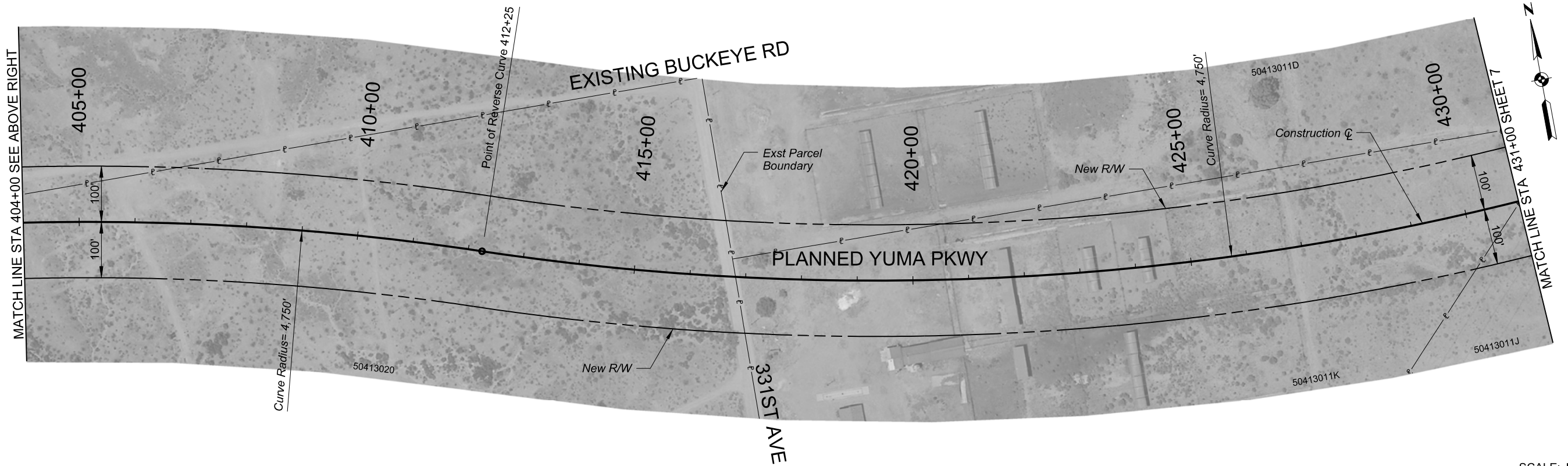
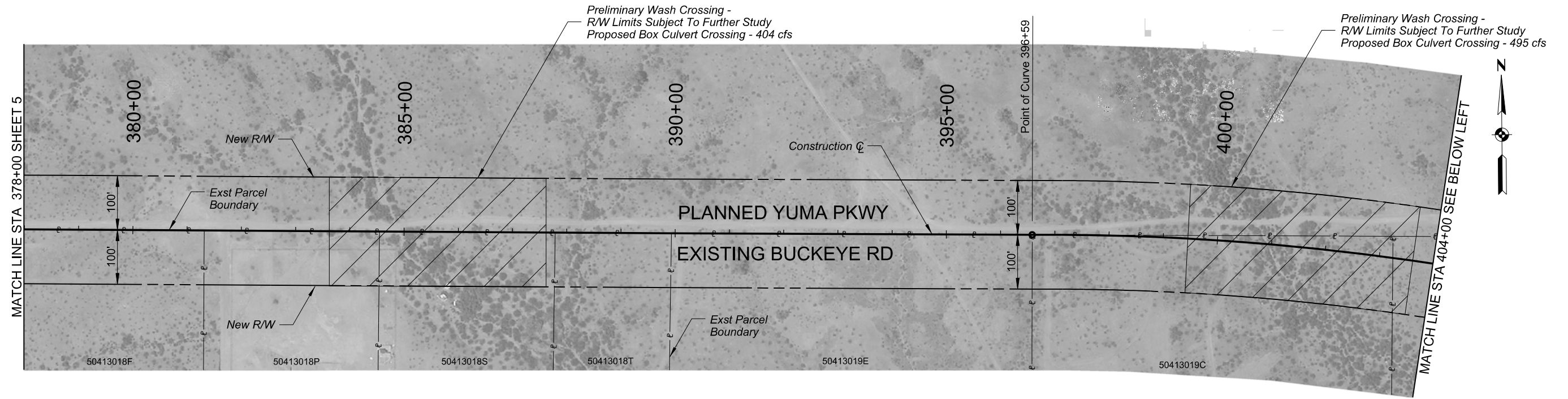
YUMA PARKWAY FEASIBILITY STUDY

