



February 8, 2013

Mr. Joe Incardine, National Project Manager  
Ms. Kathy Depukat, BLM Phoenix District Office  
c/o Hassayampa Field Office  
21605 N. 7<sup>th</sup> Avenue  
Phoenix, Arizona 85027-2929

Mr. Rem Hawes, Field Manager  
BLM Phoenix District Office  
Hassayampa Field Office  
21605 N. 7<sup>th</sup> Avenue  
Phoenix, Arizona 85027-2929

RE: Draft Environmental Impact Statement for Proposed Sun Valley to Morgan 500/230kV Transmission Line Project and Draft Bradshaw-Harquahala Resource Management Plan Amendment [Reference 1610 (PO10/9100)]

Dear Mr. Incardine, Ms. Depukat, Mr. Hawes:

## I. INTRODUCTION

Diamond Ventures, Inc. ("Diamond Ventures"), the owner of Saddleback Heights, appreciates this opportunity to submit comments on the United States Department of the Interior, Bureau of Land Management's (BLM) Draft Environmental Impact Statement (DEIS) for the Proposed Sun Valley to Morgan 500/230kV Transmission Line Project ("Transmission Line" or "Project"), and the Draft Bradshaw-Harquahala Resource Management Plan (BHRMP) Amendment. Diamond Ventures requests that this comment letter and the attached referenced materials be included as part of the administrative record in this matter.

Saddleback Heights is a master planned community in Peoria, Az. By Peoria City Council adoption of Ordinance No. 02-98, for zoning case Z 02-04, Saddleback Heights was rezoned to a Planned Community District. The 6,052 acre Saddleback Heights' PCD is comprised of 5,296 private acres and 756 acres of State Land. Upon build-out, the Saddleback Heights community is estimated to be home to more than 12,000 residents. It is bounded by State Highway 74 on the north and Carefree Highway and Dove Valley Road alignments on the south. The western boundary is

163<sup>rd</sup> Sarival Avenue alignment and the eastern boundary is 123<sup>rd</sup> Avenue, El Mirage Road.

Planned land uses within Saddleback Heights include: Residential Estate, Low Density Residential, Medium Density Residential, Resort Development Overlay, Town Center Overlay/Community Commercial, Mixed Use Development, Public Facilities, Schools, Fire Protection, Law Enforcement, Water, Wastewater, Streets, Public Services, Parks, Active Recreation including Golf Courses, Trails, and Contiguous Open Space. Elevation within Saddleback Heights varies from 1,600' to 2,300', with the majority of the property ranging from 1,800' to 2,100'.

The DEIS arises from an application from the Arizona Public Service (APS) to construct, operate, maintain, and decommission the Project (the "Proposed Action"). The commercial life of the transmission line would be 30 years or longer. The Project would be located on BLM, State Trust, and private lands in Maricopa County, northwest of Phoenix, Arizona and would be within a route certified by the Arizona Corporation Commission (ACC)("ACC Certified Route"). Specifically,

[t]he Proposed Action route follows the CAP canal for approximately two miles, portions which are on BLM land and within an existing BLM designated utility corridor, to approximately the 275th Avenue alignment. The route then turns northwest for approximately two miles following an existing 500kV transmission line. At the Happy Valley Road alignment the route turns north for approximately 4.5 miles, then east for approximately five miles paralleling the Lone Mountain Road alignment to the north. The route then turns north following 235th Avenue for approximately 3.5 miles then east following the Joy Ranch Road alignment, for approximately seven miles until it approaches SR 74. **The route parallels the south side of SR 74 for approximately two miles before crossing and paralleling SR 74 to the north on BLM-managed public land for approximately five miles.** The route again crosses SR 74 to parallel the south side of the highway for approximately three miles, crossing the Agua Fria River. The route then turns south for one mile, and turns east for less than one mile following the Cloud Road alignment to connect to the Morgan Substation.

DEIS, ES § 4.1. (Emphasis added.)

The DEIS identifies as the Agency Preferred Alternative (the "Preferred Alternative") the Proposed Action. Under the Agency Preferred Alternative, BLM would approve a 200-foot wide ROW within the existing designated corridor northeast of the Sun Valley Substation within the ACC Certified Route ("Preferred Alternative Route"). BLM would also amend the BHRMP to: (1) designate a 200-foot wide single-use utility corridor on public lands managed by BLM north of SR 74; (2) designate a multiuse utility corridor on 1,013 acres of public land managed by the BLM south of SR 74 to address potential future BLM management considerations; and (3) change the existing Visual

Resource Management (VRM) Class designations of 2,362 acres north of SR 74 and 1,013 acres south of SR 74 from Class III to Class IV to allow for the newly established corridors.

In addition to the Proposed Action, the DEIS analyzes three Action Alternatives and a No Action Alternative: (1) Alternative 1 – Proposed Action with Additional Corridor; (2) Alternative 2 – ROW South of SR 74; and (3) Alternative 3 – Carefree Highway Route; and Sub-alternative: State Trust Land Route Variation. The residential neighborhoods of the Saddleback Heights Planned Community are somewhat impacted by Alternative 1, and are directly impacted by Alternative 2 and Alternative 3. The No Action Alternative, Alternative 2, Alternative 3 and the Sub-alternative would require the ACC to consider action as provided by A.R.S. § 40-252, (Rescission or amendment of orders by commission; collateral attack on final orders or decisions prohibited.)

Under the No Action Alternative, BLM would not issue a ROW, the BHRMP would not be amended, and the transmission line would not be constructed as described in the Proposed Action or Action Alternatives.

Alternative 1 would be the same route as described in the Proposed Action, but a multiuse utility would be established on BLM-managed lands that would begin at the centerline of SR 74 and extend 0.5 miles north, and include the entire key-shaped block of BLM lands south of SR 74. The BHRMP would also be amended to designate the entire area contained within the multiuse corridor from VRM Class III to VRM Class IV.

Alternative 2 would reduce the amount of BLM lands impacted by the Project and move the line onto private lands. Under Alternative 2, a five-mile long segment that parallels the south side of SR 74 from the 163<sup>rd</sup> Avenue alignment to west of the El Mirage Road alignment on private land would replace approximately a five-mile long segment of the Proposed Action north of SR 74 on BLM lands. Other than this five-mile long segment, Alternative 2 would follow the Proposed Action route. Alternative 2 would also amend the BHRMP per the Preferred Alternative. DEIS, § 2.5.2., 2-26.

Alternative 3 was designed apparently to eliminate the need to for an amendment to the BHRMPA and to reduce the amount of BLM land that would be impacted by the Project. By doing so, it would move the Project onto private lands planned for residential and commercial land uses. Specifically, it would replace an approximately seven-mile long segment of the Proposed Action route north and south of SR 74 from the 179<sup>th</sup> Avenue alignment to the Morgan Substation by using the Carefree Highway alignment as set forth in Figure 2.5-1a. Besides the seven-mile long segment, all other segments of Alternative 3 route would remain within the ACC-certified route and would follow the Proposed Action route. No new corridors would be designated on BLM-managed public lands under Alternative 3 and no changes to existing VRM classifications would be necessary. As a result, there would be no need for an amendment to the RHMPA. DEIS, § 2.5.3, 2-28.

The Sub-alternative route would replace a four-mile section of the Proposed Action route common to all Action Alternatives. The Sub-alternative route would begin at the intersection of 235th Avenue and the Cloud Road alignment, just north of US 60. From there, the Sub-alternative would parallel the north side of the Cloud Road alignment, east for three miles to the intersection with 211th Avenue. The Sub-alternative would then parallel the west side of 211th Avenue for one mile north, where it would rejoin the portion of the Proposed Action route that is common to all Action Alternatives at the Joy Ranch Road alignment. Importantly, the entire four-mile length of the Sub-alternative route would be outside the ACC-certificated route. § 2.5.4, 2-29.

As discussed in more detail below, Diamond Ventures supports the Preferred Alternative Route for the Transmission Line because it would: (1) further the national policy of promoting renewable energy and increasing reliability of the electric grid; (2) create jobs; (3) protect private property; (4) be consistent with state and local planning; and (5) promote the multiuse of a BLM designated corridor.<sup>1</sup> Diamond Ventures, however, does not support the amendment of the BHRMP as provided for in the Preferred Alternative because the amendment is not consistent with the ROW application, sufficient rationale and analysis is not included in the DEIS, private property surrounds the 1,013 acres and the DEIS states that there would be a change in management of lands by BLM. Co-location and future development projects could occur in the 1,013 acre multi-use corridor with accompanying impacts to resources. Diamond Ventures' is concerned that certain aspects of the proposed BHRMP amendment are unnecessary and could negatively impact private properties and recreationists, including Saddleback Heights.

Finally, in preparing the FEIS, BLM must correct and/or address a number of discrepancies, inconsistencies, deficiencies, omissions, and errors in the DEIS, which are outlined below. Foremost among them, the FEIS must not characterize reasonably foreseeably development such as Saddleback Heights as "vacant" or "undeveloped" land when considering the environmental impact the transmission line alternatives will have on the fifteen identified resources on private property.

## **II. THE FEIS SHOULD ADOPT THE PREFERRED ALTERNATIVE ROUTE.**

- A. The Project is in the Public Interest and Consistent with the National Policy of Promoting Renewable Energy, Creating Jobs, and Protecting Private Property Rights.

- 1. The Project is in the Public Interest

---

<sup>1</sup> The BHRMPA defines "designated corridor" as:

BLM's preferred route for placing rights-of-way for utilities (i.e. pipelines and powerlines) and transportation (i.e. highways and railroads).

"A decision approving a right-of-way application must be made upon a reasoned analysis of the factors involved in the right-of-way, with due regard for the public interest." Desert Survivors, 96 IBLA 193, 196 (1987). After an extensive public process and environmental review, the ACC found that "the project is in the public interest because it aids the state in meeting the need for an adequate, economical and reliable supply of electric power." ACC Decision No. 70850 (Mar. 17, 2009) (emphasis added).

The United States Department of Energy ("DOE") also recognized the need for the project in its 2009 National Electric Transmission Congestion Study. DOE's 2006 National Electric Transmission Congestion Study identified the Phoenix-Tucson area as a "Congestion Area of Concern." P. 40. The 2009 DOE study, however, found that the Phoenix-Tucson area is no longer a Congestion Area of Concern. P. 98, Table 5-6. DOE based its conclusions, in part, on APS's Project.

