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AZ CORP COMMISSION  
DOCKET CONTROL

ORIGINAL

**BEFORE THE ARIZONA CORPORATION COMMISSION**

**COMMISSIONERS**

11 BOB STUMP, Chairman  
 12 GARY PIERCE  
 13 BRENDA BURNS  
 14 ROBERT L. BURNS  
 15 SUSAN BITTER SMITH

Arizona Corporation Commission

DOCKETED

DEC 01 2014

DOCKETED BY 

16 IN THE MATTER OF THE APPLICATION  
 17 OF ARIZONA PUBLIC SERVICE  
 18 COMPANY, PURSUANT TO ARIZONA  
 19 REVISED STATUTE § 40-252, FOR AN  
 20 AMENDMENT OF ARIZONA  
 21 CORPORATION COMMISSION DECISION  
 22 NO. 70850.

Docket No. L-00000D-08-0330-00138

**ARIZONA PUBLIC SERVICE  
 COMPANY'S NOTICE OF FILING  
 EXHIBITS (INCLUDING REBUTTAL  
 TESTIMONY)**

23 Pursuant to the Procedural Order issued in this matter on October 10, 2014, Arizona  
 24 Public Service Company hereby gives notice of filing the following exhibits, which include  
 25 rebuttal testimony, to be presented at the hearing commencing on December 16, 2014:

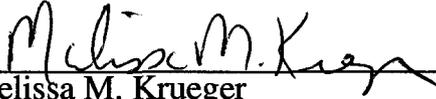
**LIST OF EXHIBITS**

- 26 APS-1: Application to Amend (previously filed with Docket Control on July 17,  
27 2014). Copies will be made available upon request.
- 28 APS-2: Rebuttal Testimony of Richard Stuhan
- APS-3: Rebuttal Testimony of Jennifer Frownfelter
- APS-4: Map labeled APS15694
- APS-5: Map labeled APS15695

- 1 APS-6: Map labeled APS15696
- 2 APS-7: Map labeled APS15697
- 3 APS-8 Spreadsheet labeled APS15698

4 Arizona Public Service Company reserves the right to amend its List of Exhibits at any  
5 time.

6 **RESPECTFULLY SUBMITTED** this 1<sup>st</sup> day of December 2014.

7  
8 By:   
9 Melissa M. Krueger  
Linda J. Benally

10 Attorneys for Arizona Public Service Company

11  
12 **ORIGINAL** and thirteen (13) copies  
13 of the foregoing filed this 1<sup>st</sup> day of  
14 December 2014, with:

15 The Arizona Corporation Commission  
16 Hearing Division – Docket Control  
17 1200 West Washington Street  
Phoenix, Arizona 85007

18 **COPY** of the foregoing hand-delivered  
19 this 1<sup>st</sup> day of December 2014, to:

20 Sarah N. Harpring  
21 Administrative Law Judge  
22 Arizona Corporation Commission  
1200 West Washington Street  
Phoenix, Arizona 85007

23 Janice Alward  
24 Chief Counsel, Legal Division  
25 Arizona Corporation Commission  
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6 Steve Olea, Director  
7 Utilities Division  
8 Arizona Corporation Commission  
9 1200 W. Washington Street  
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11 **COPY** of the foregoing mailed this  
12 1<sup>st</sup> day of December 2014, to:

13 John Foreman, Chairman  
14 Arizona Power Plant and Transmission Line Siting Committee  
15 Office of the Attorney General  
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APS-1:

Application to Amend

(previously filed on

July 17, 2014)

**Copies will be made available  
upon request**

APS-2:

Rebuttal Testimony of  
Richard Stuhan

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**REBUTTAL TESTIMONY OF RICHARD STUHAN**

**On Behalf of Arizona Public Service Company**

**Docket No. L-00000D-08-0330-00138**

**DECEMBER 1, 2014**

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1 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THIS**  
2 **PROCEEDING?**

3 A. The purpose of my testimony is to support the Company's Application to Amend  
4 Arizona Corporation Commission Decision No. 70850 regarding CEC 138 and  
5 Request for Extension of the CEC term ("Application to Amend"). Specifically,  
6 my testimony discusses the continuing need for this project, the proposed  
7 amendments that APS seeks, including the cost of those amendments. I also  
8 respond to the direct testimony of the witnesses for SFI Grand Vista, LLC.

9 **Q. WHAT IS YOUR ROLE WITH THIS PROJECT AND APS'S**  
10 **APPLICATION TO AMEND?**

11 A. I was involved in all aspects of the original siting proceedings for Case 138. In  
12 addition, I submitted an affidavit in support of APS's Application to Amend, a  
13 copy of which is attached as Attachment 1 and incorporated herein by this  
14 reference.

15 **II. SUMMARY**

16 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

17 A. In its Application to Amend, APS seeks four changes to the certificated  
18 transmission line corridor and an extension of time to construct the project. My  
19 affidavit and testimony support APS's Application to Amend, including the  
20 corridor amendments and time extension being sought. I will discuss APS's  
21 continuing need for this project and amendments being sought by APS, including  
22 the purpose, impacts and associated costs. In addition, I address SFI Grand  
23 Vista's concerns about potential impacts on the market value of its future  
24 development.

25 **III. THE NEED FOR THE PROJECT**

26 **Q. HAS THE NEED FOR THE PROJECT CHANGED SINCE THIS CASE**  
27 **WAS ORIGINALLY SITED?**

28 A. No. The purpose of this project when originally sited was to connect two  
previously-approved high voltage substations (Sun Valley (formerly TS-5) and

1 Morgan (formerly TS-9)) and complete a continuous 500kV connection from the  
2 Palo Verde hub to the Northeast Valley. In addition, the 230kV portion of the  
3 project was designed to serve future load and expansion in the Northwest Valley  
4 areas of Buckeye, Surprise, Peoria and surrounding unincorporated areas of  
5 Maricopa County. The need that was demonstrated in 2008 during the siting  
6 proceeding still exists today.

7 **Q. HAS THE TIMING OF THE PROJECT CHANGED SINCE THIS CASE**  
8 **WAS ORIGINALLY SITED?**

9 A. Yes. The recent economic recession and overall health of the Arizona economy  
10 has resulted in slightly lower load growth and residential development than  
11 originally anticipated when this project was sited. Because of these changes, APS  
12 has adjusted its 10 Year Transmission Plan and the anticipated in-service date of  
13 the 500kV portion of this project to 2018. The 230kV portion of the project is  
14 more specifically tied to the growth in residential and commercial development in  
15 the Northwest Valley. APS continues to monitor the growth in the area. APS is  
16 requesting to extend the time period to construct these facilities until 2021 for the  
17 500kV portion and 2030 for the 230kV circuit.

18 **IV. THE AMENDMENTS**

19 **Q. PLEASE BRIEFLY EXPLAIN WHAT APS IS SEEKING IN ITS**  
20 **APPLICATION TO AMEND?**

21 A. APS is requesting that the Commission amend ACC Decision No. 70850 and  
22 CEC 138. Specifically, APS seeks four changes to the certificated transmission  
23 line corridor specified in ACC Decision No. 70850 and an extension of the time  
24 limits to construct this project.

25 **Q. BRIEFLY SUMMARIZE THE FOUR REQUESTED CORRIDOR**  
26 **CHANGES.**

27 A. First, the Arizona State Land Department (“ASLD”) has requested that APS seek  
28 to reroute approximately four miles of the certificated corridor between 211<sup>th</sup>

1 Avenue and 235<sup>th</sup> Avenue, moving the line from its current location adjacent to  
2 Joy Ranch Road, South approximately one mile to be adjacent to Cloud Road  
3 (“Proposed Modification 1”). Proposed Modification 1 is located entirely on State  
4 Trust Land managed by the ASLD. Second, APS seeks to adjust an approximate  
5 0.7 mile section of the corridor between 171<sup>st</sup> Avenue and 179<sup>th</sup> Avenue South of  
6 State Route 74 to straighten the route and align it with the Section line  
7 (“Proposed Modification 2”). This proposed change is located entirely on State  
8 Trust Land. Third, APS seeks to adjust the corridor in Section 33 along the South  
9 and West side of the Morgan substation in order to facilitate entry into the  
10 substation from the West rather than the South (“Proposed Modification 3”). This  
11 proposed modification is located on State Trust Land and crosses federal land  
12 administered by the Bureau of Reclamation. It will enable more efficient use of  
13 the Morgan substation site. Fourth, APS seeks to amend the corridor near the Sun  
14 Valley substation where it crosses the Central Arizona Project (“CAP”) Canal in  
15 order to allow this 500/230kV line and another line (the double-circuit 230kV  
16 transmission line authorized by CEC 127) to cross the canal in a parallel manner  
17 (“Proposed Modification 4”). The CAP supports this modification, and it is  
18 located entirely on land that is part of the certificated corridor for CEC 127. APS  
19 has already secured all necessary easements and right-of-way for the impacted  
20 land in CEC 127. The Staff Report recommends approval for all four proposed  
21 modifications. No intervenor has opposed Proposed Modifications 2-4. The only  
22 intervenor to oppose Proposed Modification 1 is SFI Grand Vista. For reasons  
23 discussed below, its opposition is unfounded.

24 **Q. BRIEFLY EXPLAIN WHY THESE CORRIDOR CHANGES ARE**  
25 **NECESSARY.**

26 **A.** ASLD has requested Proposed Modification 1 to avoid bisecting the affected  
27 parcel of land and maximize the value of the parcel consistent with its  
28

1 Constitutional obligations. Proposed Modification 2 is needed to decrease the  
2 amount of right-of-way needed and avoids unnecessary turns in the line therefore  
3 reducing costs. Proposed Modification 3 allows for more effective use of the  
4 Morgan substation facilities and better facilitates long-term growth. Proposed  
5 Modification 4 improves safety around the CAP's Hassayampa Pumping Station  
6 and allows for more effective land use.