MCDOT PROJECT NO. TT005  
CONTRACT NO. 2010-055

RECOMMENDED FUTURE  
RIGHT-OF-WAY CORRIDOR

SHEET 5 OF 11





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MARICOPA COUNTY  
DEPARTMENT OF TRANSPORTATION

### YUMA PARKWAY FEASIBILITY STUDY

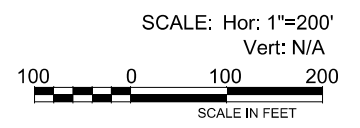
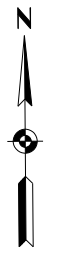
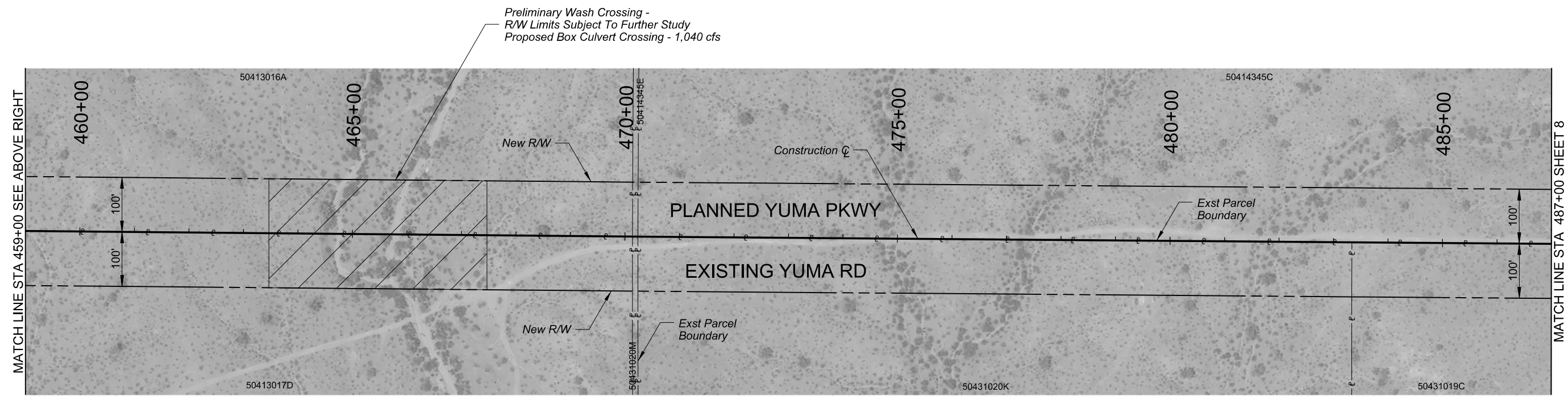
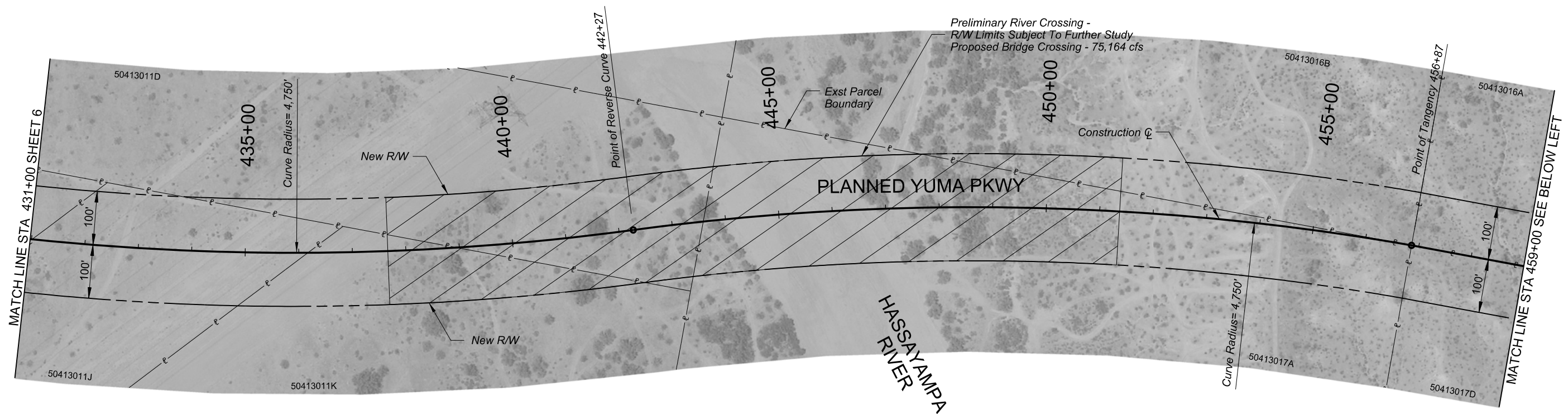
MCDOT PROJECT NO. TT005  
CONTRACT NO. 2010-055