In addition, members of the Arizona congressional delegation have stated that:

[t]he installation of the TS-5 to TS-9 electric transmission line by its scheduled in-service date is essential for the elimination of electric transmission congestion and for furthering the development and conveyance of renewable energy, including the numerous solar energy ROW applications pending on BLM lands. BLM's acceptance of the APS ROW application for this line will address area-wide constraints and restrictions for energy transmission, and the need for enhanced redundancy and reliability. The TS-5 to TS-9 transmission line per the ACC decision will better promote the long-term sustainability of the population and environment in Arizona."

Letter to BLM from United States Representatives Giffords, Franks, and Pastor (Jul. 1, 2010).

As evidenced by the ACC proceedings and the 2009 DOE Study, the Transmission Line is in the public interest because it satisfies a critical energy need in the region. Moreover, the ACC proceedings, themselves, constitute a significant effort of broad community negotiation, compromise and agreement on behalf of a state to identify the public interest. Consequently, the adoption of the Preferred Alternative Route in the FEIS will further the public interest by allowing the Project to proceed.

2. The Preferred Alternative Furthers the National Policy of Promoting Renewable Energy, Creating Jobs, and Protecting Private Property Rights.
  - i. The Project is Necessary for the Development of Renewable Energy in the Southwest.

In 2009 and 2010, the Secretary of the U.S. Department of the Interior stated that "[e]ncouraging the production, development, and delivery of renewable energy is one of the Department's highest priorities." Secretarial Order No. 3285 (2009), Secretarial Order No. 3285A-1 (2010). On January 28, 2010, Secretary Salazar reaffirmed this

policy before the United States Senate Environment and Public Works Committee, testifying that:

Renewable energy development is one of President Obama's highest priorities.

We must recognize that the development of transmission capacity for this new energy production is a crucial element. Developing solar and other renewable energy resources, which are often located in remote areas, will require new transmission capacity to bring this clean energy to the population centers where it is needed.

Solar Energy Technology and Clean Energy Jobs: Hearing Before the S. Comm. on Environment and Public Works, 111th Cong. (2010) (statement of Ken Salazar, Sec. of the Interior) (emphasis added).

The BHRMP itself provides: "[w]henever possible, promote energy transfer efficiency and support alternative energy sources. . . ." See Management Action LR-17. Moreover, Section 211 of the Energy Policy Act encourages the siting of renewable energy projects on public lands. Pub. L. 109-58 (2005).<sup>2</sup>

The importance of transmission right-of-way approvals on Federal Land was recognized by Congress upon 2005 adoption of the Energy Policy Act. Pursuant to Section 1221(b), Reports to Congress on Corridors and Rights of Way on Federal Lands, of Section 1221, Siting of Interstate Electric Transmission Facilities, in Title XII of the Energy Policy Act of 2005, Public Law 109-58, Congress requested that the Secretaries of Agriculture, Energy, and Interior and the Chairman of the Council of Environmental Quality prepare a report identifying all existing transmission and distribution corridors on Federal Land, the status of work related to proposed transmission and distribution corridor designations under Title V of the FLPMA and any impediments to completing the work, the number of pending applications to locate transmission facilities on Federal land; and the number of existing transmission and distribution rights-of-way on Federal land that will come up for renewal within the next 5, 10 and 15-year periods and how those renewals will be managed.

As noted, the Transmission Line would provide a vital link between the Phoenix metropolitan area and renewable energy projects in Arizona. "The proposed 500-kV portion of the project would strengthen the reliability of the regional 500-kV system and could facilitate delivery of renewable energy resources to load centers, such as the Phoenix metropolitan area." 76 Fed. Reg. 69 (Apr. 11, 2011) (emphasis added). The

---

<sup>2</sup> Section 211 provides:

It is the sense of the Congress that the Secretary of the Interior should, before the end of the 10-year period beginning on the date of enactment of this Act, seek to have approved non-hydropower renewable energy projects located on the public lands with a generation capacity of at least 10,000 megawatts of electricity.

Staff Brief in the ACC proceeding also noted that the proposed ROW will "contribute to APS's ability to access renewable energy generation that is anticipated to interconnect through the Palo Verde Hub, thereby facilitating APS' ability to comply with its Renewable Energy Standard requirements." Staff Brief, p. 3.

To be consistent with federal renewable energy policy, the FEIS should reflect the fact that the Project would assist the region in meeting the national policy of providing renewable energy. The FEIS must also evaluate the amount of time and resources each alternative will take to proceed through any State or local permitting processes compared to the Preferred Alternative given the Department of the Interior's interest in expeditiously increasing the amount of renewable energy generation and transmission.

ii. The Project Will Assist in the Creation of Jobs and the Protection of Private Property Rights.

In the recent austere economic times, job creation is essential to the recovery of the national economy, especially areas that were the most hard-hit in the years between 2007 to 2009 such as in the American Southwest. Adopting the Preferred Alternative Route will accelerate the creation of jobs for the region in the construction of the Transmission Line and the potential for development of renewable energy generation sites, facilitating the construction of homes and commercial, retail, office, industrial, civic buildings will create both temporary employment as well as permanent jobs and will generate revenue for the region in fees and taxes. Therefore, the FEIS should consider the positive effect the Transmission Line will have on the local economy and job creation. The FEIS must also consider the reasonably foreseeable timing of those jobs compared to other DEIS alternatives.

In addition, if a high voltage transmission line such as the one associated with the Project is located on private lands as proposed in Alternatives 2 and 3, it will forestall certain phases of the development and adversely impact the assessed value of residential and commercial properties on privately-owned land. To be consistent with national policy, public lands should be used for public purposes such as the production of renewable energy. See P.L. 109-58, § 211. Private land owners should not bear the burden of implementing the Administration's policy when a suitable and designated corridor already exists on public land for the Transmission Line.

Moreover, siting the Transmission Line within the Preferred Alternative Route on public lands would lessen homeowners' concerns regarding the potential public safety and health risks associated with prolonged exposure to a high voltage transmission line. Accordingly, to preserve property values and to avoid any public safety and health fears, the FEIS should adopt the Preferred Alternative Route.

B. To be Consistent with Federal and State Policy Regarding Joint Use Corridors, the FEIS Should Adopt the Preferred Alternative Route.

The Bureau of Land Management 2800 Manual Handbook IM Series Rights-of-Way provides policy, procedures, and guidance for managing ROWs on public land so as to “minimize the proliferation of separate rights-of-way; promote sharing of rights-of-way with respect to engineering and technological compatibility, national security and land use planning; and promote efficiency in granting rights-of-way.” § 2801.

Under the BHRMP, BLM is required to “[e]ncourage joint use whenever possible.” § 2.3.5.2.2. It further provides that “[t]he designated transportation corridor may be suitable to accommodate more than one type of right-of-way use or facility or one or more right-of-way uses or facilities which are similar, identical, or compatible.” § 2.3.5.1, LR-3. BLM's Standard Operating Procedures for Utility and Transportation Corridors provide that “[t]ransportation routes . . . should be co-located with utilities in designated corridors to the maximum degree possible.” A.6.2.

With respect to the Transmission Line, the Arizona Department of Transportation (“ADOT”), which has the transportation easement within the Bradshaw-Harquahala Planning Area, indicated that “[b]ased on the information provided, the Department does not see any conflicts with the placement of this line adjacent to our future right-of-way easement needs as identified in the ADOT SR 74 Feasibility Report, Right-of-Way Preservation.” Letter from Robert Samour, Deputy State Engineer, ADOT, to BLM (Dec. 7, 2010).

The Preferred Alternative Route is within an existing one-mile wide designated corridor on BLM lands, and ADOT has indicated that the Transmission Line would be a compatible use within its transportation easement. The shared use of the designated corridor with the Transmission Line would also minimize any environmental disturbance associated with the line. Therefore, to be consistent with federal land policy and to minimize any environmental negative impacts associated with the corridor, the FEIS should adopt the Preferred Alternative Route.

The FEIS should also consider the impact each alternative would have on the on the planned uses of SR 74. Indeed, “[t]he Northwest Valley has experienced record growth in recent years and plans for future commercial and residential development of parcels along the SR 74 corridor are already underway. Recognizing the projected growth, funding was included in the Regional Transportation Plan (RTP) for preservation of right of way along SR 74 to meet future projected traffic demands, as well as the construction of passing lanes along some segments of SR 74.” See ([http://www.azdot.gov/Highways/Valley\\_Freeways/SR74/Background.asp](http://www.azdot.gov/Highways/Valley_Freeways/SR74/Background.asp)). See also ADOT SR 74 Feasibility Report (2010). Therefore, the FEIS should consider each alternative’s impact on the planned capital improvements, use, and expansion of SR 74.

#### C. The Preferred Alternative Route Reflects BLM's Regulations, Which Encourage Consensus-Based Management.

For BLM activities subject to NEPA analysis, BLM encourages consensus-based management, from initial scoping to implementation of the bureau decision. 43

C.F.R. § 46.110. "In incorporating consensus-based management in the NEPA process, bureaus should consider any consensus-based alternative(s) put forth by those participating persons, organizations or communities who may be interested in or affected by the proposed action." In addition, ". . . bureaus must be able to show that the reasonable consensus-based alternative, if any, is reflected in the evaluation of the proposed action and discussed in the final decision." Id. "The Responsible Official must, whenever practicable, use a consensus-based management approach to the NEPA process." Id. "If the Responsible Official determines that the consensus-based alternative, if any, is not the preferred alternative, he or she must state the reasons for this determination in the environmental document." Id.

In this case, the ACC has already conducted an extensive review process that properly determined that the Transmission Line should be sited within the existing SR-74 designated corridor. The ACC process was conducted with rigor and extensive participating involving multiple parties. Indeed, as part of the ACC proceedings, 18 separate parties intervened and the Arizona Power Plant and Transmission Line Siting Committee ("Committee") held 16 days of public hearings in 2008, which resulted in 3,600 pages of transcript. Following the Committee process, the ACC held hearings on the Committee's recommendation for three additional days including one day dedicated to public testimony. See Letter from ACC to Mr. Jim Kenna of BLM, dated December 8, 2010.