7  
8 **Q. DO THESE AMENDMENTS AFFECT THE COST OF THE PROJECT?  
IF SO, WHAT IS THE IMPACT?**

9 A. APS does not anticipate that these amendments will materially affect the cost of  
10 the project because the total number of towers and length of wire is essentially  
11 the same as what was planned when the project was sited. The proposed  
12 realignment of the four mile segment from Joy Ranch Road to Cloud Road  
13 (Proposed Modification 1) requires two additional turning structures that are  
14 anticipated to cost an additional \$350,000 to \$400,000. However, the proposed  
15 realignment to straighten a segment of the line between 179<sup>th</sup> and 171<sup>st</sup> Avenues  
16 (Proposed Modification 2) is anticipated to use two fewer turning structures,  
17 which off-sets any increase in cost due to Proposed Modification 1. No material  
18 change in cost is anticipated for the other proposed modifications. Thus, I  
19 anticipate that the total cost impact of the amendments will be negligible. Based  
20 upon discovery provided by APS, the November 7, 2014 Staff Report reached a  
21 similar conclusion. Specifically, Staff concluded "[t]he overall cost of the  
22 modifications proposed in the Application is expected to be negligible." (Staff  
23 Report at p. 4)

24 Please also see APS's responses to Staff Data Request 1.7 and SFI Grand Vista's  
25 Informal Data Request 1.1 and 1.2, which are incorporated into my testimony as  
26 Attachment 2 and Attachment 3.  
27  
28

1 **Q. WHY HAS APS PROPOSED THESE AMENDMENTS NOW AND NOT**  
2 **EARLIER?**

3 Regarding Proposed Modification 1, ASLD and APS waited until after the  
4 Federal Bureau of Land Management completed its lengthy Environmental  
5 Impact Statement Assessment and issued its Record of Decision authorizing the  
6 use of federal land for portions of this project. Had the BLM not approved the  
7 certificated route allowing this project to proceed, the ASLD's proposed  
8 modification might have been moot. The need for Proposed Modifications 2-4 did  
9 not become apparent until relevant preliminary design and engineering work had  
10 begun following the federal approval.

11 **Q. HOW LONG OF A TERM EXTENSION IS APS SEEKING?**

12 A. APS is requesting to extend the CEC term to March 17, 2021 for the 500kV  
13 portion of the project and until March 17, 2030 for the 230kV portion. No  
14 intervenor has opposed the term extension and the Staff Report recommended  
15 approval of the term extension.

16 **Q. IF THESE AMENDMENTS ARE NOT GRANTED BY THE**  
17 **COMMISSION, WHAT WOULD THE IMPACT BE ON THE PROJECT?**  
18 **ON APS CUSTOMERS?**

19 A. APS cannot build the line where certificated unless the ASLD grants APS the  
20 necessary right-of-way through affected State Trust lands. If Proposed  
21 Modification 1 is not granted and ASLD were to not approve the right-of-way for  
22 the project, APS will not be able to build the project as certificated. This would  
23 cause substantial uncertainty regarding the future of this transmission line,  
24 potential litigation and ultimately could adversely impact reliability and increase  
25 costs to APS customers. In short, the negative impacts would be many and APS  
26 customers could be negatively impacted by decreased reliability and increased  
27 costs.  
28

1 Q. WOULD APS HAVE AUTHORITY TO CONDEMN STATE TRUST  
2 LAND BETWEEN 211<sup>TH</sup> AVENUE AND 235<sup>TH</sup> AVENUE AND BUILD  
3 THE LINE ON THE CERTIFICATED ROUTE IF THE REQUESTED  
4 REALIGNMENT IS NOT GRANTED?

5 A. No. While APS has the power to condemn certain land for power lines under  
6 A.R.S. § 12-1111, it is my understanding that there is an Arizona Court case,  
7 *Deer Valley Unified School Distr. No. 97 v. Superior Court*, 157 Ariz. 537 (Ariz.  
8 1988), that prohibits APS from condemning State Trust lands such as the land  
9 affected by Proposed Modification 1, which is held in trust for the benefit of  
10 education.

11 Q. THE DIRECT TESTIMONY OF DONALD C. DUNCAN, WITNESS FOR  
12 SFI GRAND VISTA LLC, ALLEGES THAT THE REQUESTED  
13 REALIGNMENT FROM JOY RANCH ROAD TO CLOUD ROAD "WILL  
14 LIKELY AFFECT MARKETABILITY, APPLICABLE ABSORPTION  
15 RATES AND THUS THE MARKET VALUE" OF SURROUNDING  
16 PROPERTIES. SFI GRAND VISTA WITNESS JOHN CHRISTENSEN  
17 MAKES SIMILAR ALLEGATIONS. BASED ON YOUR EXPERIENCE,  
18 DO YOU AGREE? WHY OR WHY NOT?

19 A. There are many factors that influence the sale of homes in any location. However,  
20 in the case of the SFI Grand Vista property I do not believe that the requested  
21 realignment from Joy Ranch Road to Cloud Road will likely result in  
22 the concerns expressed by Messrs. Duncan and Christensen. First, generally the  
23 additional perimeter of the SFI Grand Vista property to the requested realignment  
24 is relatively small. North to South, the Western boundary of SFI Grand Vista, is  
25 approximately 2¼ miles in length. The requested realignment only adds  
26 approximately ¼ mile of the transmission line along the Western boundary of SFI  
27 Grand Vista. This additional ¼ mile of transmission line would be located on the  
28 opposite side of 211<sup>th</sup> Avenue, a major arterial road in the area, across from the  
SFI Grand Vista property. Second, the SFI Grand Vista property has not yet been  
developed and to my knowledge there is no definitive date for when it might be  
developed. Thus, there is ample time for the SFI Grand Vista developers to take  
into consideration the proposed transmission line realignment and any potential

1 impacts to their future community plans, home designs and orientation, planned  
2 uses, offsets, landscaping, and other elements. In short, they can take steps to  
3 minimize any potential concerns with the proximity of the transmission line.

4 V. CONCLUSION

5 **Q. DO YOU HAVE ANY CONCLUDING REMARKS?**

6 A. This transmission line is important to APS's customers in general because it  
7 completes the 500kV loop from the Palo Verde hub and is important for future  
8 growth in the Northwest area of the Phoenix metropolitan area. The proposed  
9 modifications are in the public interest. Among other reasons, the modifications  
10 increase safety, improve operational flexibility, and help ensure that APS can  
11 reliably meet the needs of its customers. In addition, as discussed in the testimony  
12 of APS witness Jennifer Frownfelter, the proposed modifications are  
13 environmentally compatible.

14 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

15 A. Yes.

# Attachment 1:

Richard Stuhan Affidavit

STATE OF ARIZONA     )  
  ) ss.  
COUNTY OF MARICOPA)

**AFFIDAVIT OF RICHARD STUHAN**

I, Richard Stuhan, being duly sworn under oath, depose and state:

1. I am a Siting Consultant Senior for Arizona Public Service Company (“APS” or “Company”).

2. I am personally familiar with the Certificate of Environmental Compatibility issued by the Arizona Corporation Commission (“Commission”) on March 17, 2009 for the Morgan (formerly TS9) to Sun Valley (formerly TS5) 500/230kV Transmission Line Project (“CEC 138”).

3. CEC 138 authorizes APS to build approximately 39 miles of 500/230kV transmission line originating at the Sun Valley substation (formerly TS5) and terminating at the Morgan substation (the “Project”). When constructed, this 500/230kV transmission line will connect the Sun Valley and Morgan 500kV substations resulting in a continuous 500kV source from the Palo Verde hub to the northeast valley (via the Morgan to Pinnacle Peak transmission line energized in December 2010). This 500kV connection will increase the import capability to the Phoenix metropolitan area, increase the export capability from the Palo Verde hub, and provide additional support and reliability for the entire electrical system.

4. I am personally familiar with the Certificate of Environmental Compatibility issued by the Commission on May 5, 2005 authorizing the Sun Valley and TS2 substations and a double circuit 230kV line originating at the TS2 substation continuing to the Trilby substation (formerly TS1) and terminating at the Sun Valley substation (“CEC 127”).

5. I am personally familiar with the Arizona State Land Department’s proposed corridor, which includes a three-mile, east-west segment of the corridor between 211<sup>th</sup> and 235<sup>th</sup> Avenues on Joy Ranch Road and an associated one-mile, north-

south segment on 211<sup>th</sup> Avenue ("ASLD Proposed Corridor"). The ASLD Proposed Corridor would satisfy the Project's infrastructure requirements and would represent a negligible increase in the cost of the Project. Along the Cloud Road alignment it is anticipated that the transmission line would be approximately 100 feet north of the private property lines and approximately 200 feet north of occupied structures.

6. I am personally familiar with the proposed changes to CEC 138 on State Trust land, which includes a 0.7-mile section of the corridor between 171<sup>st</sup> Avenue and 179<sup>th</sup> Avenue south of State Route 74. (*See Attachment 1 for a map that shows the proposed corridor modification.*) The widened corridor would allow APS to construct the transmission line in a straight alignment along the southern boundary of Section 26. This would reduce the cost of the Project because the alignment would require fewer transmission structures, fewer turning structures, and the need for less right-of-way for the Project.

7. I am personally familiar with the proposed changes to CEC 138 on State Trust land near the Morgan substation. APS proposes extending the corridor around the Morgan substation for up to 0.8 miles along Cloud Road from the existing Western Area Power Administration 230kV transmission corridor to the eastern section line of Section 33. (*See Attachment 2 for a map that shows the proposed corridor modification.*) The modified corridor would facilitate entry of the transmission line from the west into the substation, which would support future development of the substation. The modification would allow APS flexibility to design the connection into the substation more efficiently, resulting in smaller right-of-way and reduced number of structures needed. APS has discussed the proposed corridor modification with the Central Arizona Project ("CAP"), the operator of the Waddell Canal. CAP is amenable to the proposed corridor modification.

8. I am personally familiar with the proposed change to CEC 138 at the Sun Valley substation near the CAP Hassayampa Pumping Station. APS proposes a corridor

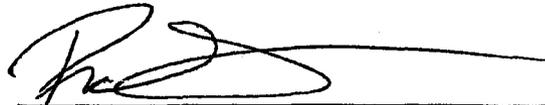
change that will align the CEC 138 corridor with the corridor certificated for the 230kV transmission line authorized in CEC 127. (See Attachment 3 for a map that shows the proposed corridor modification.) This alignment of corridors will result in the transmission lines in CECs 127 and 138 crossing the canal adjacent to one another, as recommended by CAP. (See Attachment 4, CAP letter to APS dated May 1, 2014.) APS has already secured the necessary easements and right of way to this land for the transmission line in CEC 127.

9. APS applied for right-of-way on federal land to the Bureau of Land Management ("BLM") on April 29, 2009. After completing its comprehensive environmental review, BLM issued its Record of Decision on January 16, 2014, ultimately authorizing the use of BLM land for the Project. APS anticipates that the BLM ROW grant will be complete before the end of 2015. APS delayed pre-construction and construction activities until the federal process was completed. The economic downturn and low load growth over the past few years has postponed the need for the 230kV circuit of the transmission line.

10. APS and ASLD have engaged stakeholders through meetings with the City of Peoria, City of Surprise, and the City of Buckeye. APS will notify landowners and residents within one mile of the Project corridor of the proposed corridor modifications and CEC term extension included in the Company's Application. (See Attachment 5 for property owner notice letter.)