RECOMMENDED FUTURE  
RIGHT-OF-WAY CORRIDOR

SHEET 6 OF 11



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MARICOPA COUNTY  
DEPARTMENT OF TRANSPORTATION

### YUMA PARKWAY FEASIBILITY STUDY

MCDOT PROJECT NO. TT005  
CONTRACT NO. 2010-055

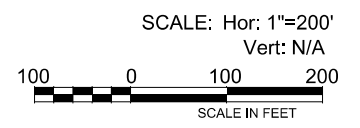
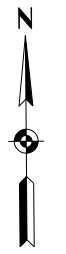
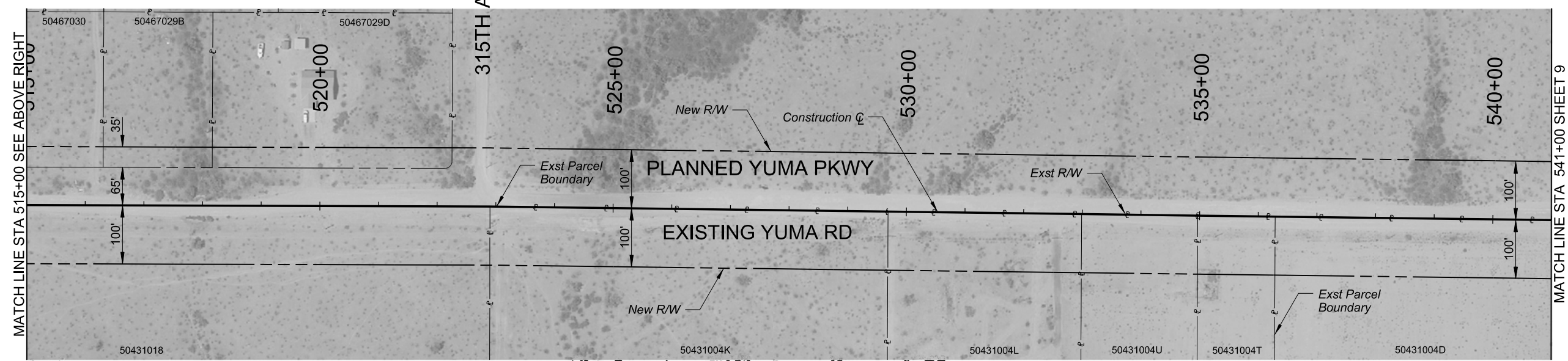
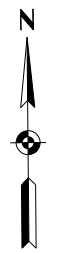
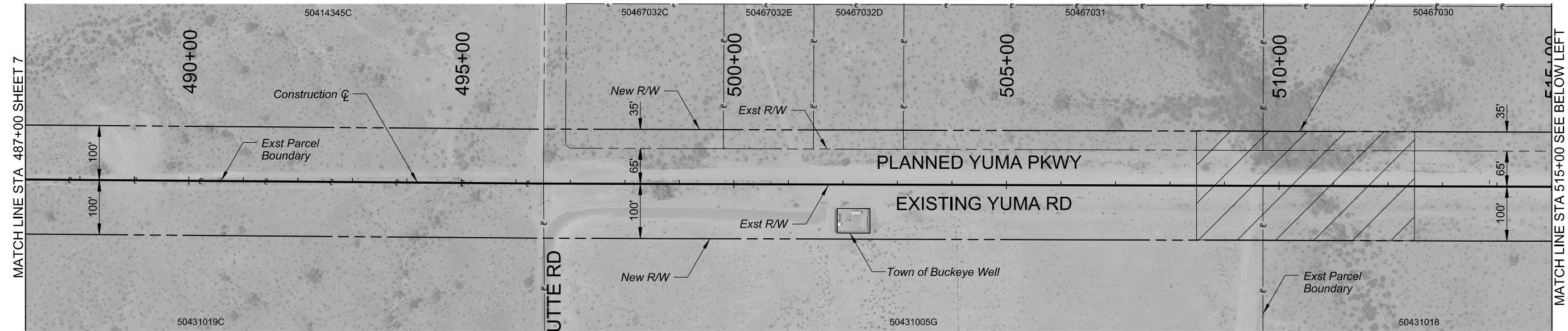
RECOMMENDED FUTURE  
RIGHT-OF-WAY CORRIDOR