In addition, ADOT has indicated that the Transmission Line would not pose a conflict for the use of BLM's one-mile wide SR-74 designated corridor. Moreover, there is broad community consensus regarding the ACC Certified Route as evidenced by the adopted and approved land use and infrastructure plans that are compatible with the ACC Certificated Route and APS ROW application. See also Peoria Parties' Appeal Answer to APS's Notice of Appeal and Statement of Reasons for Appeal (July 20, 2010); Letter from Blackstone at Vistancia Community Association to BLM (Dec. 6, 2010); Letter from Vistancia Village Corporation to BLM (Dec. 6, 2010); City of Peoria General Plan, 2010.

Support for the Project in the Proposed Action Alternative has been received from the Arizona Senators and Congressional Representatives, State Agencies, Regional Transportation Planning Organizations, the Solar Industry, Utility Companies and Utility Contractors, Electric Workers' Union, Conservation Organization, Economic Development and Business Membership Organizations, Private Property Owners, Developers, Master-Planned Community Associations, Homebuilders, Cities and Individual Citizens.

Accordingly, the FEIS should give considerable weight to the ACC proceedings and decision as well as the significant community support for the Preferred Alternative Route that has been consistent from 2010 forward. The FEIS should also recognize that any other action is likely to significantly delay the implementation of this line by increasing the needed review time at both the state and local level by essentially restarting the approval processes with entities such as the ACC. Indeed, given the

procedural history of this Project, restarting the process would likely delay the Project by years. Cf. A.R.S. §40-252.

**D. The Alternatives to the Preferred Alternative Route Would Negatively Impact Saddleback Heights**

As noted, Saddleback Heights is a 6,052 acre master-planned community comprised of 5,296 privately owned acres and 756 acres of State Land adjacent to SR 74 in Peoria, Arizona. Saddleback Heights is designed to create a blend of residential, commercial mixed-use and recreational uses that respond to the diverse landforms of the property and create a well-balanced desert community integrated into the north Peoria neighborhoods created by adjacent master-planned communities. The DEIS recognizes that a total of 102.72 acres of land in the Saddleback Heights development would be located within 200 feet of the ROW and that it is a reasonably foreseeable development in the cumulative impact area. See DEIS, Appendix 4B, § 4-104.

Of the alternatives analyzed, the Preferred Alternative Route would have the least negative impact on Saddleback Heights. Indeed, both Alternatives 2 and 3 reduce the amount of BLM-managed public lands that would be impacted by moving the Transmission Line onto private lands planned for residential and commercial development such as Saddleback Heights. See DEIS, §§ 2.5.2. and 2.5.3. Although Alternative 1 would use the same route as the Preferred Alternative, it would establish a multiuse utility corridor on BLM-managed lands that would begin at the centerline of SR 74 and extend 0.5 mile north, and also include the entire block of BLM lands south of SR 74, potentially allowing for uses incompatible with residential and commercial development. Therefore, of the four alternatives, the Preferred Alternative Route is the least impactful to reasonable foreseeable developments such as Saddleback Heights. Consequently, the FEIS should adopt the Preferred Alternative Route.

**III. THE PROPOSED BHRMP AMENDMENT IS NOT CONSISTENT WITH THE PROPOSED ACTION AND ASPECTS ARE UNNECESSARY AND COULD IMPACT PRIVATE PROPERTY.**

**A. The Right of Way Can and Should be Granted without an Amendment to the RMP.**

As noted, under the Preferred Alternative, BLM would amend the BHRMP because the DEIS claims that “a utility corridor for the proposed ROW on public land within the certified route approved by the ACC along SR 74 was not established and high-voltage transmission lines crossing public land are required to be within the designated utility corridors under the current RMP. In addition, the VRM Class designation would need to be amended from VRM Class III to VRM Class IV for those public lands where views would be dominated by the transmission line, and thus not meet the current VRM objectives.” DEIS, ES 1-2.

An amendment, however, to the BHRMP is unnecessary. The Impact Indicator in the Draft EIS notes that the Proposed Action has *Negligible* conflict with the Authorized Use of the BLM Transportation Corridor. The BHRMP provides: "[t]he Approved RMP may be changed, should conditions warrant, through a plan amendment. A plan amendment may become necessary if major changes are needed or in consideration of a proposal or action that is not in conformance with the plan." § 2.11.7 (emphasis added.) Here, however, the siting of the Transmission Line would not be a "major change" to the use or to BLM's policy. The BHRMP provides that BLM is encouraged to use joint uses of existing corridors and promote renewable energy. The route selected in the Preferred Alternative fits squarely within these directives. Consequently, it would not be a "major change" for the FEIS to adopt the Preferred Alternative. 43 CFR 1610.5-4 provides that resource management plans and supporting components may be changed by a Maintenance Action to reflect minor changes in data and to further refine or document a previously approved decision incorporated in the plan. Corrections and minor clarifications of resource management plans are also recorded by errata.

Moreover, the BHRMP fosters adaptive management by "the presentation of desired future conditions that focus on reaching outcomes rather than identifying inflexible standards and prescriptions that may not be applicable situations." § 2.12.2. The plan further provides that "[w]hen land use plan actions or best management practices are found to ineffective, modifications may occur without amendment of the plan as long as assumptions and impacts disclosed in the analysis remain valid and broad-scale goals and objectives are not changed." *Id.* (emphasis added).

As described above, the Transmission Line is clearly consistent with the BHRMP's broad-based goals and objectives of promoting renewable energy and utilizing existing corridors for joint use. Therefore, no amendment to the plan is necessary. Requiring an amendment to the plan would be applying inflexible standards and prescriptions that should not be applicable to situation such as this where the Transmission Line fits squarely within the plan's goals and objectives.

#### B. The BHRMP Amendment in the Preferred Alternative Would Negatively Impact Private Property.

The dimensions for the proposed multiuse corridor in the Preferred Alternative are significantly different from the Proposed Action and existing designated corridor along SR74 and are not necessary to evaluate the subject ROW application. Moreover, the designation of 1,013 acres south of the SR74 on BLM land as multiuse and VRM IV allows a number of types of disturbances of BLM lands, including, but not limited to, cell towers and gravel pits, which would negatively impact private property values, including reasonably foreseeable developments such as Saddleback Heights.<sup>3</sup>

---

<sup>3</sup> The DEIS references Saddleback Heights as a reasonable foreseeable development. See Appendix B and Section, 4.19.11 ("[r]easonably foreseeable projects (including Saddleback Heights) include numerous master planned communities/housing

Notwithstanding the reasonably foreseeable development in the area and the significant negative impact the multi-use designation would have on that development, the DEIS does not include any analysis or justification for such a broad designation. Nor does it provide any methodology for how BLM determined the amount of acreage. It also fails to discuss how the designation would impact neighboring private properties. The DEIS states that the Proposed Action would meet VRM Class objectives on approximately half of the VRM Class III designated lands north of SR74 and approximately 75% of the Class III lands south of SR74. It further states that in the area where the transmission line would dominate the view on BLM management public lands it would not affect the Scenic Quality rating assigned to the Scenic Quality Rating Unit and there would be no effect to the Visual Resources Inventory. The transmission line would reside within a 200' ROW and the DEIS states that impacts are limited to within 200' of the transmission line. For the seven miles of BLM lands north and south of SR74, this would equate to 339 acres of impact. The DEIS does not contain analysis and methodology supporting the decision to change 2,362 acres north of SR74 and 1,021 acres south of SR74.

The DEIS refers to the BLM land south of SR74 as the "key-shaped public land piece". The location and configuration of the parcel and it being surrounded on three sides by private land with reasonably foreseeable development do not support designating the entire BLM parcel and acreage beyond what is needed for the Proposed Action as multi-use corridor.

Therefore, any multiuse designation in the FEIS should be limited to the existing designated corridor. At a minimum, the FEIS must provide the justification and methodology for the designation and analyze how the amendment would impact nearby private property, including reasonable foreseeable development such as Saddleback Heights.

C. If the BHRMP Plan Is Revised, Inconsistencies Should Be Resolved to Reflect National Priorities and to Designate the Preferred Alternative Route for the Transmission Line as a Multiuse Corridor.

1. To the extent that the BHRMP does not adequately reflect the Administration's priority of promoting renewable energy, it should be revised accordingly.

The BHRMP provides that "many decisions are not appropriate at this level of planning and are not included in the ROD, including the decision . . . to change the BLM's obligation to conform to current or future national policy." § 1.4.2. As discussed, the Administration has consistently stated that the promotion of renewable energy is one of its "highest priorities." Secretarial Order at 3. The BHRMP, however, provides some potentially conflicting guidance. Specifically, it states in relevant part that:

---

developments . . . (and) the Saddleback Heights master planned community includes extensive plans for commercial business and employment, and resort development.").

- all major utilities will be routed through designated corridors. Encourage new rights-of-way within designated corridors to promote the maximum use of existing routes. Encourage joint use whenever possible;
- whenever possible, promote energy transfer efficiency and support alternative energy sources. . .;
- whenever possible, design or route transmission lines to minimize adverse visual impacts to the surrounding lands and vistas;
- no new utility corridors are designated within this MU;
- Map 9 Utility and Transportation Corridors and Communication Sites, Corridor Allocations legend *re: Utility Corridors*;
- CORRIDOR: See DESIGNATED CORRIDOR *re: Multi-use Corridor, Utility Corridor, Transportation Corridor*;
- Utilities, whether interstate, intrastate or local should be co-located in designated corridors to the maximum degree possible to minimize impacts to BLM administered lands;
- As the Department of Homeland Security continues to carry out its mandate for the physical protection of critical infrastructure and key assets, the designation of utility and transportation corridor location and the planning and maintenance of utilities... and interstate highways that cross BLM administered lands, will be consistent with any directives, policies and procedures that DHS may institute to minimize vulnerabilities to the energy grid.

#### § 2.3.5.2.2.

These directives in the BHRMP create a potential inconsistency between the goal of minimizing visual impacts and the Administration's policy of promoting renewable energy. If amended, therefore, the BHRMP should be amended to reflect the Administration's "highest" national priority of promoting renewable energy projects, particularly when they can be located within existing designated corridors.

2. If the RMP is amended, it should be revised to clarify that the designated 1-mile wide corridor, the SR-74 transportation corridor, is a multiuse corridor.