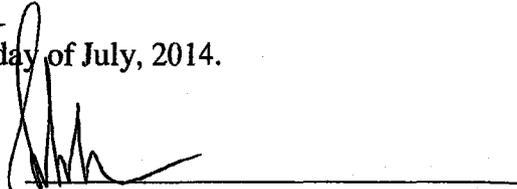
11. Condition 4 of CEC 138 requires APS to "...use commercially reasonable means to directly notify all landowners and residents within one mile of the Project corridor...of the time and place of the proceeding in which the Commission shall consider" a request for an extension of the CEC term. (See Attachment 6 for draft notice APS will use to notify landowners and residents of this request for extension.)

DATED this 15 day of July, 2014.



Richard Stuhan

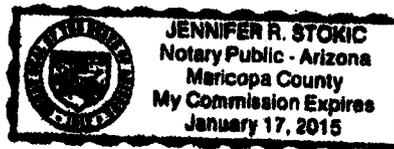
Sworn to and subscribed before me this 15<sup>th</sup> day of July, 2014.



Notary Public

My Commission expires:

1-17-2015



**ATTACHMENT 1**  
to  
**EXHIBIT B**

**Figure 1**  
**APS Proposed Corridor**  
**Modification in Section 26**  
 Sun Valley to Morgan  
 500/230KV Project

**Legend**

**Project Features**

- Certified Corridor (CEC138)
- APS Proposed Corridor Modification

**Surface Management**

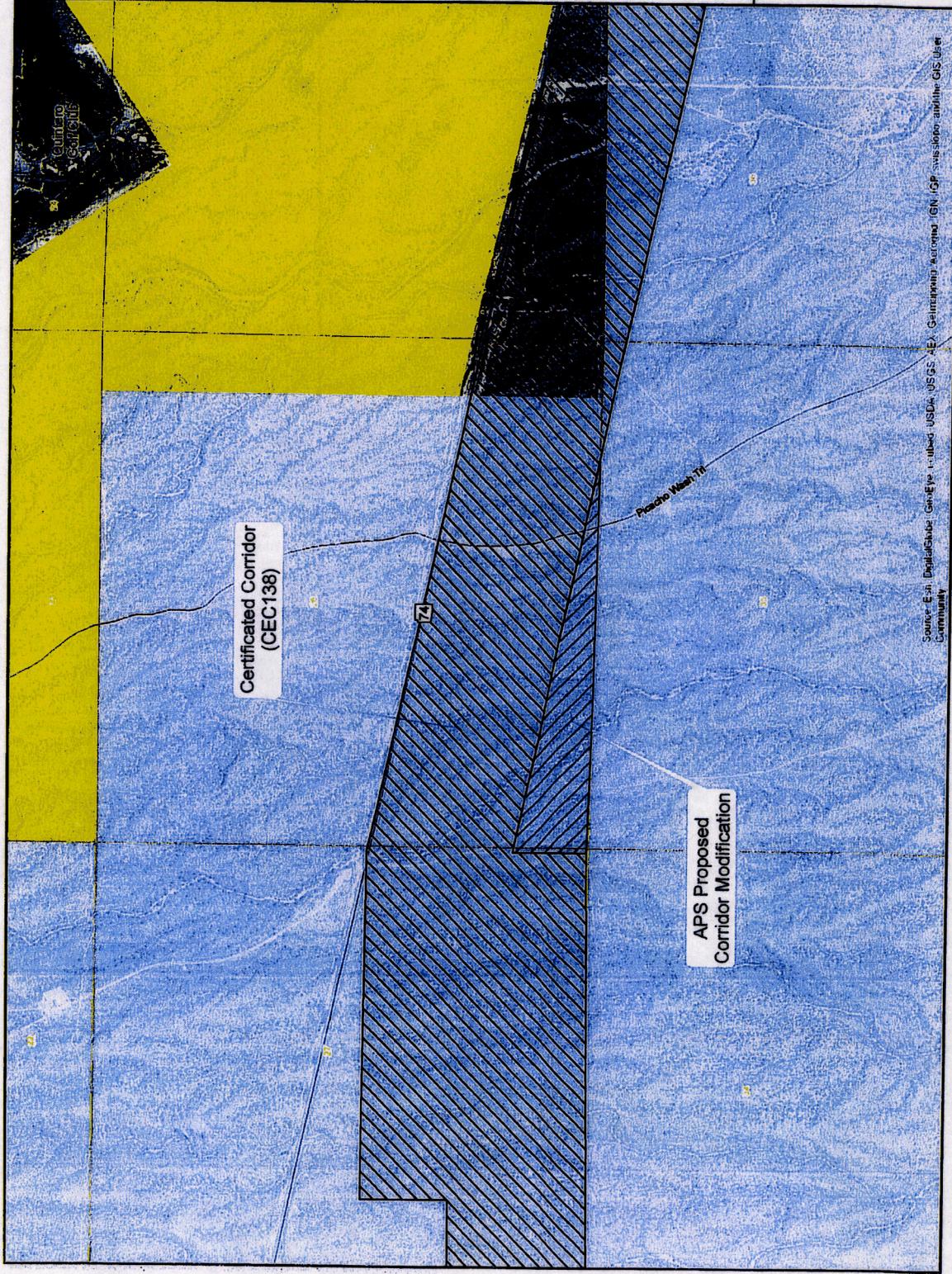
- Bureau of Land Management
- State Trust Land
- Private Land

**General Reference Features**

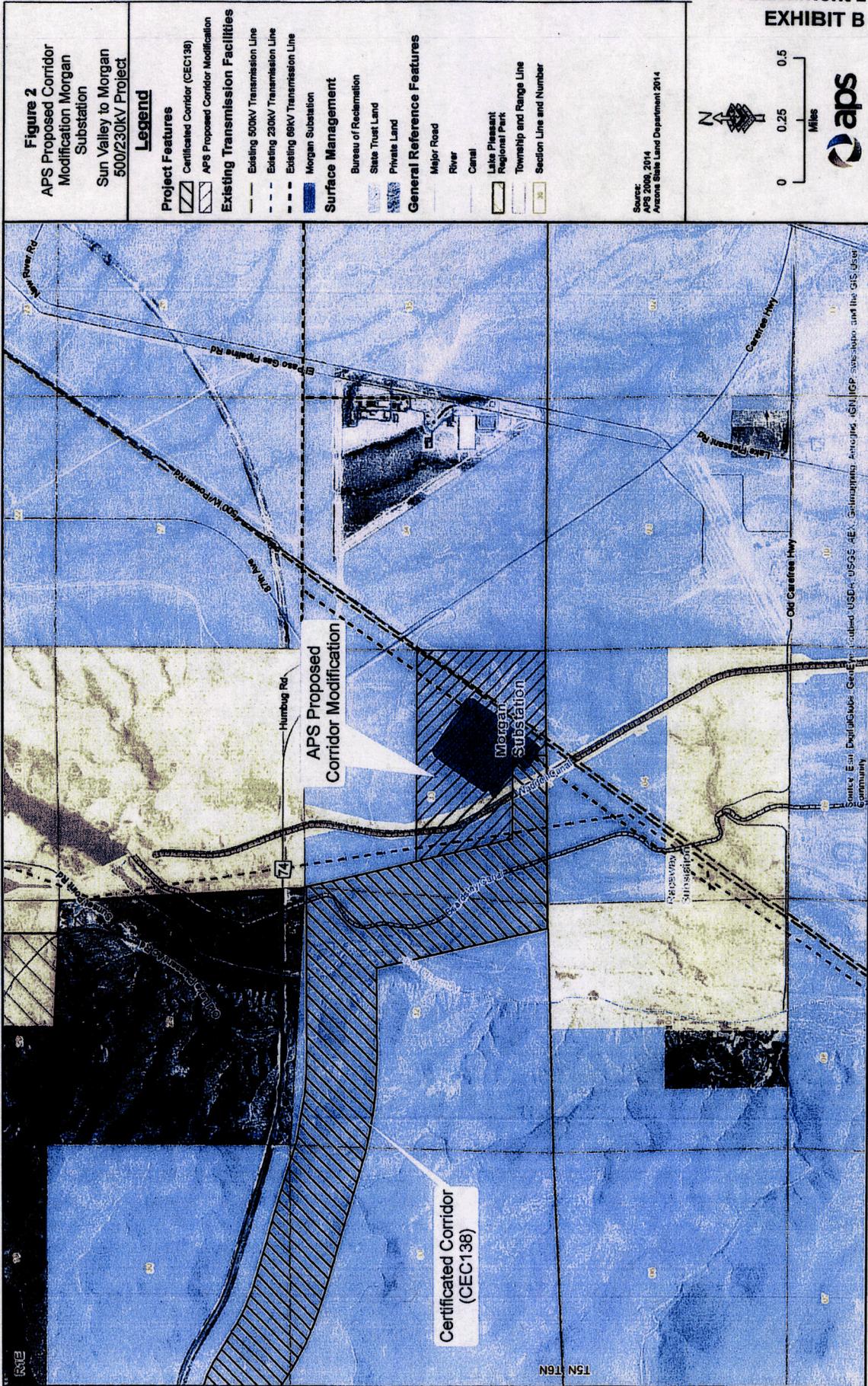
- Major Road
- Section Line and Number

Source:  
 APS 2008, 2014  
 Arizona State Land Department 2014

0 500 1,000  
Feet



**ATTACHMENT 2**  
**to**  
**EXHIBIT B**



**ATTACHMENT 3**  
**to**  
**EXHIBIT B**



May 1, 2014

Mr. Richard Stuhan  
Arizona Public Service Co.  
P.O. Box 53999, M.S. 3293  
Phoenix, Arizona 85072-3999

RE: SV2M 500/230kV Transmission Line Crossing near the Central Arizona  
Project Hassayampa Pump Pumping Plant

Dear Mr. Stuhan:

The Central Arizona Water Conservation District (CAWCD) has reviewed Arizona Public Service Co. (APS) plans regarding the proposed alignment of the SV2M 500/230kV transmission line crossing of the Central Arizona Project (CAP) downstream of the Hassayampa Pumping Plant. Due to safety reasons as it relates to the Operation and Maintenance of the CAP and our security flights, CAWCD recommends that the 500/230kV transmission line cross directly adjacent to and parallel with the proposed SV2T 230kV transmission line that has already been approved near this location. Keeping the lines together will stay consistent with past transmission line construction projects crossing the CAP that involve multiple lines and minimize overall congestion in the area.

If you have any questions, please contact me.