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Preliminary Wash Crossing -  
R/W Limits Subject To Further Study  
Proposed Box Culvert Crossing - 774 cfs



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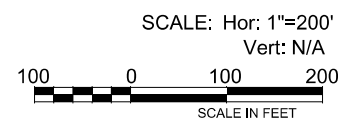
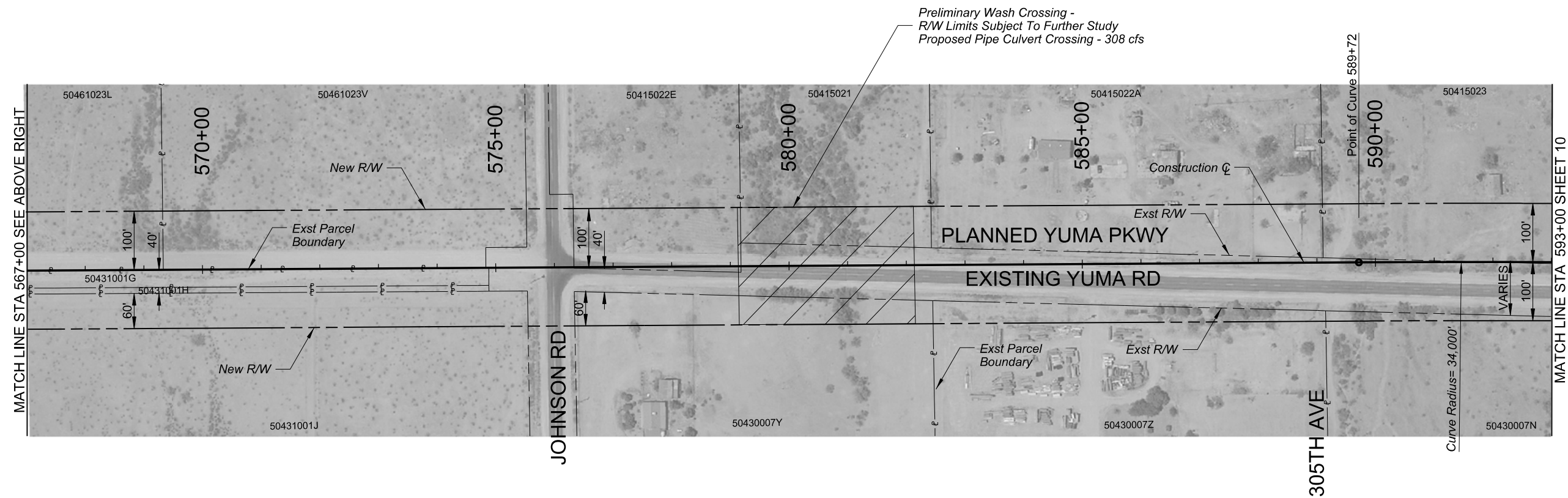
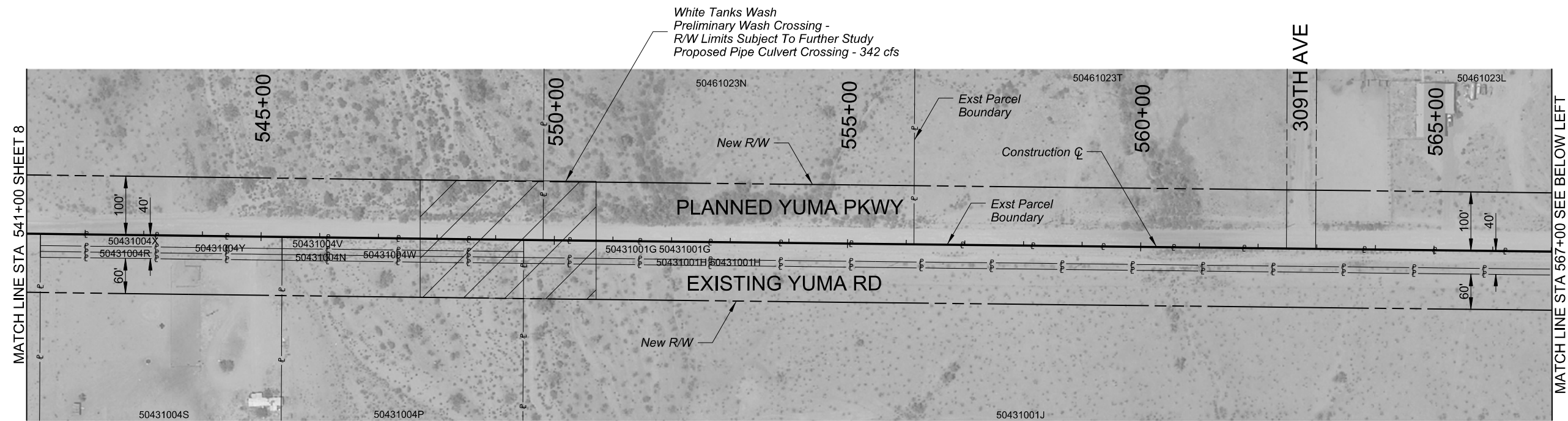
YUMA PARKWAY FEASIBILITY STUDY