As discussed in detail above, BLM policy expressly encourages the joint use of corridors whenever possible. BHRMP, §. 2.3.5.2.2. Here, there is an existing mile-wide designated corridor, which DOT has confirmed will accommodate the Transmission

Line. Moreover, both the Committee and the ACC approved the siting of the Transmission Line within the SR-74 transportation designated corridor after an extensive public and environmental review. Designating the subject transportation corridor as a multiuse corridor would minimize any environmental impacts while satisfying the national policy of promoting renewable energy. Therefore, if amended, the BHRMP should be revised to designate the existing SR-74 designated corridor as a multiuse corridor that would accommodate the Transmission Line as well as the planned expansion of SR74.

#### **IV. DEFICIENCIES IN THE DEIS MUST BE CORRECTED.**

##### **A. The DEIS Improperly Characterizes Reasonably Foreseeable Development as “Vacant and Undeveloped.”**

In discussing the amount of BLM land that would be crossed/affected by the alternatives, the DEIS focuses on current and existing conditions and describes the private and state lands crossed by the ROW under Action Alternatives 2 and 3 to be predominately “vacant and undeveloped” despite the fact that the Saddleback Heights community is a reasonably foreseeable development. With respect to Alternative 2, the DEIS states that:

a total of 102.72 acres of land in the Saddleback Heights development would be located within 200 feet of the ROW. This includes 8.3 acres of land for community use, 0.22 acres for mixed use, 58.14 acres of residential use and 36.06 for which no use has been yet defined. At the present time, there are no residential structures located within the 200 feet of the proposed transmission line. Therefore, the proximity and price effects on private residential structures do not apply under current conditions. The effects would be to undeveloped land.

DEIS, § 4-104.

With respect to Alternative 3, the DEIS provides: “[t]he ROW for Alternative 3 crosses 9.3 miles of private land which predominately vacant and undeveloped. There are eight planned developments within the Study Area that some portion of the ROW would cross”, including “Saddleback Heights”. DEIS, § 4-106.

Although the DEIS acknowledges that a significant amount of acreage is slated for commercial and residential development<sup>4</sup> by Saddleback Heights, it treats the land as “vacant or undeveloped”. The private land in Peoria impacted by Alternatives 2 and 3 should not be characterized as “vacant and undeveloped”. Rather, the private land is planned, approved, permitted, and the commercial and residential development is

---

<sup>4</sup> Appendix B to the DEIS specifically lists Saddleback Heights as a reasonable foreseeable project and lists its status as “past, present, and **future**”. (Emphasis added.)

reasonably foreseeable. Moreover, there are significant ongoing investments being made in the development of Saddleback Heights. Accordingly, the FEIS should analyze Saddleback Heights as a reasonably foreseeable development as opposed to “vacant or undeveloped” land.<sup>5</sup> ES-11. See 40 C.F.R. § 1508.7 (Requires that that the DEIS consider “reasonably foreseeable development”).)

### **B. The DEIS Improperly Analyzes the Project’s Impacts on Property Values.**

The DEIS acknowledges that “[p]roximity of a property to a transmission line could be a significant factor for impacts on property values”, but states that “properties beyond 200 feet did not experience any negative price effects.” 3.10.7.3, 3-107. Under NEPA, the DEIS must describe the analytical methodology sufficiently so that the reader can understand how the analysis was conducted and why the particular methodology was used. See 40 CFR § 1502.24.

In Valuation Guidelines for Properties with Electric Transmission Lines, Kurt C. Kielisch, ASA, IFAS, SR/WA, R/W-AC states that: “Electric transmission lines do not directly serve electric utility customers: their power is distributed from distribution point to distribution point. Transmission lines wires are not insulated and are bare. His report researched the impact of electric transmission lines including collecting and indexing research studies, published articles and transcripts in order to determine public perception of high voltage transmission lines. His summary report details twelve specific case studies of the impact of electric transmission lines on real estate values. He recounts information from one national study on the perception of power lines on value and marketing time, that states that 83% of real estate appraisers surveyed said that the presence of power lines negatively affected property values. He also cites a study from the Houston area that found that buyers refused to look at properties that adjoined a power line easement and that such properties took much longer to sell. Numerous studies cited in his report showed that land and homes impacted by electric transmission lines had negative impacts to assessed values of greater than 30%. He also reports on one subdivision where the lots abutting the transmission easements were twice the size of non-easement lots. When factoring in the size of lots, the overall loss of value to the project is even greater. Another study showed that a pending 345kV line was the principal reason the buyer gave for a low offer. A Wisconsin sales analysis recounted a transaction on a property with a home appraisal for \$221,000. After installation of a 345kV and 138kV transmission line, as well as the property premises and remodeling of the residence, the home was placed on the market at the revised appraisal of \$179,900. The home sold for \$128,500. The Kielisch report concludes that the actual loss to property value attributable to an electric transmission line depends on

---

<sup>5</sup> The DEIS provides for environmental effect to define relative levels of effect intensity and context. It is important to note that the DEIS defines “short-term” effects as “[d]uring construction up to 10 years”. Table 4.1-1. The development of Saddleback Heights will take place during this time period. Accordingly, the FEIS should consider the impacts on the alternatives to the Saddleback Heights within this time frame.

numerous factors, but that significant negative effects can be stated with a high degree of certainty.

Here, the DEIS does not describe the methodology used, nor does it discuss what assumptions, including the geographic and temporal scope of the analysis, were made in reaching this conclusion. Accordingly, the FEIS must describe how this conclusion was reached and what assumptions were made in reaching these conclusions. See 40 CFR § 1502.22.

**C. The FEIS Should Consider the Impact the Alternatives Will Have on Master Planned Communities.**

The DEIS discusses comments made by the Arizona State Land Department (ASLD) concerning master planning. Specifically, ASLD asserted that "master planning is easier with large, self-contained blocks of land where infrastructure can be designed to avoid piece-mealing, open space can be incorporated into the design, and development standards can be amended to take into consideration unusual land forms or constraints." Additionally, ASLD maintains "that the subject block of State Trust Land is a large uninterrupted assemblage of land that lends itself to master planning. Price surveys have shown that raw land prices are higher where the land is within a master planned area versus land outside an area." 2.5.4., 2-30.

It should be noted that two of parcels within Saddleback Heights are State Trust Lands and one of the two, a 159.4 acre parcel of state land, FYP ID 232 is noted as for mid-term disposition in the ASLD 2011 Five Year Plan Database. Accordingly, to the extent that any of the alternatives would result in a piece-mealing of Saddleback Heights, or other reasonably foreseeable developments, the FEIS should consider the impact that any of the alternatives would have on the State Trust Land within Saddleback Heights. The DEIS discusses Alternatives Considered by Eliminated. In several of these alternatives, the conclusion was that the alternative was not environmentally feasible because it interrupted the continuity of portions of a development, be adjacent to a proposed community and be in close proximity to residences. These statements and rationale are also applicable to Alternative 2 and Alternative 3 and provide additional support the Preferred Alternative and the distinctions between the Preferred Alternative and the alternatives that interrupt, bisect, and are adjacent to developing residential neighborhoods.

Moreover, because the same analysis regarding State Land potential master planned communities discussed above applies to reasonably foreseeable development on private lands, the FEIS should also consider the impact the alternatives would have on the nature, make-up and values of neighboring master-planned communities such as Saddleback Heights.

**V. THE FOLLOWING STATEMENTS IN THE DEIS SHOULD BE CORRECTED IN THE FEIS.**

Below are inconsistencies, discrepancies, deficiencies, omissions, and errors that need to be addressed, corrected, and/or considered in the FEIS.

#### EXECUTIVE SUMMARY

- The DEIS states that the Proposed Project spans 38 miles on “mostly non-public land”. This is not accurate; the majority of this transmission line spans public land.<sup>6</sup>
- The DEIS suggests that its analysis should assess costs associated with restoration of OHV areas disturbed by construction activities; we would question why the DEIS limits its assessment of this restoration only to OHV areas.
- In addressing the socioeconomic impacts of the Proposed Action and Alternatives, the Executive Summary suggests that its baseline for analyzing the impacts to area property values should be “the already weakened housing market.” In fact, the housing market, especially in the Phoenix Metro area, is on the rebound, and this should be reflected in the DEIS.<sup>7</sup> Belfiore Real Estate Consulting analysts state that new housing permit activity was up 60% in the Phoenix Metro last year, and overall pricing increased 10% in 2012. The housing market in North Peoria and the real estate Sub-Market statistics for Peoria exceed the regional averages.
- The DEIS Executive Summary states that the analysis under the DEIS should “consider the quality of the lands north of SR74 for conservation management by the BLM as opposed to expanded development into BLM lands.”<sup>8</sup> We object to this characterization of the transmission line’s placement north of SR74, and believe instead that it represents co-location of transmission with a transportation corridor.
- The DEIS Executive Summary states that “Tribes have expressed concern regarding amending the Bradshaw-Harquahala RMP and impacts to prehistoric sites” but does not make clear which Tribes have submitted.

#### AIR QUALITY and CLIMATE CHANGE

- The DEIS does not acknowledge that Green House Gas Emissions are reduced by the development of renewable energy resources.
- The DEIS states that particulate effects between the Proposed Action and Alternative Two is “essentially the same, just slightly lower.” However, this conflicts with Tables 4.2-2 and 4.2-7<sup>9</sup>, which show that the Proposed Action’s PM-10 and PM-2.5 levels would be considerably lower than Alternative Two, at 4.33 and 1.08 respectively for the Proposed Action, and 28.6 and 6.1 for

---

<sup>6</sup> Page ES-1. In other locations, the DEIS states the opposite – that the line primarily impacts non-public land (see e.g. Page 1-1, 2-31). The DEIS should be harmonized throughout to correctly characterize the nature of the land on which the line would fall.

<sup>7</sup> See East Valley Tribune, “US Home prices accelerate; largest national gains in Phoenix”, January 29, 2013, which notes a 23% annualized increase for the Phoenix metro.

<sup>8</sup> DEIS, Page ES-5.

<sup>9</sup> DEIS, Pages 4-9, 4-17.

Alternative Two. If the Tables are accurate, we respectfully submit that the narrative of the DEIS should be corrected.