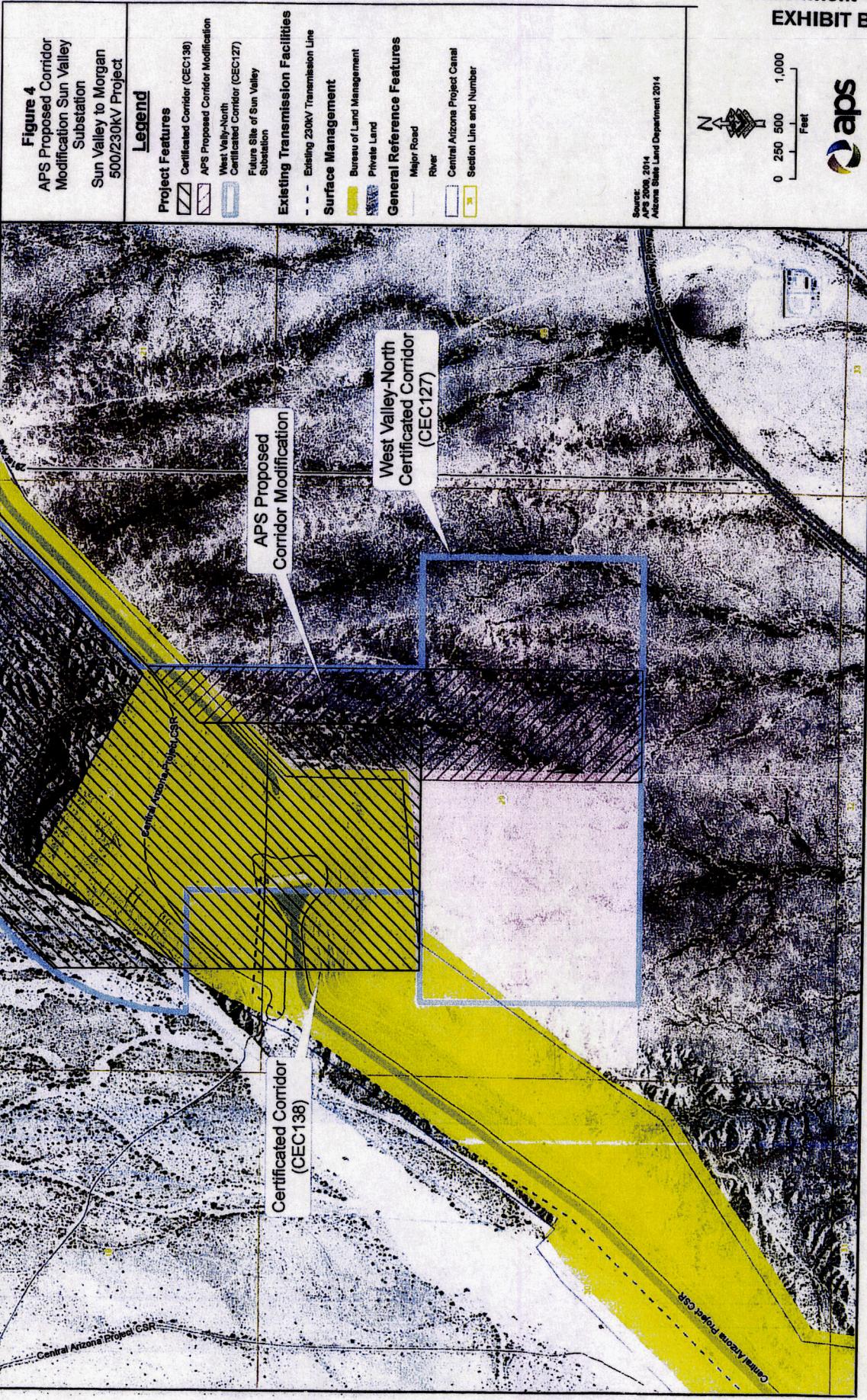
Sincerely,

Tom Fitzgerald

Digitally signed by Tom Fitzgerald  
DN: cn=Tom Fitzgerald, o=Land and  
Records, email=thf@capaz.com,  
c=US  
Date: 2014.05.01 10:28:28 -0700

Thomas Fitzgerald  
Supervisor, Land and Records

**ATTACHMENT 4**  
**to**  
**EXHIBIT B**



**ATTACHMENT 5**  
**to**  
**EXHIBIT B**



**RICHARD STUHAN**  
Siting Consultant Sr.  
Transmission & Facility Siting

P.O. Box 53999  
Phoenix, AZ 85072  
Mail Station 3293  
Tel 602 493 4448

July 17, 2014

Re: Arizona Public Service (APS) Sun Valley (TS-5) to Morgan (TS-9) 500/230kV  
Transmission Line - ASLD Proposed Corridor and APS Proposed Corridor  
Modifications

Dear Owner or Resident:

You are receiving this mailing because you live within one mile of APS's future Sun Valley to Morgan Transmission Line Project, which was approved by the Arizona Corporation Commission ("ACC") on March 17, 2009 in Decision No. 70850. The Bureau of Land Management developed an Environmental Impact Statement and completed federal review in January of 2014 also approving the Project. Recently, APS has filed a request to modify portions of the route of this transmission line. This mailing is to provide you with information about the proposed modifications and invite your comments.

#### **Project Description**

Approximately 39 miles in length, the Sun Valley to Morgan Transmission Line Project ("Project") will include both single-circuit 500-kilovolt (kV) and single circuit 230-kV transmission lines on the same structures. The 500-kV circuit increases import and export capability from the Palo Verde Hub by 600 megawatts, enough to serve 150,000 residential customers. It improves reliability of the transmission system and will also help mitigate any potential impact of wildfires and other system disturbances. The 230-kV circuit provides for continued growth in the far northwest Valley.

#### **Proposed Project Route Location Modifications**

1. **211th Ave to 235th Ave & Cloud Road:** In response to a request from the Arizona State Land Department ("ASLD"), APS filed a request with the ACC to amend the Certificate of Environmental Compatibility ("CEC") to relocate four miles of the Certificated Corridor. If approved by the ACC, the relocation would move the corridor between 235th Avenue and 211th Avenue from the Joy Ranch Road alignment to the Cloud Road alignment and move a one mile segment along 235th Avenue between Joy Ranch Road and Cloud Road alignment to 211th Avenue.

The ASLD proposed corridor begins at the intersection of 235th Avenue and Cloud Road, just north of US 60. From that intersection, it would parallel the north side of Cloud Road, east for three miles to the intersection with 211th Avenue. It would then parallel the west side of 211th Avenue for one mile to the north and rejoin the Certificated Corridor (see map).

Both the Certificated Corridor and ASLD proposed corridor are located on land administered by the ASLD.

2. Near 179th Ave and Joy Ranch Road: a modification to add a small area to the corridor so that it would run in a straight alignment with the section line reducing the number of turning structures required for the transmission line.
3. Near the Morgan Substation: a modification to expand the corridor to allow for the flexibility to design a more efficient connection into the Morgan Substation, reducing right-of-way and turning structures.
4. Near the Sun Valley Substation: a modification to expand the corridor to allow for the efficient use of existing rights-of-way by co-locating this Project adjacent to another approved 230kV line.

**APS Proposes to Extend Time Limit For CEC**

APS also has asked for a term extension of five additional years for the in-service date of the 500-kV circuit to 2021 and eleven additional years for the in-service date of the 230-kV circuit of the transmission line to 2030.

**Opportunity to Provide Comment**

Please review the changes discussed in this notice, along with the map of the proposed changes, and provide any comments you may have by **Wednesday, August 27th, 2014** through any of the following means:

- Electronic comment form at [www.aps.com/siting](http://www.aps.com/siting) then click find out more under current siting projects
- Email: [sv2m@apsc.com](mailto:sv2m@apsc.com)
- Written comments mailed to:  
APS Transmission and Facility Siting  
P.O. Box 53999, M.S. 3293  
Phoenix, AZ 85072-3999

**Contact Information**

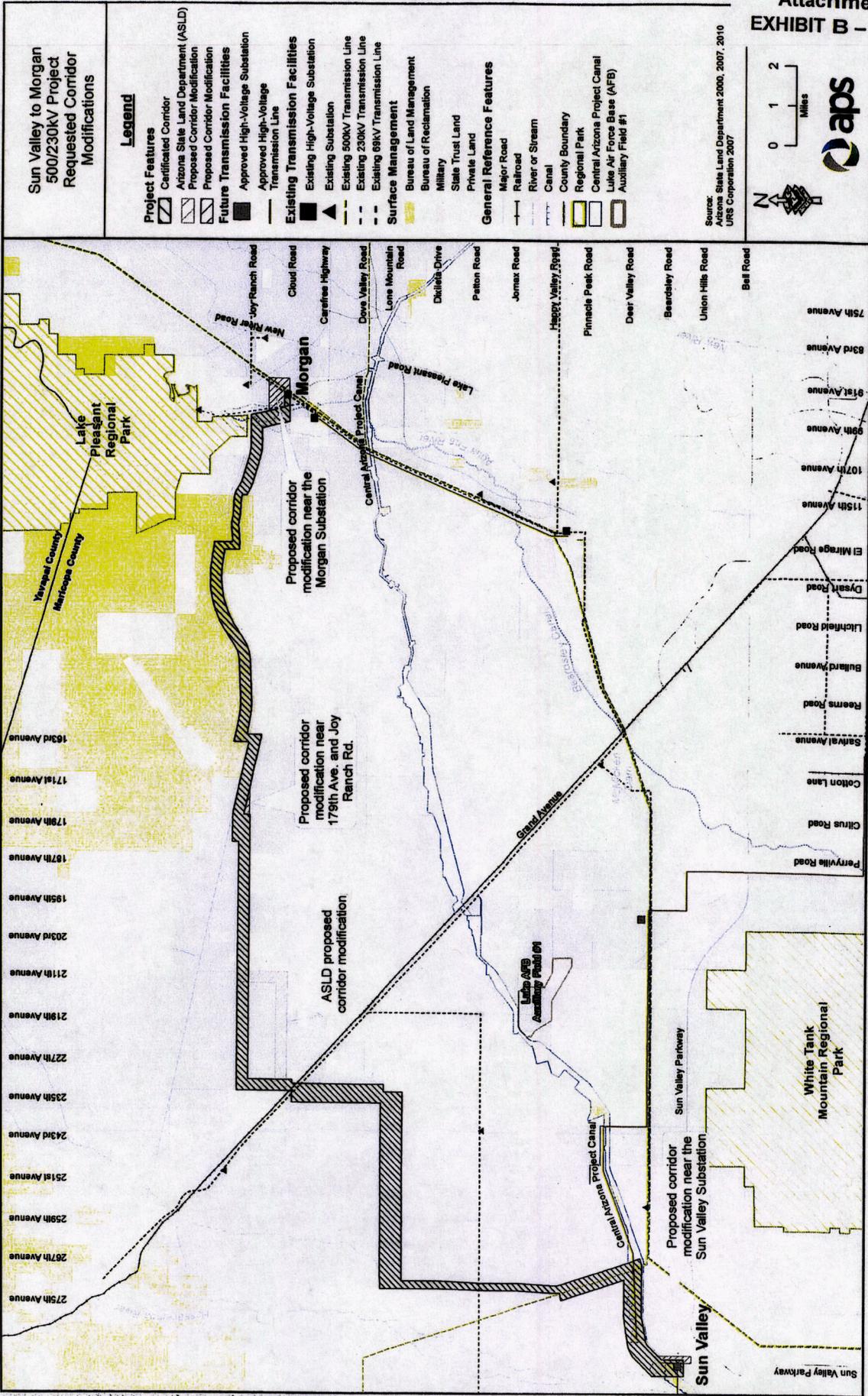
APS is committed to providing information about this project and these proposed modifications. More information about this project can be found at [www.aps.com/siting](http://www.aps.com/siting) or for questions about this project please contact:

Richard Stuhan  
Siting Consultant Senior  
602 493 4448  
[sv2m@apsc.com](mailto:sv2m@apsc.com)

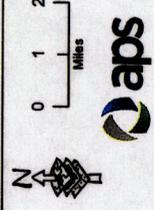
Sincerely,



Enclosure



Source:  
Arizona State Land Department 2000, 2007, 2010  
URS Corporation 2007



**ATTACHMENT 6**  
to  
**EXHIBIT B**

**BEFORE THE ARIZONA CORPORATION COMMISSION**  
**Docket No. L-00000D-08-0330-00138, Case 138**  
**Sun Valley (TS-5) to Morgan (TS-9) 500/230-kV Transmission line**

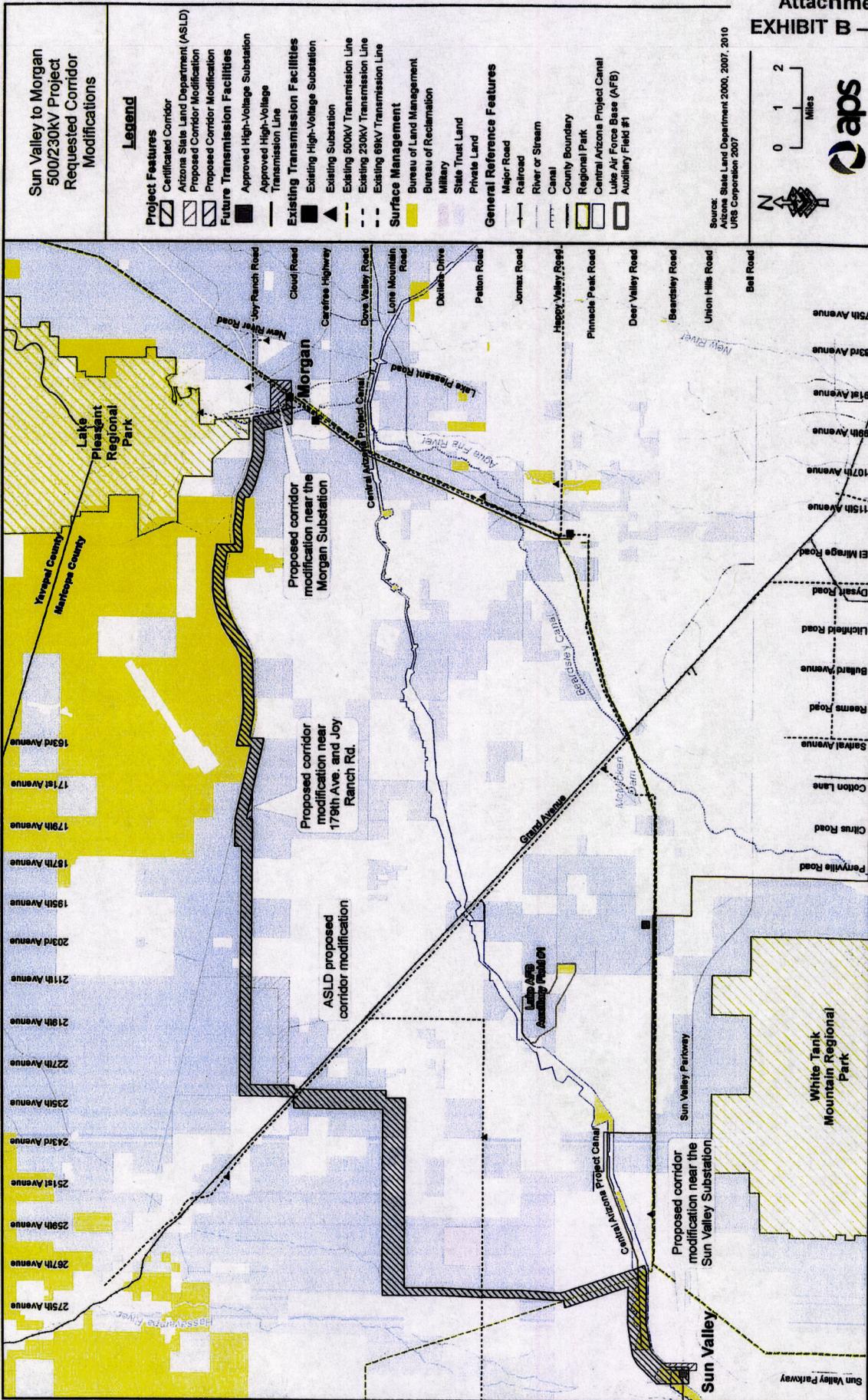
**NOTICE OF OPEN MEETING**

An Open Meeting will be held by the Arizona Corporation Commission regarding Arizona Public Service Company's (APS) request to extend the term of the Certificate of Environmental Compatibility (CEC) in the above referenced docket. In Decision No. 70850, the Commission granted APS authorization to construct approximately 39 miles of 500/230 kilovolt transmission lines from Buckeye to Lake Pleasant. APS has requested term extensions of five additional years for the in-service date of the 500- kV circuit to 2021 and eleven additional years for the in-service date of the 230kV circuit of the transmission line to 2030. Proposed amendments to the CEC also include:

1. Arizona State Land Department (ASLD) Proposed Corridor Modification (See map on reverse)  
At ASLD's request, APS filed an amendment to relocate a four-mile segment of the Certificated Corridor. If approved, the relocation would move the corridor between 211<sup>th</sup> Avenue and 235<sup>th</sup> Avenue from the Joy Ranch Road alignment south one mile to the Cloud Road alignment and move a one-mile segment from 235<sup>th</sup> Avenue to 211<sup>th</sup> Avenue.
2. APS Proposed Corridor Modifications (See map on reverse):
  - *Near 179<sup>th</sup> Ave and Joy Ranch Road:* a corridor modification on State Trust land to reduce the number of poles required to construct the line, improving aesthetics and slightly reducing environmental impacts
  - *Near the Morgan Substation:* a corridor modification to allow for flexibility and a more efficient connection into the Morgan Substation
  - *Near the Sun Valley Substation:* a corridor modification for efficient use of existing rights-of-way by paralleling another 230kV line

The Open Meeting will be held at the Arizona Corporation Commission, 1200 West Washington Street, Phoenix, Arizona 85007, Hearing Room \_\_\_ on \_\_\_\_\_, 2014 at (insert time).

More information is available at [www.aps.com/siting](http://www.aps.com/siting). Questions on the project may be directed to Richard Stuhan, Siting Consultant Senior, APS Transmission and Facility Siting Department at 602-493-4448 or by email at [richard.stuhan@aps.com](mailto:richard.stuhan@aps.com). A copy of the Company's application is available on the internet via the Commission's website at [www.azcc.gov](http://www.azcc.gov) using the eDocket function or at the Commission Office.

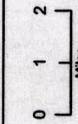


**Sun Valley to Morgan  
500/230kV Project  
Requested Corridor  
Modifications**

**Legend**

- Project Features**
- Certified Corridor
  - Arizona State Land Department (ASLD) Proposed Corridor Modification
  - Future Transmission Facilities
  - Approved High-Voltage Transmission Line
  - Existing High-Voltage Substation
  - Existing Substation
  - Existing 500kV Transmission Line
  - Existing 230kV Transmission Line
  - Existing 69kV Transmission Line
  - Surface Management
  - Bureau of Land Management
  - Bureau of Reclamation
  - Military
  - State Trust Land
  - Private Land
- General Reference Features**
- Major Road
  - Railroad
  - River or Stream
  - Canal
  - County Boundary
  - Regional Park
  - Central Arizona Project Canal
  - Luke Air Force Base (AFB)
  - Auxiliary Field #1

Source:  
Arizona State Land Department 2000, 2007, 2010  
URS Corporation 2007



# Attachment 2:

APS Response to Staff Data  
Request 1.7

ARIZONA CORPORATION COMMISSION  
STAFF'S FIRST SET OF DATA REQUESTS TO  
ARIZONA PUBLIC SERVICE COMPANY REGARDING  
REQUEST FOR EXTENSION OF CEC TERM  
DOCKET NO. E-01345A-08-0330-00138  
OCTOBER 17, 2014

Staff 1.7: Please provide details of the cost differences between the project as approved in Decision 70850 and the project as proposed in this Application.

Response: None of the proposed amendments adds any significant line length to the project and therefore the overall number of towers and length of wire is essentially the same. Additionally, final design has not been completed. The proposed amendments to the corridor are generally consistent with the intent of the project as approved in Decision 70850 and reflect changes necessary to complete the project without in-service delays or cost increases.

Details of cost differences:

1. A 4-mile segment of the corridor, approved to be aligned with Joy Ranch Road between 211th Ave. and 235th Ave. would be moved one mile south so that the corridor would instead be aligned with Cloud Road. As a result, a 1-mile segment approved to be aligned with 235th Ave. would move to be aligned with 211th Ave. The ASLD Proposed Corridor adds 2 additional turning structures costing an additional \$350,000 to \$450,000.
2. The portion of the corridor immediately to the east of the Sun Valley Substation would be extended slightly to the east and south. Realignment of CAP crossing results in no additional costs; there are generally no additions or reductions of poles or wire.
3. The segment of the corridor between 179th Ave. and 171st Ave., approved to run diagonally in the proximity of Joy Ranch Road, would be expanded slightly to straighten its southern border in alignment with Joy Ranch Road. This results in a reduction of two (2) turning structures near 179th Avenue south of Carefree Highway in Section 26. This change decreases the cost between \$350,000 and \$450,000.
4. The portion of the corridor abutting the Morgan Substation would be expanded to the north and east, surrounding the Morgan Substation and making the southern boundary of the corridor in the area more consistent with the approved corridor to the west of the Morgan Substation. This change results in a similar number of tower structures and line length keeping the cost generally the same. Additionally, without the proposed amendment in this area, the 500kV circuit would have to be built in a manner along the inside perimeter of the Morgan Substation to reach its interconnection point. This would result in the loss of access to a planned 230kV circuit bay which represents a future opportunity loss.