MCDOT PROJECT NO. TT005  
CONTRACT NO. 2010-055

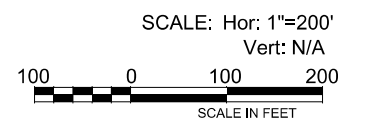
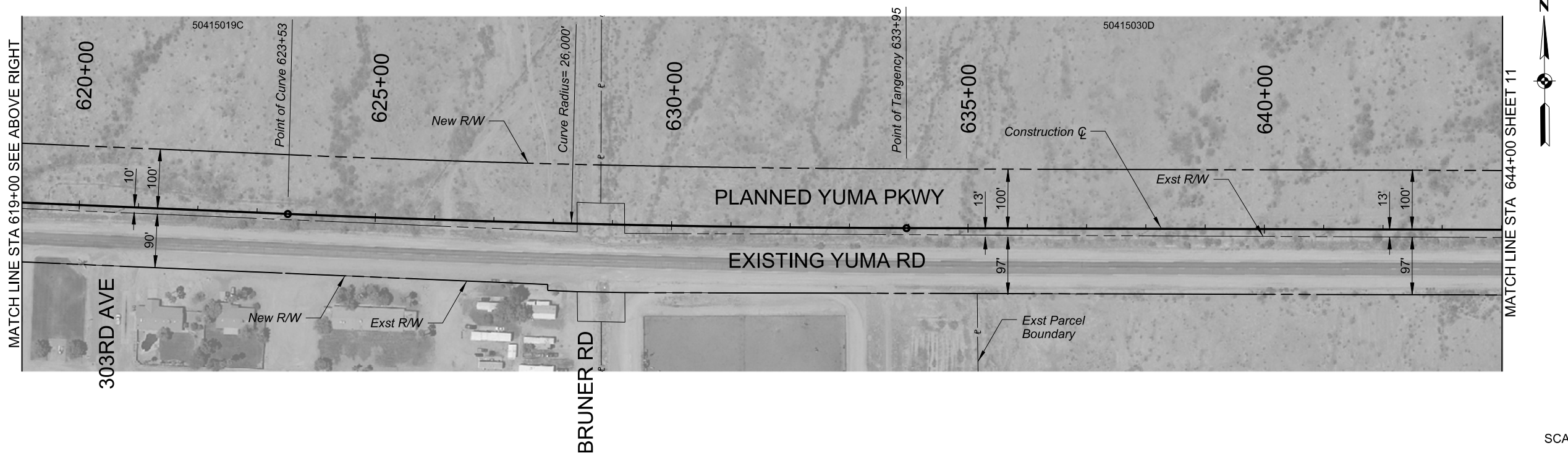
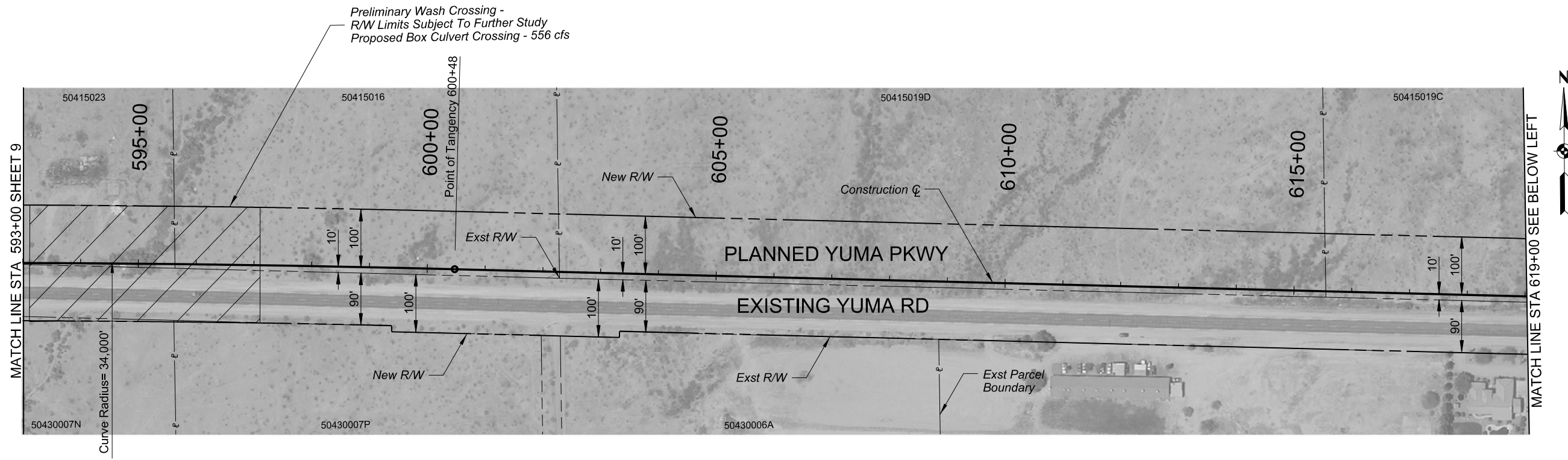