- The DEIS lacks any assessment of the positive impacts that the facilitation of solar energy via the construction of the Sun Valley to Morgan transmission line would have on air quality in Maricopa County. This was specifically recognized in the BLM's Restoration Design Energy Project, which acknowledged the estimated 1,700 pounds of CO<sub>2</sub> which would be annually displaced per megawatt-hour of renewable energy produced.<sup>10</sup>

## CULTURAL RESOURCES

- The impacts of the transmission line placed on the south side of SR74 to Saddleback Heights cultural resources were presented to the ACC during the Line Siting case by Suzanne Griset, PhD Anthropology.
- In evaluating Cultural Resource impacts, the DEIS omits any analysis of impacts on private lands which were considered as part of the underlying ACC case. Similar to the BLM's analysis of impacts to State Lands, impacts to private lands should enhance the DEIS analysis and ultimately direct appropriate use of BLM lands.

## LAND USE and RANGE RESOURCES

- The amount of acreage and land uses within Saddleback Heights impacted by the transmission line placement on the south side of SR74 was presented by Ken Abrahams during the ACC Line Siting case and to the BLM by Wendell Pickett, Grey Pickett during the Sun Valley to Morgan Transmission Line Scoping meeting.
- The DEIS quotes the FLPMA regarding protection of resources and public participation, but does not quote the FLPMA regarding minimizing proliferation of separate rights of way and the requirement of utilization of rights-of-way in common to the extent practical.
- The DEIS does not reference the BLM Land Use Planning Handbook H-1601-1, the Department of Energy National Electric Transmission Congestion Study, or the BLM 2800 ROW Manual/Handbook as relevant in the section referencing Federal Law, Ordinance, Regulation and Standard.
- The DEIS does not acknowledge that the Land Use and Realty provisions of the Castle Hot Springs Management Unit may need to be amended as would several Record of Decision maps.
- The DEIS does not include the ACC Biennial Transmission Assessments, or the Arizona State Land Department 5-Year Disposition Plan as relevant State Plans.
- The DEIS would be improved by including relevant policy provisions, tables and maps of the City of Peoria's General Plan.
- The DEIS uses specific terminology consistent with many of the disciplines associated with the resources analyzed. However, the DEIS shows a lack of

---

<sup>10</sup> Bureau of Land Management, Arizona Restoration Design Energy Project, Final Environmental Impact Statement, October 2012, Page 5-11.

knowledge of real estate industry standards; different sections of the DEIS use inconsistent and undefined terms when discussing real estate. This limits the ability to assess impacts. Examples of undefined terms include: 'Low to medium density', 'conceptual residential subdivisions' 'very little' commercial development occurs in the Study Area, 'weakened housing market', etc.

- Utilities should include water, sewer, road, communications, natural gas and rail in addition to electricity. Existing utilities which are identified in the ADOT ROW Preservation Study as crossing SR74 should be noted.
- The DEIS does not address Reasonably Foreseeable Actions in Affected Environment or through the majority of Environmental Consequences. Reasonably Foreseeable Actions, specifically the master planned developments in Peoria should be acknowledged early and throughout the DEIS.
- The map which reflects existing land uses shows no private land within the entire map.
- The DEIS does not properly contextualize the scope of impacts to BLM property. It states that impacts to private property would be "proportionately small" while not noting the even more de minimis impacts to total BLM acreage.<sup>11</sup>

#### PUBLIC HEALTH and SAFETY

- Saddleback Heights and other master-planned communities are not identified as Nearby Residential Communities in the Ambient Noise Sources table
- The DEIS conclusion does not recognize the conflicting studies quoted in the DEIS. It does not reconcile the British Medical Journal Study which concluded that children living within 200 meters or 600 feet were at an increased risk of childhood leukemia and that children living within 600 meters, 1,800 feet were statistically more likely to have leukemia than those living farther away from power lines with the NIEHS expert group with concluded that research assessing the health effects of exposure to EMFs emitted from transmission lines was not sufficient to establish a definitive cause and effect relationship.

#### RECREATION and SPECIAL DESIGNATIONS

- The DEIS addresses recreational acreage lost, omits the additional recreational amenities and acreage of proposed trails, parks and natural open space gained within the master-planned communities in Peoria.
- The DEIS omits the golf course amenities within the Saddleback Heights master planned community.
- The DEIS states that the primary recreational use within the Study Area is OHV recreation. The DEIS does not address hiking, boating, camping, organized youth leagues, team sports associated with K-12 and college education, or golf; all recreational activities within the Study Area supported by residents in master-planned communities.

---

<sup>11</sup> When compared to total BLM acreage, resulting impacts to total BLM acreage would be far less than one percent, at 0.000014% of total BLM Acreage in Arizona and 0.00019% of total acreage in the BHRMP.

- The DEIS does not acknowledge recreational development within master plans as reasonably foreseeable development.
- The map which indicates recreational land use does not include state or private land recreational uses.

#### SOCIOECONOMICS and ENVIRONMENTAL JUSTICE

- The DEIS incorrectly states that “No effect on housing in the Study Area expected” for all alternatives and disregards the ongoing development activity impacted by Alternative 2 and Alternative 3.
- The DEIS incorrectly states that “No houses within 200’ of ROW; therefore proximity and price effects do not apply...land within 200’ of the ROW within planned developments could be reduced up to five %”
- Section 4.10.1.2 appears in conflict with Section 3.10.7.3, as it concludes that identified impacts to property values with structures were inapplicable to vacant, undeveloped and agricultural land, identifying a value impact of zero to 5 percent. The modest value impacts identified are at odds with the negative range of 5 to 36 percent and average negative impact of 20 percent identified in Section 3.10.7.3.
- When the DEIS states that new tax revenues for the alternatives would be the same as the proposed action, the DEIS does appropriately acknowledge that the Proposed Alternative has greater potential for private, developed land to contribute application and development fees, connection fees, primary and secondary property taxes and sales taxes that would be associated with the unconstrained development of commercial and residential property on private land within master planned communities. Alternative 2 and Alternative 3 would result in development delays and reductions in assessed valuations. Each year, property taxes paid by land, commercial and residential properties support a variety of essential public health and safety services as well as quality of life components. Some recipients of primary and secondary property taxes include: City of Peoria, Voter-Approved Bonds, Peoria Unified School District, Peoria Unified School District Bonds, Peoria Unified School District Overrides, Community College District, Community College District Bonds, State Equalization Tax, West Mec, General County Fund, Flood Control District of Maricopa County, Central Arizona Water Conservation District, Fire District Assistance, Library District and Maricopa Special Health District
- The DEIS states that Alternative 3 crosses 255.43 acres of private land with an estimated value of \$11.0 and that these lands generate \$909,151 million in property tax revenue. This number should be corrected.
- The DEIS is inconsistent in stating the area of direct negative impact of the transmission line. In some places, the effect is stated to be 200’ from the transmission line. In other places, the effect is stated to be 200’ from the ROW. If the transmission line is not located in the middle of the ROW, the DEIS infers that the area of impact could be 600’.
- The DEIS states the process should consider . . . the appropriateness of amending the RMP in such a way that would benefit developers. . .” This

language reflects a negative bias against developers and is inappropriate. Therefore, it should be removed.

- The DEIS does not address the potential impacts of 1,013 Multi-use Corridor designation on the BLM land south of SR74 to market and non-market values.
- The DEIS emphasizes the economic values associated with grazing leases and OHV activity. The high net economic values associated with Off Highway Vehicle Recreation is stated as \$68 per OHV trip. The DEIS goes further to state that 20% of the population in Arizona participates in OHV. There is no data provided to substantiate such a large assumption.
- The DEIS acknowledges that Finance, Insurance and Real Estate accounted for more than 30% of the earnings and employment. The economic contributions, earnings and employment associated with commercial and residential development anticipated within Saddleback Heights and other master-planned communities receives less attention than OHV and grazing.
- The solar and renewable energy sector of the economy and employment and financial contributions to the Arizona economy are not described in the text of the DEIS. Given the importance of renewable energy and the need for renewable energy transmission the DEIS should address this more completely. While the appendix lists some planned solar projects, it does not mention the entirety of planned solar generation projects in central Arizona.
- The Housing Values stated in the DEIS do not reflect the 2010-2012 trends in Phoenix and do not recognize the North Central / Peoria Sub-Market where values are higher than average for the overall region.
- The maximum annual tax income generated from private properties is understated and does not reflect home prices in Peoria or anticipated housing demand within the reasonably foreseeable developments.
- In Alternative 2 and Alternative 3, the DEIS does not include or analyze the impacts of a 40-252 re-evaluation of the ACC Decision and potential new Line-Siting case.
- It should be noted that in 2010, a public record shows a price paid for vacant ROW land at \$234,700 per acre.

#### TRANSPORTATION and TRAFFIC

- In addition to ADOT's planned expansion of SR74, MAG, Maricopa County, and Peoria have planned local and regional roadways within the vicinity. The DEIS does not identify these planned roadway locations and the changes in traffic volume and dispersal that will occur.
- The DEIS addresses upgrades, but does not address the new interchanges to be constructed with the widening of SR74 and the impact new intersections and interchanges will have on commercial development.
- The description of the BNSF rail line describes with specificity current activity and volume and future projections and potential growth with anticipated volumes as well as the components of the Surprise Logistics Center. The projections and potential growth of Saddleback Heights, Vistancia and Lake Pleasant Heights do not receive similar treatment in the DEIS.