# Attachment 3:

APS Response to SFI Grand  
Vista Informal 1.1 and 1.2

SFI GRAND VISTA'S FIRST SET OF INFORMAL DATA REQUESTS TO  
ARIZONA PUBLIC SERVICE COMPANY REGARDING  
REQUEST FOR EXTENTION OF CEC TERM  
DOCKET NO. E-01345A-08-0330-00138  
OCTOBER 7, 2014

SFI Inf 1.1: The cost for construction of the high voltage transmission lines ("HVTL") and appurtenances pursuant to the alignments that approved by the ACC in March of 2009 (the "Approved Plan").

Response: The estimated cost to construct the four-mile segment located between 235<sup>th</sup> and 211<sup>th</sup> Avenue as currently certificated will be in the range of \$13.4 million to \$18.5 million. The cost will vary depending upon the price of steel, the cost to acquire necessary right of ways, and other factors.

SFI GRAND VISTA'S FIRST SET OF INFORMAL DATA REQUESTS TO  
ARIZONA PUBLIC SERVICE COMPANY REGARDING  
REQUEST FOR EXTENTION OF CEC TERM  
DOCKET NO. E-01345A-08-0330-00138  
OCTOBER 7, 2014

SFI Inf 1.2: The cost for construction of the HVTL and appurtenances pursuant to the new alignment proposed in your Application (the "Proposed Plan").

Response: The estimated cost to construct the four-mile segment located between 235<sup>th</sup> and 211<sup>th</sup> Avenue as proposed in the Application will be in the range of \$13.8 million to \$19.0 million, a difference of between \$350,000 and \$450,000. APS's proposed amendment to straighten the line near 179<sup>th</sup> Avenue in Section 26 involves replacing two turning tower structures with two tangent (in-line) tower structures, which results in decreased costs of approximately \$350,000 to \$450,000, thus offsetting the increase in cost due to the realignment of the segment between 235<sup>th</sup> and 211<sup>th</sup> Avenue.

APS-3:

Rebuttal Testimony of  
Jennifer Frownfelter

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**REBUTTAL TESTIMONY OF JENNIFER FROWNFELTER**

**On Behalf of Arizona Public Service Company**

**Docket No. L-00000D-08-0330-00138**

**DECEMBER 1, 2014**

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I. INTRODUCTION .....1  
II. SUMMARY .....2  
III. PROPOSED CORRIDOR MODIFICATION .....2  
IV. CONCLUSION .....3



1 corridor modifications, and I respond to the direct testimony of the witnesses for  
2 SFI Grand Vista LLC.

3 **Q. WHAT IS YOUR ROLE WITH THIS PROJECT AND APS'S**  
4 **APPLICATION TO AMEND?**

5 A. I directed the environmental studies conducted for the original siting proceedings  
6 for Case 138, and I have directed the environmental analyses conducted to  
7 determine the environmental effects associated with the proposed modifications.  
8 In addition, I submitted an affidavit in support of APS's Application to Amend, a  
9 copy of which is attached as Attachment 1, and incorporated herein by this  
10 reference.

11 II. SUMMARY

12 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

13 A. In its Application to Amend, APS seeks four changes to the certificated  
14 transmission line corridor and an extension of time to construct the Project. My  
15 affidavit and testimony supports APS's Application to Amend, specifically the  
16 corridor modifications. I will discuss the environmental impact of the proposed  
17 corridor change to reroute approximately four (4) miles between 211<sup>th</sup> Avenue  
18 and 235<sup>th</sup> Avenue, moving the line from its current location adjacent to the Joy  
19 Ranch Road alignment, south approximately one mile to be adjacent to Cloud  
20 Road ("Proposed Modification 1").

21 III. PROPOSED CORRIDOR MODIFICATION

22 **Q. PLEASE BRIEFLY EXPLAIN THE ENVIRONMENTAL ANALYSIS YOU**  
23 **CONDUCTED TO DETERMINE THE ENVIRONMENTAL IMPACT OF**  
24 **PROPOSED MODIFICATION 1?**

25 A. URS reviewed the inventories conducted and analyses prepared to support the  
26 original application, identified and reviewed information developed since the  
27 project's prior approval, and conducted supplemental field reviews and surveys in  
28 selected locations (for land use, visual, and cultural resources). URS then

1 compared the proposed corridor modification with the prior alignment and its  
2 impacts and evaluated whether the modification resulted in a change to the  
3 anticipated impacts.

4 **Q. DOES CORRIDOR MODIFICATION 1 HAVE AN ENVIRONMENTAL**  
5 **IMPACT? IF SO, WHAT IS THE IMPACT?**

6 A. Yes. The proposed corridor modification would result in a slight increase in  
7 environmental impacts, specifically the visual impacts, in proximity to the  
8 existing residences along Cloud Road. The relocation *away from* the residences in  
9 Thunder Ridge Airpark (just west of 235<sup>th</sup> Avenue) would reduce visual impacts  
10 on the residential viewers from that area from high levels to moderate or even  
11 low levels. The relocation closer to the residences along Cloud Road would  
12 increase visual impacts on the residential viewers from that area to high levels  
13 from moderate levels.

14 **Q. THE DIRECT TESTIMONY OF DONALD C. DUNCAN, WITNESS FOR**  
15 **SFI GRAND VISTA LLC, ALLEGES THAT THE REQUESTED**  
16 **REALIGNMENT FROM JOY RANCH ROAD TO CLOUD ROAD**  
17 **“HEIGHTENS THE IMPACT ON EXISTING AND PLANNED**  
18 **RESIDENCES.” BASED ON YOUR STUDIES, DO YOU AGREE? WHY**  
19 **OR WHY NOT?**

20 A. With respect to existing residences, the relocation closer to Cloud Road would  
21 increase visual impacts on the residential viewers from that area to high levels  
22 from moderate levels. With respect to planned residences, the area along both the  
23 currently certificated and proposed alignment is planned to be residential in the  
24 future, where presence of the transmission line could be considered during final  
25 planning and design of those residences; therefore, impacts on future residences  
26 may not be heightened.

27 **IV. CONCLUSION**

28 **Q. DO YOU HAVE ANY CONCLUDING REMARKS?**

A. Overall, the impacts of the proposed corridor modifications would be similar to  
those contemplated in the original application, with one exception, the area along

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Cloud Road. Despite the increased impact on views from residences in this area, it is my expert opinion that the proposed modifications to CEC 138 corridors would be environmentally compatible.

**Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

A. Yes.

# Attachment 1:

Affidavit of Jennifer  
Frownfelter

STATE OF ARIZONA        )  
  ) ss.  
COUNTY OF MARICOPA    )

**AFFIDAVIT OF JENNIFER FROWNFELTER**

I, Jennifer L. Frownfelter, being duly sworn under oath, depose and state:

1. I am a Vice President for URS Corporation.
2. I served as project manager for the environmental studies prepared for the Certificate of Environmental Compatibility ("CEC") on behalf of Arizona Public Service Company ("APS") for Case No. 138 ("CEC 138"), the Sun Valley to Morgan 500/230kV Transmission Line Project (formerly TS5 to TS9 500/230kV Transmission Line Project) ("Project").
3. I provided testimony for APS during the Arizona Power Plant and Transmission Line Siting Committee ("Committee") hearings concerning the environmental compatibility of the Project.
4. I prepared this affidavit in support of APS's *Application to Amend Arizona Corporation Commission Decision No. 70850*.
5. I am personally familiar with the Project's CEC as well as the proposed changes to modify the certificated corridor in the four specific areas described in APS's application.
6. I directed the environmental studies conducted for the Project's CEC application and have directed the environmental analyses conducted to determine the environmental effects associated with the proposed modifications. The environmental analyses associated with the proposed modifications included reviews of aerial photography, maps, photographic simulations, prior studies and field surveys, and jurisdictional plans for each area. The environmental impacts resulting from the proposed modifications would be similar to impacts contemplated and approved in CEC 138, as described below by requested modification area.

7. **Move a one-mile, north-south section of the corridor to 211<sup>th</sup> Avenue from 235<sup>th</sup> Avenue and a three-mile, east-west section of the corridor between 211<sup>th</sup> Avenue and 235<sup>th</sup> Avenue south one mile so it runs along the southern border of the ASLD parcel rather than through the middle.**

The connection between the intersection of 235<sup>th</sup> Avenue and Cloud Road with the intersection of 211<sup>th</sup> Avenue and Joy Ranch Road, which has been requested by the Arizona State Land Department ("ASLD"), includes relocating approximately four miles of the certificated corridor, with the resultant corridor remaining on undeveloped State Trust land. The area is unincorporated Maricopa County, within the planning area for the City of Surprise. There are no existing developed land uses in the certificated corridor or ASLD-proposed corridor. Future land use has been planned as rural residential according to the Surprise General Plan 2035; no specific development plans have been identified in the area encompassed by both corridors. No developed recreational uses are present; however, a "local trail" has been planned along 211<sup>th</sup> Avenue based on the Surprise Parks and Trails Master Plan (October 2008). Recreational opportunities could be affected, though the transmission line along 211<sup>th</sup> Avenue also could provide an opportunity for provision of the local trail. Therefore, similar, minimal, impacts on land uses and recreational opportunities would result from either corridor alignment.

The north-south segment of the certificated corridor along 235<sup>th</sup> Avenue and proximate to the existing private airstrip and residences of Thunder Ridge Airpark would be eliminated, reducing visual impacts on existing residential viewers at Thunder Ridge from high to moderate or low-moderate levels<sup>1</sup> (five residences are located approximately 0.25 miles west of the western edge of the corridor). The east-west segment of the certificated corridor along the Joy Ranch Road alignment (following along the north side of section lines) also would be eliminated;

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<sup>1</sup> Impact assessment criteria to assign high, moderate-high, moderate, low-moderate, or low ratings derived from CEC application, APS Exhibit B-1, Docket No. L-00000D-08-03300-0138.

however, no additional existing developed uses are present within the certificated corridor or within 0.25 mile. The east-west segment of the ASLD-proposed corridor along Cloud Road would be proximate to existing residential uses just south of Cloud Road near 211<sup>th</sup> Avenue (13 residences within 500 feet), generating high visual impacts on residential viewers based on the addition of dominant structures into their relatively open views to the north. The north-south segment of the ASLD-proposed corridor along 211<sup>th</sup> Avenue would be added, where two existing residences and a communications tower are located within 0.25 mile (east of 211<sup>th</sup> Avenue in Section 31, T6N, R2W). Therefore, high visual impacts would shift from the Thunder Ridge residential area to the residential areas along Cloud Road and 211<sup>th</sup> Avenue. Biological resources along the certificated and the ASLD-proposed corridors are similar in vegetation and wildlife habitat value; therefore, no *additional* impacts on biological resources would be anticipated as a result of selecting the ASLD-proposed corridor in this area.