RECOMMENDED FUTURE  
RIGHT-OF-WAY CORRIDOR

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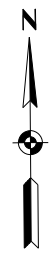
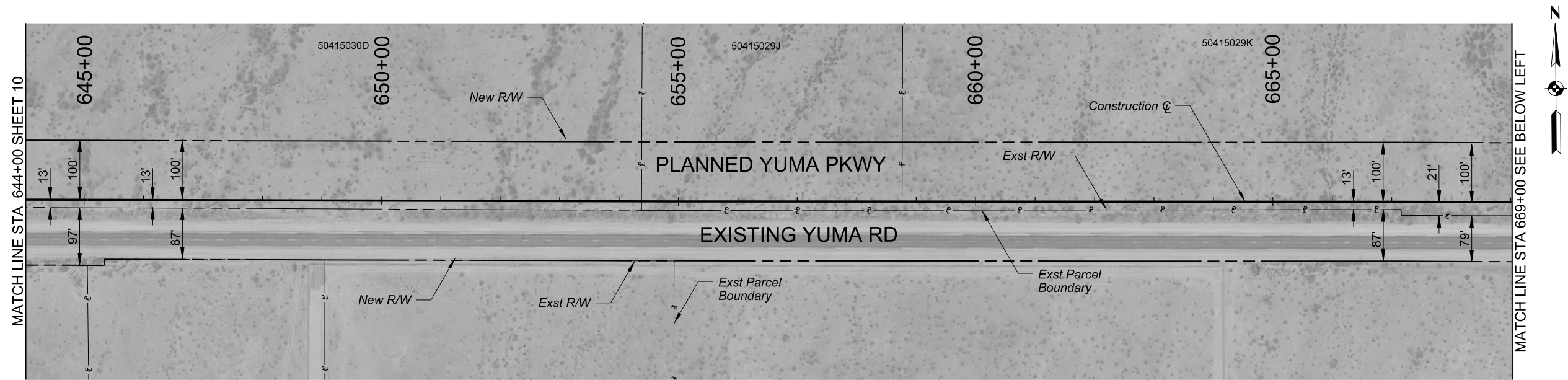