## VISUAL RESOURCES

- Saddleback Heights presented an analysis of the visual impacts of the transmission line on the south side of SR74 during the ACC Line Siting by Gary Rich, M.S. Engineering.
- The DEIS acknowledges that micro-siting will assist in minimizing impacts, and that micro-siting has not been completed. Any stated conclusions in the DEIS should also state that micro-siting should further reduce impacts.
- The DEIS quotes the Kroll and Priestly 1991 study which minimizes the effects of visual and health concerns of transmission lines, without providing the same level of detail in the DEIS text or from more recent studies which reach emphasize significant effects.
- The DEIS appears to summarize numerous studies and makes a conclusive statement that properties 50 to 200 feet from the transmission line experienced small negative price effects and the properties beyond 200 feet did not experience any negative price effects. It further states this effect may not be as relevant to rural locations, such as the Project Area. The DEIS should not reach a conclusion regarding the geographic range of impacts or the effect of visibility of a transmission line has on land, commercial and residential properties of varying types. The DEIS should acknowledge the site specific nature and the many factors that influence the range and degree of impacts of electric transmission lines on property values.
- The DEIS analysis omits future residents of planned developments as sensitive viewers in the KOP analysis. Visual impacts from several of the Key Observation Points should include future residents of developments such as Saddleback Heights, Vistancia and Saddleback Heights as sensitive viewers.
- The DEIS description of the BLM land south of SR74 which states “the vegetation is similar to the vegetation on BLM land north of SR74, but the terrain is less hilly and more rolling for about 1.5 miles” does not acknowledge the topography and elevation of BLM land adjacent to SR74, or the prominent butte that is mentioned as the most prominent landform along SR74 in the Study Area.
- The DEIS does not propose any mitigation for impacts to socio-economic resources. Mitigation proposed under Alternative 2 and Alternative 3 should be greater than the mitigation associated with the Proposed Action. Mitigation on private developed land should be consistent with the ROW being adjacent to permanently occupied homes and businesses rather than vacant BLM land with intermittent recreationists.
- The most detailed description of the Saddleback Heights Specific Area Plan occurs in the Visual Resources Focus Area. The DEIS is inconsistent and states that the areas where the structures would be visible would be very similar under the Proposed Action and Alternative 2. It goes on to state that under Alternative 2, when the structures would be on the south side of SR 74, they would appear larger in the landscape than under the Proposed Action. Within and estimated 800’ of the transmission line the structures would dominate the views.

## WILDLIFE RESOURCES

- Saddleback Heights presented a biological evaluation of the impacts of the transmission line on the south side of SR 74 during the ACC Line Siting by Eleanor Gladding, M.S. Biology.
- The DEIS states loss of habitat associated with the transmission line, without acknowledging that the BHRMP has conceded a 1-mile designated corridor which may be disturbed for SR74 expansion.

## GENERAL COMMENTS

- **Failure to Reflect Comments Made During Scoping:** Many of the comments and specific reports provided during the scoping process, are not discussed or included in the DEIS, including comments submitted by: (a) Chuck Gray of ORANGE regarding private property rights; (b) Rob Wanless of SOLON Corps regarding the importance of electric transmission lines to the Arizona solar industry (c) Steve Burg of the City of Peoria concerning the Project's impacts to the Peoria General Plan (d) Charlie Bowles of Southern AZ Home Builders concerning impacts of electric transmission lines on residential real estate communities and (e) Wendell Pickett of Saddleback Heights concerning impacts south of SR74; and (f) Congressman Franks' comments relating to homeland security and Electromagnetic Pulse threats to national security. These comments should be addressed and considered in the FEIS.
- **Scoping:** The FEIS should clarify what the distinction between what was derived for inclusion in the document from "internal" and "external" scoping.
- **Terminology and Definitions:** Text covering the same topic in different sections uses different terminology. Specifically the terms corridor, right-of-way, route, transmission line are used differently. Impacts to properties adjacent are difficult to determine when there is a lack of location specificity and vague terminology.
- **Natural and Built Environment:** The grade changes, topography, and different elevations are not incorporated into analysis of impacts or integrated with the existing and reasonably foreseeable development actions.
- **Incomplete Project History:** The DEIS project history is incomplete. As such, the FEIS should discuss BLM's administrative proceedings relating to APS's ROW application and the ACC proceedings relating to the same.
- **Coordination not discussed:** The DEIS fails to discuss the impact that clearing and grading in section 2.4.2.4 could have on private land, nor does it discuss the need for coordination with private land owners. As such, the FEIS should address these issues.
- **Study Areas:** The study areas for each resource are different and no explanation is given for this. This makes determination of aggregate impacts difficult to reconcile.

## VI. CONCLUSION

As discussed above, the Project - as contemplated by the Preferred Alternative - will assist the region in meeting the national policy of promoting renewable energy, while protecting private property rights. The Preferred Alternative will also promote BLM's policy of siting utility corridors within existing transportation corridors. Accordingly, the FEIS should adopt the Preferred Alternative and proceed to expeditiously approve the right of way request.

Given the consistency of the Transmission Line with the overall goals of the Agency and the BHRMP, the plan does not need to be amended. If, however, the plan is amended, it should be clarified to reflect the Administration's "highest priority" of promoting renewable energy and designate the SR-74 as a multi-use corridor. That said, it should not be amended as proposed, but should only designate as multi-use and VRM IV those lands necessary to accommodate the Project / Proposed Action and not the entire 1,013 acres of public land managed by the BLM south of SR 74 because of the unknown and potentially negative impacts it would have on neighboring private property, including reasonably foreseeable development.

Finally, BLM should address in the FEIS the discrepancies, inconsistencies, deficiencies, omissions, and errors, including those raised in this letter.

Diamond Ventures, Inc. as owners of Saddleback Heights Master-Planned Community appreciate the opportunity to provide comments on the Draft Environmental Impact Statement for the Sun Valley to Morgan Transmission Line Project and the Draft Bradshaw Harquahala Resource Management Plan Amendment.

Very truly yours,



David Goldstein, President

# DIAMOND VENTURES

2200 EAST RIVER ROAD SUITE 115 TUCSON, ARIZONA 85718-6586  
520/577-0200 phone ♦ 520/299-5602 fax ♦ www.diamondventures.com

May 25, 2011

Mr. Joe Incardine  
U.S. Bureau of Land Management  
Phoenix District Office,  
Hassayampa Field Office  
21605 North 7<sup>th</sup> Ave.,  
Phoenix, Arizona, 85207-2929

**Re: Proposed Sun Valley to Morgan 500/230kV Transmission Line Project (Formerly Called TS-5 to TS9), Maricopa County, Arizona, and Possible Land Use Plan Amendment.**

## COMMENTS ON BEHALF OF DIAMOND VENTURES, INC.

### I. INTRODUCTION

Diamond Ventures, Inc. ("Diamond Ventures") appreciates this opportunity to submit comments on the United States Department of the Interior, Bureau of Land Management's (BLM) Notice of Intent to Prepare an Environmental Impact Statement (EIS) for the Proposed Sun Valley to Morgan 500/230kV Transmission Line Project ("Transmission Line" or "Project") (Formerly Called TS-5 to TS-9), Maricopa County, Arizona, and Possible Land Use Plan Amendment. The comments below are submitted as part of the scoping process for the EIS associated with the Transmission Line and possible amendment to the Bradshaw-Harquahala Resource Management Plan (BHRMP).<sup>1</sup>

As BLM initiates this scoping process, we understand that it is implementing multiple directives of Congress. First, BLM is carrying out the procedural and analytical obligations Congress has imposed through the enactment of the National Environmental Policy Act (NEPA). Second, it must determine whether to grant the right of way as requested by the Arizona Public Service (APS) as the Department of the Interior is charged though the Federal Land Management Policy Act of 1974 (FLPMA), as amended. Finally, because a change in the current land use plan for BHRMP may be necessary, BLM may be required to carry out the land use planning process also contained within FLPMA. These three activities are procedurally intertwined, but they have slightly different purposes.

We recognize that the purpose of the scoping process under NEPA is to determine relevant issues that will influence the scope of the environmental analysis including alternatives,

---

<sup>1</sup> "Scoping is the process by which the BLM solicits internal and external input on the issues, impacts, and potential alternatives that will be addressed in an EIS or EA as well as the extent to which those issues and impacts will be analyzed in the NEPA document." H-1790-1 *National Environmental Policy Act Handbook*, Sec. 6.3. (Jan. 30, 2008).

and guide the process for developing the EIS. The objective of NEPA is to "declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man," among other things. 42 USC § 4321. In evaluating the request for a right of way by APS, BLM may reasonably consider the effects of wildlife and visual impacts that it described in the Notice of Intent, but its analysis may not stop there. It is obligated to consider the broader impacts and cumulative benefits on the human environment that would come from granting the right of way, and it must consider those broader impacts and benefits when evaluating each alternative to the proposed action, including a decision to not grant the right of way.

The land use planning process under FLPMA, itself, requires careful consideration of the plans and approvals of State and local jurisdictions. Unfortunately, a close examination of the recent land use planning process for the BHRMP calls into question whether BLM adequately met its statutory mandate when developing the recent land use plan, and now it must reasonably act to correct its earlier failings. Those failings are particularly acute in regard to the coordination of the current BHRMP with the land use plans and priorities of the State of Arizona and local governments. When developing or revising land use plans, the Secretary of the Interior, through BLM, is required to consider "the present and potential uses of the public lands." FLMPA, P.L. 94-579 § 202(c)(5).

Moreover, BLM is required to the extent consistent with the laws governing the administration of the public lands, to coordinate the land use inventory, planning, and management activities of or for such lands with the land use planning and management programs of other Federal departments and agencies and of the States and local governments within which the lands are located." *Id.*, § 202(c)(9). Therefore, Congress has specifically directed that to the full extent, consistent with Federal law, BLM coordinate its own planning and management activities with those of the State of Arizona and the local government within which these particular lands are located. BLM has also been charged to "assure that consideration is given to those State, local, and tribal plans that are germane in the development of land use plans for public lands." *Id.* Finally, Congress has declared that land use plans of the Secretary "shall be consistent with State and local plans to the maximum extent he finds consistent with Federal law and the purposes of this Act." *Id.*

Through FLMPA, Congress has also granted the Secretary of the Interior, the authority to grant, issue, or renew rights-of-way over, upon, under, or on BLM lands for a wide variety of purposes including "systems for generation, transmission, and distribution of electric energy." FLPMA, P.L. 94-579, § 501. BLM's own manual recognizes that rights of way "are a principal and major use of public lands." BLM Manual, § 2801(2)(A). Vitaly important in this instance, as with the land use planning responsibility, a key objective of the BLM's right of way program is to coordinate to "the fullest extent possible" "with state and local governments, interested individuals, and appropriate quasi-public entities." 43 CFR § 2801.2(d). Finally, Congress has recognized that "in order to minimize adverse environmental impacts and the proliferation of separate rights-of-way, the utilization of rights-of-way in common shall be required to the extent practical," and "the Secretary concerned shall take into consideration national and State land use policies, environmental quality, economic efficiency, national security, safety, and good engineering and technological practices." FLPMA, PL 94-579 § 503.