Cultural resources along the certificated corridor and the ASLD-proposed corridor are anticipated to be similar in nature. Four sites, scatters of historic trash, were discovered during the pedestrian survey of a potential right-of-way within the certificated corridor. These sites were determined ineligible for the National Register of Historic Places and do not warrant preservation. Though the ASLD-proposed corridor has not been similarly surveyed, the results of nearby cultural resource surveys indicate the area has low cultural resource sensitivity with little potential for unrecorded archaeological or historical sites that would be eligible for the National Register of Historic Places. Therefore, no *additional* impacts on cultural resources would be anticipated as a result of selecting the ASLD-proposed corridor in this area.

**8. Expand the corridor between 171<sup>st</sup> Avenue and 179<sup>th</sup> Avenue (south of State Route 74) so corridor runs in straight alignment with section line.**

The corridor expansion requested near 179<sup>th</sup> Avenue, just south of State Route 74, in Section 26, T6N, R2W, includes State Trust land administered by ASLD. This proposed corridor

expansion area is within the City of Peoria. There are no existing developed land uses in the proposed corridor expansion area. Future land use has been planned as low density residential according to the Peoria General Plan (2012). The expanded corridor in this location would allow APS to construct the transmission line with a straight alignment along the southern boundary of Section 26, potentially resulting in fewer transmission structures, fewer turning structures, and the need for less right-of-way for the Project. Therefore, the proposed corridor expansion would allow for a minimal, and beneficial, impact on future land uses. Visual impacts, while remaining high due to proximity of sensitive viewers along SR 74, also would be slightly reduced due to the potential reduction in the number of total structures, as well as turning structures.

Biological resources within the expansion area are similar in vegetation and wildlife habitat value to those resources within the adjacent and certificated corridor. Expansion of the corridor in this area could provide a straight alignment for construction and potentially lessen physical disturbance. Cultural resource surveys of this area were conducted in 1988 and no sites were found. Therefore, no *additional* impacts on biological or cultural resources would be anticipated as a result of expanding the corridor in this area.

**9. Modify the corridor near the Morgan Substation to allow APS flexibility to design the connection into the substation in a more efficient manner.**

The corridor expansion requested near the Morgan Substation, which encompasses a majority of the south half of Section 33, T6N, R1E, include State Trust land administered by ASLD, as well as federal land administered by the Bureau of Reclamation (along the Waddell Canal). This proposed corridor expansion area is within the City of Peoria. Existing developed land uses in the proposed corridor expansion area include the Waddell Canal and Morgan Substation. Future land use has been planned as mixed-use/low-density residential, with some medium-density residential, and open space – though all of these future uses have been overlaid

with a utility corridor within the Peoria General Plan (2012). The expanded corridor in this location would allow APS to more efficiently design and construct the transmission line allowing flexibility for crossing both the Beardsley and Waddell canals and the transmission line connecting into the Morgan Substation. These design considerations could potentially result in fewer transmission structures, fewer turning structures, and the need for less right-of-way for the Project – factors that may reduce ground disturbance and associated environmental impacts. Given the existing and planned uses, including the electrical infrastructure in the area, the proposed corridor expansion for this Project would have negligible *additional* impacts on existing and future land uses, and could potentially have a minimal, beneficial impact on future land uses. For reasons similar to those for impacts on land uses, negligible *additional* impacts on visual resources would occur as a result of the proposed corridor expansion for this Project in this area. Impacts on visual resources would remain moderate, similar to those already contemplated and approved, due to proximity of sensitive viewers along SR 74 and the introduction of another series of transmission structures.

Biological resources within the expansion area near Morgan Substation are similar in vegetation and wildlife habitat value to those resources within the adjacent certificated corridor. Expansion of the corridor in this area could provide opportunities to lessen disturbance by routing the transmission line into the substation farther north than would be possible with the presently approved corridor. This could reduce impacts on biological resources. Cultural resources in the area include one archaeological site that was previously recorded, but it was recommended ineligible for the National Register of Historic Places. Supplemental pedestrian survey west of Morgan Substation discovered no other archaeological or historical sites. The area east of Morgan substation has not been intensively surveyed for cultural resources, but that area is unlikely to be disturbed and nearby surveys indicates the area has low cultural resource

sensitivity. Therefore, no *additional* impacts on biological or cultural resources would be anticipated as a result of expanding the corridor in this area.

**10. Expand the corridor near the Sun Valley Substation so the 500kV and 230kV transmission lines cross the CAP canal directly adjacent to and parallel with the transmission lines authorized in CEC 127.**

The corridor expansion requested near the future Sun Valley Substation, which encompasses a small portion of Sections 20 and 29, T4N, R4W, includes private land where APS already has acquired land rights in association with the West Valley-North 230/69kV Transmission Line Project (Case No. 127, Decision No. 67828, collectively "CEC 127"). This proposed corridor expansion area is within the City of Buckeye. There are no existing developed land uses in the proposed corridor expansion area. Future land use will be developed in accordance with a Community Master Plan for Festival Ranch; however, this specific area already has been partially encumbered with an easement for the West Valley-North 230/69kV Transmission Line, and that transmission line will be a future use in the area. Expansion of the corridor would provide the opportunity to locate the Sun Valley to Morgan 500/230kV Transmission Line right-of-way adjacent to the right-of-way for the West Valley-North 230/69kV Transmission Line. Therefore, the proposed corridor expansion would allow for a minimal, and beneficial, impact on future land uses. Visual impacts would remain low-moderate, similar to those already contemplated and approved, due to the lack of sensitive viewers in the area.

Biological resources within the expansion area are similar in vegetation and wildlife habitat value to those resources within the adjacent certificated corridor. Cultural resource surveys of this area were conducted in 2003 and 2004 and no sites were found. Consolidating rights-of-way could reduce disturbance overall; therefore, no *additional* impacts on biological or cultural resources would be anticipated as a result of expanding the corridor in this area.

11. It is my expert opinion that the proposed modifications to CEC 138 corridors would be environmentally compatible.

DATED this 16 day of July, 2014.

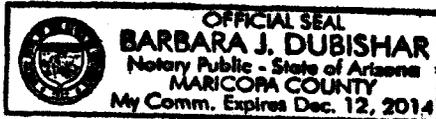
  
Jennifer L. Crownfelter

Sworn to and subscribed before me this 16<sup>th</sup> day of July, 2014.

  
Notary Public

My Commission expires:

Dec. 12, 2014



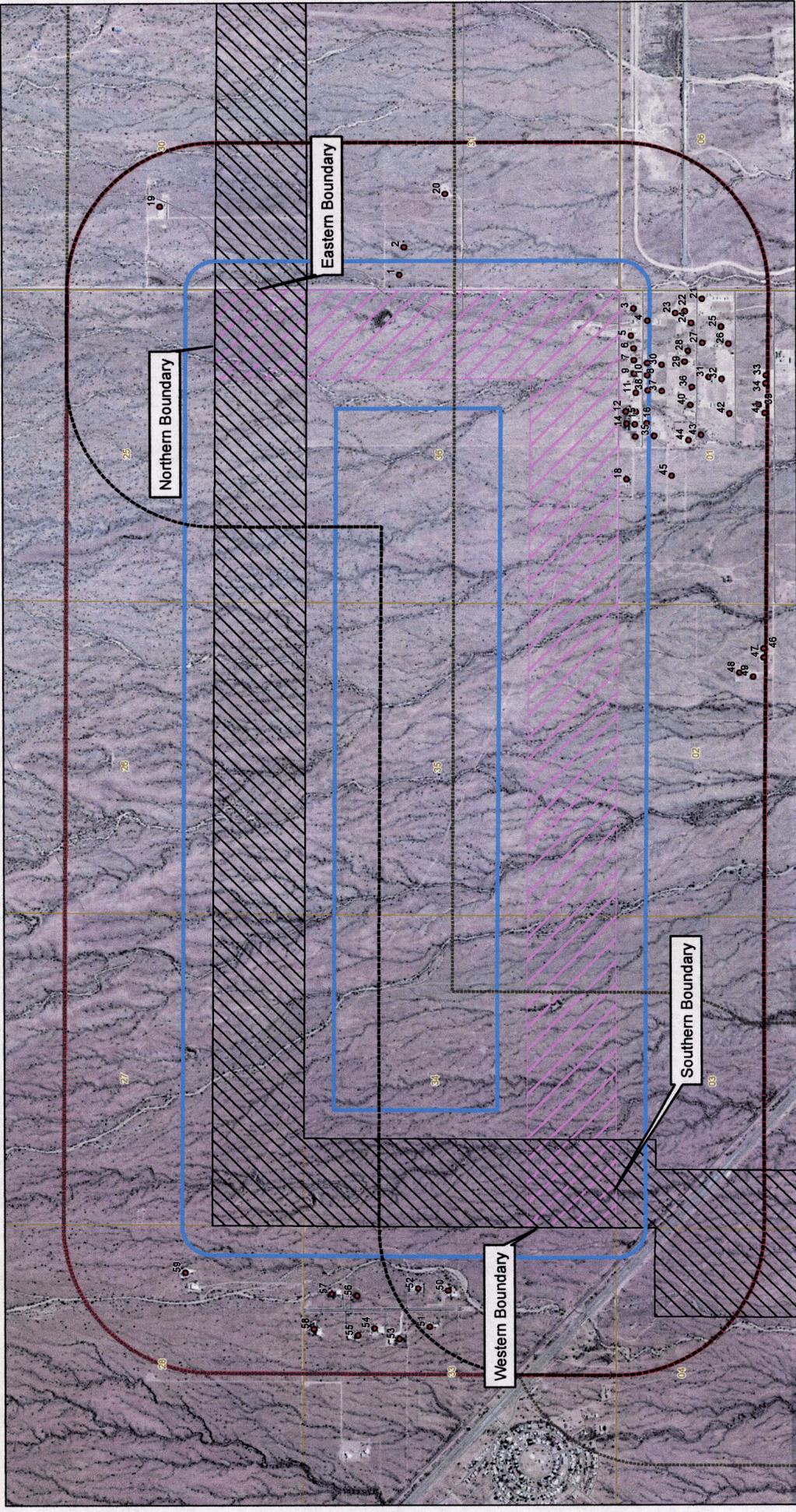
APS-4:

Map labeled APS15694

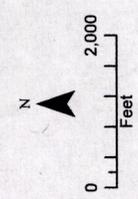


APS-5:

Map labeled APS15695



- Legend**
- Residences
  - ◻ ASLD Proposed Corridor
  - ◻ Approved Plan/Certified Corridor (CEC 138)
  - ◻ 2500-foot Buffer of Proposed Route
  - ◻ 2500-foot Buffer of Certified Route
  - ◻ 500-foot Buffer

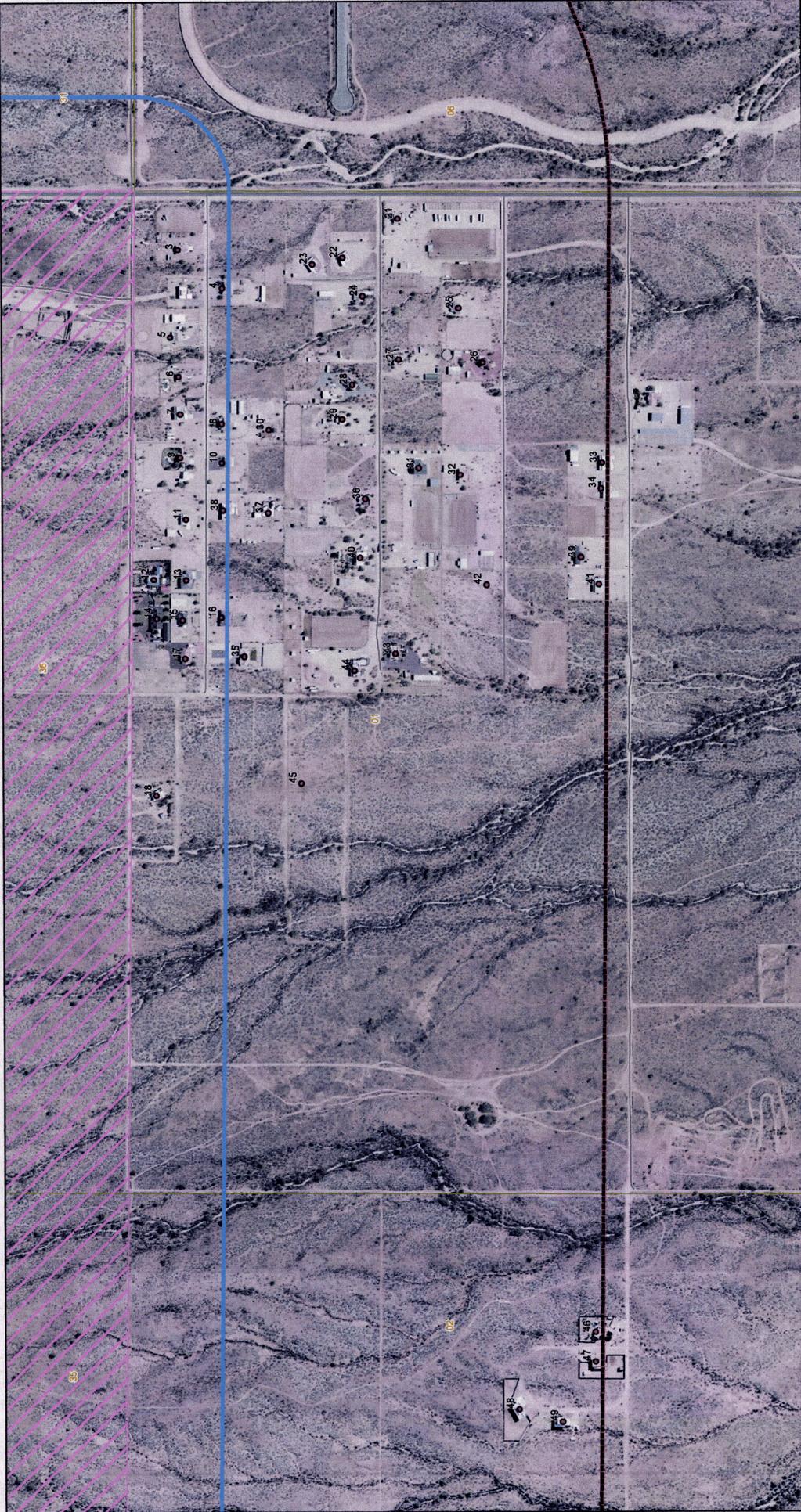


Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community  
 Parcel Data: Maricopa County Assessor 2014

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# APS-6:

Map labeled APS15696



- Legend**
- Residences
  - ASLD Proposed Corridor
  - ▨ Approved Plan/Certificated Corridor (CEC 138)
  - ▨ 500-foot Buffer
  - ▨ 2500-foot Buffer
  - ▨ 2500-foot Buffer of Proposed Route
  - ▨ 2500-foot Buffer of Certificated Route

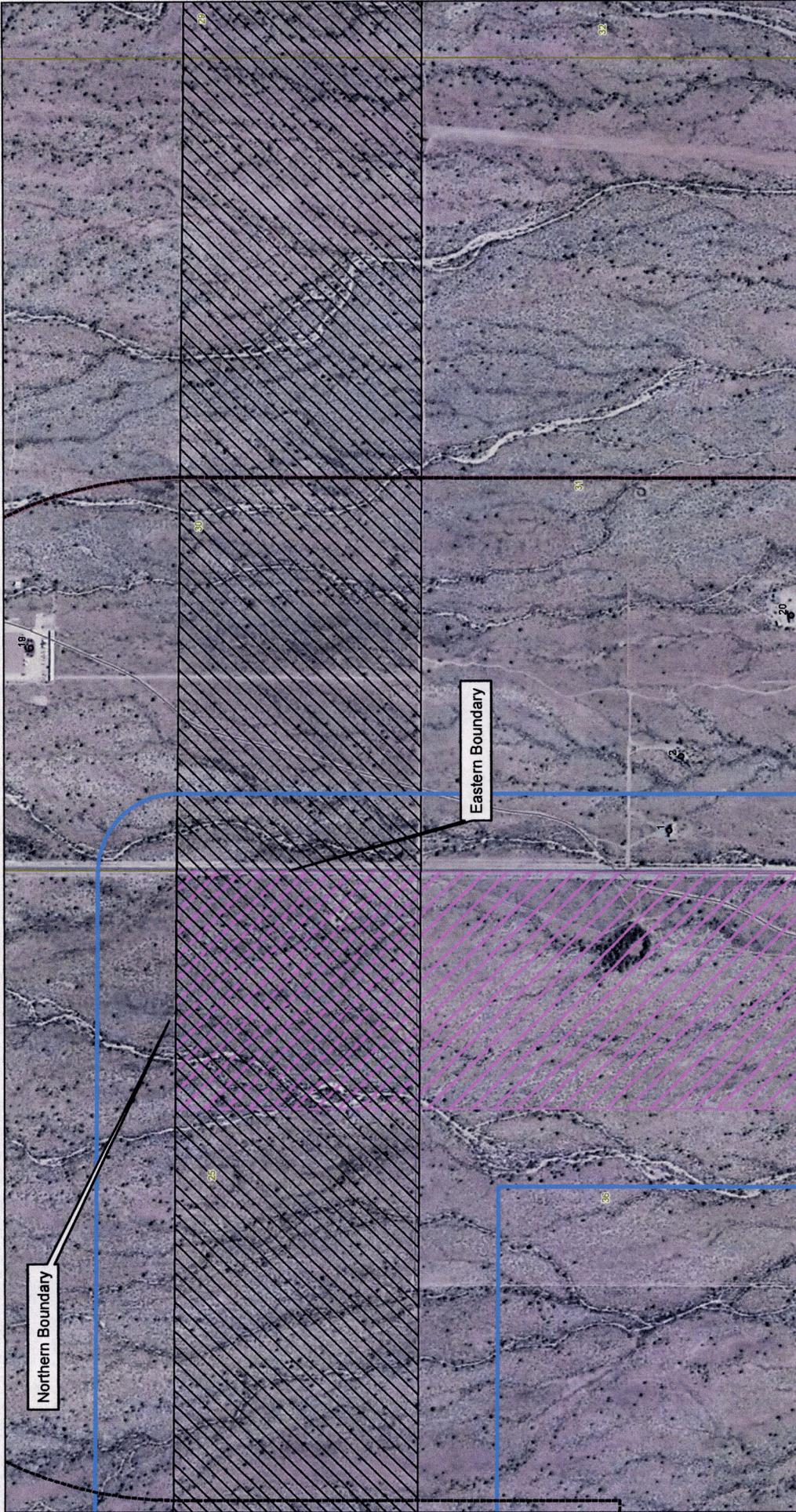


Services Layer Credits: Source: Esri, DigitalGlobe, GeoEye, IGN, USDA, USGS, AEX, CNR, GeoEye, IGN, IGP, swisstopo, and the GIS User Community  
 Parcel Data: Maricopa County Assessor 2014

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APS-7:

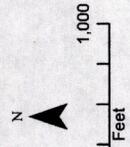
Map labeled APS15697



Northern Boundary

Eastern Boundary

- Legend**
- Residences
  - ◻ ASLD Proposed Corridor
  - ◻ Approved Plan/Certificated Corridor (CEC 138)
  - ◻ 500-foot Buffer
  - ◻ 2500-foot Buffer
  - ◻ 2500-foot Buffer of Proposed Route
  - ◻ 2500-foot Buffer of Certificated Route



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community  
 Parcel Data: Maricopa County Assessor 2014

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APS-8:

Spreadsheet labeled APS15698

Setback Distances	
1	270
2	739
3	233
4	467
5	196
6	240
7	249
8	469
9	249
10	471
11	283
12	115
13	287
14	132
15	268
16	471
17	283
18	136
19	935
20	1,633
21	1,388
22	1,098
23	940
24	1,204
25	1,710
26	1,840
27	1,398
28	1,154
29	1,101
30	716
31	1,507
32	1,726
33	2,471
34	2,467
35	593
36	1,225
37	715
38	478
39	2,363
40	1,199
41	2,459
42	1,866
43	1,389
44	1,174
45	899
46	2,464
47	2,466
48	2,065
49	2,294
50	1,072
51	1,689
52	1,040
53	1,902
54	1,720
55	1,847
56	1,170
57	1,145
58	1,741
59	908