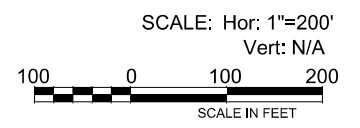
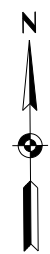
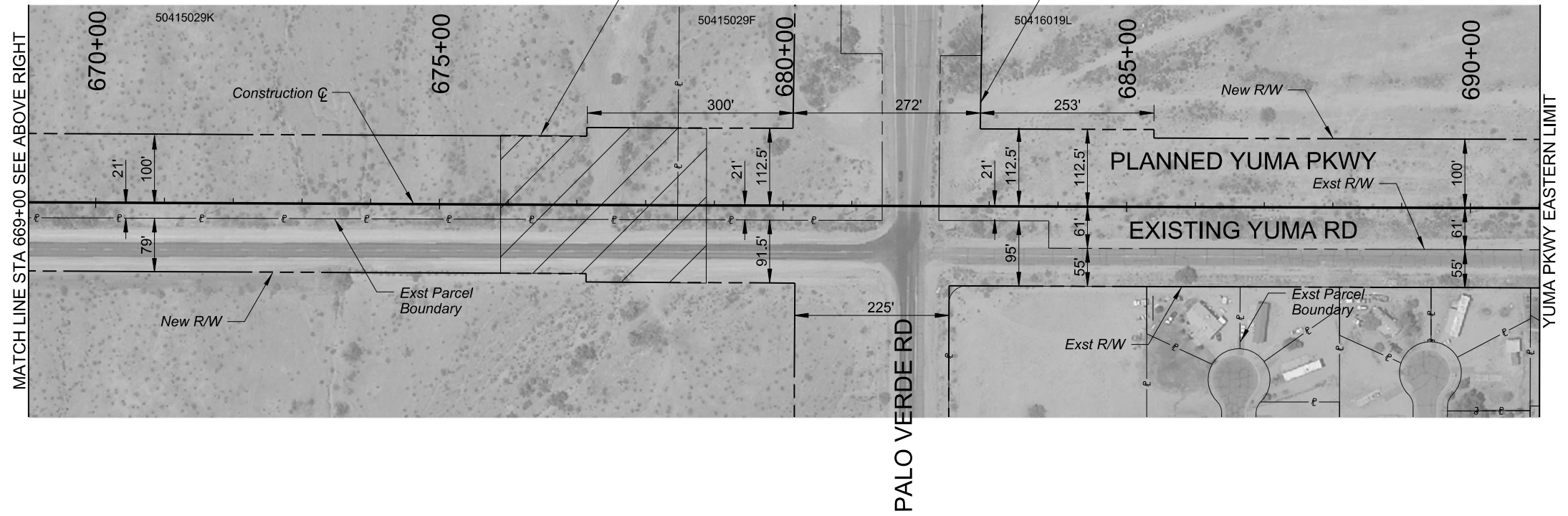
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PLANNED YUMA PKWY/SUN VALLEY PKWY INTERCHANGE  
R/W LIMITS SUBJECT TO FURTHER STUDY



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MARICOPA COUNTY  
DEPARTMENT OF TRANSPORTATION

### YUMA PARKWAY FEASIBILITY STUDY

MCDOT PROJECT NO. TT005  
CONTRACT NO. 2010-055

RECOMMENDED FUTURE  
RIGHT-OF-WAY CORRIDOR

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