As discussed in more detail below, it is our understanding as a participant in the Arizona Corporation Commission (ACC) process, that the five-member statewide-elected ACC, an instrumentality of the State of Arizona with State Constitutional authority, has determined after

an extensive public and environmental review that the proposed routed Transmission Line is (1) in the public interest and (2) essential for the development of renewable energy in the State of Arizona. Accordingly, the EIS prepared in connection with this Project should provide that the route approved by the ACC is the preferred alternative.

Although Diamond Ventures does not believe that an amendment to the BHRMP is necessary for BLM to approve the right-of-way requested by APS, to the extent that it is amended, it should be amended to promote maximum joint use of the existing route and designate the State Route-74 transportation corridor as a multi-use corridor. Doing so would (1) be consistent with the broad scale goals and objectives of the BHRMP, (2) minimize any negative impacts to the environment and private property rights, and (3) be consistent with the federal policy of siting renewable energy projects on public lands and using joint use corridors whenever possible.

For the reasons described in detail below, Diamond Ventures supports the grant of the applicant's proposed right of way request that would site the proposed transmission Line in the route certified by the ACC within the State Route-74 transportation corridor.

## **A. BACKGROUND**

### **1. The Transmission Line**

On July 1, 2008, the APS submitted an application to construct the Transmission Line.<sup>2</sup> The 300-foot wide right-of-way (ROW) for the Transmission Line would cross approximately seven miles of BLM-administered lands lying north of Arizona Route 74 between 163<sup>rd</sup> Ave. and El Mirage Road alignments and south of State Route 74 between El Mirage Road and 115<sup>th</sup> Ave. alignments. IBLA 2010-151 at 1, n. 2 (Oct. 6, 2010). Among other things, the Project "would strengthen the reliability of the regional 500-kV system and could facilitate the delivery of renewable energy resources to load centers, such as the Phoenix metropolitan area." 76 Fed. Reg. 69, 20,007 (Apr. 11, 2011).

### **2. Procedural History**

The ACC has statutory responsibility for transmission lines designed for 115kV or higher in the State of Arizona. The relevant approval process has two steps. First, the 11 appointed members of the Arizona Power Plant and Transmission Line Siting Committee (the "Committee")<sup>3</sup> hold public hearings and conduct an environmental review of the proposed

---

<sup>2</sup> In 2003, APS submitted a letter to BLM, which included a map that indicated where a series of alternative routes might be required for the 500kv line. State Route 74 was identified in the letter submitted. The ACC requires all utility providers to submit statewide information on their long-range needs assessment and plans for review and publication in a Biennial Transmission Assessment (BTA). This statewide BTA has been available to BLM every two years beginning in 2000.

<sup>3</sup> In "1971, the Arizona Legislature required that the Commission establish a power plant and line siting committee. The Committee provides a single, independent forum to evaluate applications to build power plants (of 100 megawatts or more) or transmission projects (of 115,000 volts or more) in the state." Indeed, "the Committee was created after the Legislature found that existing law did 'not provide adequate opportunity for individuals, groups interested in conservation and the protection of the environment, local governments, and other public bodies to participate in timely fashion the decision to locate a specific major facility at a specific

transmission line. See A.R.S. §§ 40-360.04 and 40-360.06(A)(6). The Committee may then issue a recommended Certificate of Environmental Compatibility (CEC). If the Committee recommends a CEC, the ACC can accept, deny, or modify the certificate. In arriving at this decision, the ACC must "balance, in the broad public interest, the need for an adequate, economic and reliable supply of electric power with the desire to minimize the effect thereof on the environment and ecology of this state." A.R.S. § 40-360.07(B).

As part of the ACC proceedings regarding the APS route, 18 separate parties intervened and the Committee held 16 days of public hearings in 2008, which resulted in 3,600 pages of transcript. Following the Committee's process, the ACC held hearings on the Committee's recommendation for three additional days including one day dedicated to public testimony.

On March 17, 2009, the ACC granted the CEC issued by the Committee, approving APS's Transmission Line using a route that crosses BLM-administered land ("ACC Certified Route"). In doing so, the ACC found that:

- (1) the project is in the public interest because it aids the state in meeting the need for an adequate, economical and reliable supply of electric power;
- (2) in balancing the need for the Project with its effect on the environment and ecology of the state, the determinations and conditions placed on the CEC by the Committee as modified by the Commission effectively minimize its impact on the environment and ecology of the state;
- (3) the determinations and conditions placed on the CEC by the Committee as modified by the Commission resolve matters concerning the need for the Project and its impact on the environment and ecology of the state raised during the course of proceedings, and as such, serve as the finding on the matters raised; and
- (4) the balancing in the broad public interest results in favor of granting the CEC as modified by the Commission.

ACC Decision No. 70850 (Mar. 17, 2009).

Arizona law specifically spells out the criteria for a Certificate of Environmental Compatibility. These factors include:

- Existing plans of the state, local government and private entities for other developments at or in the vicinity of the proposed site.
- Fish, wildlife and plant life and associated forms of life upon which they are dependent.
- Noise emission levels and interference with communication signals.
- The proposed availability of the site to the public for recreational purposes, consistent with safety considerations and regulations.

---

site." <http://www.cc.state.az.us/divisions/utilities/electric/linesiting-faqs.asp> (last visited May 9, 2011)(quoting Historical Notes, Laws 1971, Ch. 67, §1.)

- Existing scenic areas, historic sites and structures or archaeological sites at or in the vicinity of the proposed site.
- The total environment of the area.
- The technical practicability of achieving a proposed objective and the previous experience with equipment and methods available for achieving a proposed objective.
- The estimated cost of the facilities and site as proposed by the applicant and the estimated cost of the facilities and site as recommended by the committee, recognizing that any significant increase in costs represents a potential increase in the cost of electric energy to the customers or the applicant.
- Any additional factors which require consideration under applicable federal and state laws pertaining to any such site.

A.R.S. § 40-360.06.

After the ACC granted the CEC, on April 29, 2009, APS submitted its ROW application for the Project to BLM. On April 22, 2010, BLM issued the BHRMP Record of Decision. A year after receipt of the ROW application, on April 28, 2010, BLM rejected APS's application, stating merely that "[i]t is BLM's position that the application filed by APS is not in conformance with the objectives and decisions of the approved [BHRMP]. Thus the application is hereby denied." Letter from Steven Cohn, Field Manager, BLM (Apr. 28, 2010).

APS appealed BLM's decision to the Interior Board of Land Appeals (IBLA). The Mayor and City Council for the City of Peoria, Arizona, on behalf of the City and Diamond Ventures and Vistancia LLC (collectively "Peoria Entities") filed a pleading entitled "Answer to APS' Notice of Appeal and Statement of Reasons for Appeal" in support of the appeal filed by APS. IBLA granted the Peoria Entities' Motion to Intervene and considered their arguments in reaching its decision. IBLA 2010-151 at 1, n. 1.

IBLA reversed and remanded BLM's decision, stating "[w]e cannot determine from the Decision, as supported by the record, whether BLM fully evaluated the application, and whether the decision is based on a reasoned analysis of the relevant factors involved, made with due regard for the public interest. . . APS was entitled to a reasoned and factual explanation providing a basis for understanding and accepting the decision or, alternatively, for appealing and disputing it before the board." *Id.* at 7.

## **II. ISSUES THAT INFLUENCE THE SCOPE OF THE NEPA ENVIRONMENTAL ANALYSIS INCLUDING ALTERNATIVES AND THE POTENTIAL AMENDMENT TO THE LAND USE PLANS.**

- A. The ACC Certified Route for the Transmission Line Should be the Preferred Alternative Because it is in the Public Interest and Consistent with the National Policies of Promoting Renewable Energy, Creating Jobs, and Protecting Private Property Rights.**

1. The Proposed ROW is in the Public Interest.

"A decision approving a right-of-way application must be made upon a reasoned analysis of the factors involved in the right-of-way, with due regard for the public interest." *Desert Survivors*, 96 IBLA 193, 196 (1987). As discussed, after an extensive public process and environmental review, the ACC found that "the project is in the public interest because it aids the state in meeting the need for an adequate, economical and reliable supply of electric power." ACC Decision No. 70850 (Mar. 17, 2009) (emphasis added).

The Staff Brief before the Arizona Power Plant and Transmission Line Siting Committee prepared by the Commission Utilities Division Staff ("Commission Staff") also concluded that there is a need for the project. Specifically, the Commission Staff found that the "[p]roject is needed and will contribute to the delivery of power in an adequate, economical and reliable manner." Staff Brief, p. 2 (Feb. 12, 2009). The Commission staff stressed that the project would, among other things:

- complete a continuous 500 kV path from the Palo Verde Hub to the Pinnacle Peak substation;
- improve the Palo Verde Hub's transfer capability into the Metropolitan Phoenix area by 600 MW;
- contribute to APS's ability to access renewable energy generation that is anticipated to interconnect through the Palo Verde Hub, thereby facilitating APS' ability to comply with its Renewable Energy Standard requirements;
- strengthen the Metropolitan Phoenix area high voltage transmission system, thereby improving the reliability of power; and
- complete the northwestern arc of the 500 kV loop around the Phoenix metropolitan area.

Staff Brief, p. 3.

The United States Department of Energy ("DOE") also recognized the need for the project in its 2009 National Electric Transmission Congestion Study. In DOE's 2006 National Electric Transmission Congestion Study, it identified the Phoenix-Tucson area as a "Congestion Area of Concern." P. 40. The 2009 DOE study, however, found that the Phoenix-Tucson area is no longer a Congestion Area of Concern. p. 98, Table 5-6. DOE based its conclusions, in part, on APS's Project' status, projected in service date, and completion of the ACC line siting process.

In addition, members of the Arizona congressional delegation have stated that:

[t]he installation of the TS-5 to TS-9 electric transmission line by its scheduled in-service date is essential for the elimination of electric transmission congestion and for furthering the development and conveyance of renewable energy, including the numerous solar energy ROW applications pending on BLM lands. BLM's acceptance

of the APS ROW application for this line will address area-wide constraints and restrictions for energy transmission, and the need for enhanced redundancy and reliability. The TS-5 to TS-9 transmission line per the ACC decision will better promote the long-term sustainability of the population and environment in Arizona.

Letter to BLM from United States Representatives Giffords, Franks, and Pastor (Jul. 1, 2010), a copy of which is attached hereto as Attachment "A".

As evidenced by the ACC proceedings and the 2009 DOE Study, the Transmission Line is in the public interest because it satisfies a critical energy need in the region. Moreover, the ACC proceedings, themselves, constitute a significant effort of broad community negotiation, compromise and agreement on behalf of a state to identify the public interest.

Furthermore, many local land use and infrastructure plans in proximity to State Route 74 have been approved by Arizona voters and their elected officials and representatives after lengthy public processes. For example, the Maricopa County voters approved a sales tax designated for roadway and transportation improvements that included the expansion of SR74. In addition, the Maricopa Association of Governments (MAG) and Arizona Department of Transportation (ADOT) include the SR 74 expansion in their relevant planning documents.<sup>4</sup>

As such, the impacts that are reasonably foreseeable to arise from the proposed project and each alternative to each plan and project must be accounted for by BLM as it evaluates the proposed action and each alternative. At a minimum, BLM must examine: (1) the increased costs, (2) the potential for delay, (3) the time and effort that would be required, and (4) the potential lack of comity between Federal land managers and local officials, among other issues for the proposed action and each alternative.

2. The Proposed Transmission Line Furthers the National Policy of Promoting Renewable Energy, Creating Jobs, and Protecting Private Property Rights.

i. *The Proposed ROW is Necessary for the Development of Renewable Energy in the Southwest.*

In 2009 and 2010, the Secretary of the U.S. Department of the Interior stated that "[e]ncouraging the production, development, and delivery of renewable energy is one of the Department's highest priorities." Secretarial Order No. 3285 (2009), Secretarial Order No. 3285A-1 (2010). On January 28, 2010, Secretary Salazar reaffirmed this policy before the United States Senate Environment and Public Works Committee, testifying that:

Renewable energy development is one of President Obama's highest priorities.

We must recognize that the development of transmission capacity for this new energy production is a crucial element. Developing solar and other renewable energy resources, which are often located in remote areas, will require new transmission capacity to bring this clean energy to the population centers where it is needed.

*Solar Energy Technology and Clean Energy Jobs: Hearing Before the S. Comm. on Environment and Public Works, 111th Cong. (2010) (statement of Ken Salazar, Sec. of the Interior) (emphasis added).*

---

<sup>4</sup> ADOT completed an SR74 Right of Way Preservation Study in January 2010.

The BHRMP itself provides: "[w]henever possible, promote energy transfer efficiency and support alternative energy sources. . . ." See Management Action LR-17. Moreover, Section 211 of the Energy Policy Act encourages the siting of renewable energy projects on public lands. Pub. L. 109-58 (2005).<sup>5</sup> The BHRMP states that "[t]he decision will not change the BLM's obligation to conform to current or future national policy," which is to promote the deployment of renewable energy. See §1.4.2.

As noted, the Transmission Line would provide a vital link between the Phoenix metropolitan area and renewable energy projects in Arizona. "The proposed 500-kV portion of the project would strengthen the reliability of the regional 500-kV system and could facilitate delivery of renewable energy resources to load centers, such as the Phoenix metropolitan area." 76 Fed. Reg. 69 (Apr. 11, 2011) (emphasis added). The Staff Brief for the ACC also noted that the proposed ROW will "contribute to APS's ability to access renewable energy generation that is anticipated to interconnect through the Palo Verde Hub, thereby facilitating APS' ability to comply with its Renewable Energy Standard requirements." Staff Brief, p. 3.

To be consistent with federal renewable energy policy, the EIS should (1) reflect the fact that the Transmission Line would assist the region in meeting the national policy of providing renewable energy; (2) provide that the ACC Certified Route for the Transmission Line is the preferred alternative; and (3) recognize that any other action is likely to significantly delay the implementation of this line by increasing the needed review time at both the state and local level by essentially restarting the approval processes.

ii. *The Approval of the ACC Certified Route Will Assist in the Creation of Jobs and the Protection of Private Property Rights.*

In these austere economic times, job creation is essential to the recovery of the national economy, especially in hard-hit areas such as in the American Southwest. Approval of the Transmission Line in the ACC Certificated Route will accelerate the creation of jobs for the region in the construction of the Transmission Line. The potential for developing renewable energy generation sites and facilitating the construction of homes and commercial, retail, office, industrial, civic buildings will create both temporary employment as well as permanent jobs and will generate revenue for the region in fees and taxes. Therefore, BLM is required to examine how the approval of the Transmission Line in the ACC Certificated Route would create jobs in the region. Moreover, BLM must consider the reasonably foreseeable timing of those jobs compared to other alternatives it wishes to examine.

In addition, if a high voltage transmission line such as the one associated with the Project is located on private lands, it will adversely impact the assessed value of privately-owned land. To be consistent with national policy, public lands should be used for public purposes such as the production of renewable energy. See P.L. 109-58 § 211. Private land owners should not bear the burden of implementing the Administration's policy when a suitable and existing corridor already exists on public land for the Transmission Line. Therefore, BLM

---

<sup>5</sup> Section 211 provides:

It is the sense of the Congress that the Secretary of the Interior should, before the end of the 10-year period beginning on the date of enactment of this Act, seek to have approved non-hydropower renewable energy projects located on the public lands with a generation capacity of at least 10,000 megawatts of electricity.

must consider the potentially negative impacts to private adjacent landowners if BLM were to deny or modify the proposed action to place all or components on lands that are outside of its lands of jurisdiction.

Moreover, siting the Transmission Line in the ACC Certified Route would lessen homeowners' concerns regarding the potential public safety and health risks associated with prolonged exposure to a high voltage transmission line. As a result, BLM must take into consideration that the approval of the Transmission Line in the ACC Certificate Route would allay current and future residents' concerns regarding public safety and the health risks of prolonged exposure of living in close proximity to a high voltage line compared to other potential alternatives.

To preserve property values and to avoid any public safety and health concerns, the ACC Certified Route should be the preferred alternative.

**B. To be Consistent with Federal and State Policy Regarding Joint Use Corridors, Any Preferred Alternative for the ROW Should be Located within the ACC Certified Route.**

Under the BHRMP, BLM is required to "[e]ncourage joint use whenever possible." § 2.3.5.2.2. It further provides that "[t]he designated transportation corridor may be suitable to accommodate more than one type of right-of-way use or facility or one or more right-of-way uses or facilities which are similar, identical, or compatible." *Id.* § 2.3.5.1, LR-3. BLM's Standard Operating Procedures for Utility and Transportation Corridors provide that "[t]ransportation routes . . . should be co-located with utilities in designated corridors to the maximum degree possible." *Id.* § A.6.2.

With respect to the Transmission Line, the Arizona Department of Transportation ("ADOT"), which has the transportation easement within the Bradshaw-Harquahala Planning Area, indicated that "[b]ased on the information provided, the Department does not see any conflicts with the placement of this line adjacent to our future right-of-way easement needs as identified in the ADOT SR 74 Feasibility Report, Right-of-Way Preservation." Letter from Robert Samour, Deputy State Engineer, ADOT, to BLM (Dec. 7, 2010), a copy of which is attached hereto as Attachment "B".

As noted, the proposed ROW for the Transmission Line is within an existing transportation corridor. ADOT has indicated that the Transmission Line would be a compatible use adjacent to its transportation easement. The shared use of the transportation corridor with the Transmission Line would also minimize any environmental disturbance associated with the line. Therefore, to be consistent with federal land policy and to minimize any environmental negative impacts associated with the corridor, any preferred alternative for the Transmission Line should be located within BLM's designated State Route 74 transportation corridor as approved by the ACC.

**C. The EIS Should Reflect BLM's Regulations, Which Encourage Consensus-Based Management.**

For BLM activities subject to NEPA analysis, BLM encourages consensus-based management, from initial scoping to implementation of the bureau decision. 43 C.F.R. § 46.110. "In incorporating consensus-based management in the NEPA process, bureaus should consider

any consensus-based alternative(s) put forth by those participating persons, organizations or communities who may be interested in or affected by the proposed action." *Id.*

In addition, ". . . bureaus must be able to show that the reasonable consensus-based alternative, if any, is reflected in the evaluation of the proposed action and discussed in the final decision." *Id.* "The Responsible Official must, whenever practicable, use a consensus-based management approach to the NEPA process." *Id.* "If the Responsible Official determines that the consensus-based alternative, if any, is not the preferred alternative, he or she must state the reasons for this determination in the environmental document." *Id.*

In this case, the ACC has already conducted an extensive review process that properly determined that the Transmission Line should be sited within the existing SR-74 transportation corridor. The ACC process was conducted with rigor and extensive participation involving multiple parties and completed before the BHRMP Record of Decision. In addition, ADOT has indicated that the Transmission Line would not pose a conflict for the use of the SR-74 transportation corridor. Moreover, there is broad community consensus regarding the ACC Certified Route as evidenced by the adopted and approved land use and infrastructure plans that are compatible with the ACC Certificated Route and APS ROW application. See *also* Peoria Parties' Appeal Answer to APS's Notice of Appeal and Statement of Reasons for Appeal (July 20, 2010); Letter from Blackstone at Vistancia Community Association to BLM (Dec. 6, 2010); and Letter from Vistancia Village Corporation to BLM (Dec. 6, 2010). Copies of the letters with attachments from Blackstone and Vistancia Village Corporation are attached hereto as Attachments "C" and "D" respectively. Accordingly, in order to be consistent in the federal policy of consensus-based management, the EIS should give considerable weight to the ACC proceedings and decision as well as the significant community support for the ACC Certified Route. Importantly, while a broad array of citizens may participate and provide comments to the BLM, the most directly impacted individuals are those that currently or will reside in Peoria communities adjacent to SR74.

#### **D. The Right of Way Could be Granted Without an Amendment to the RMP.**

The BHRMP fosters adaptive management by "the presentation of desired future conditions that focus on reaching outcomes rather than identifying inflexible standards and prescriptions that may not be applicable situations." § 2.12.2. The plan further provides that "[w]hen land use plan actions or best management practices are found to be ineffective, modifications may occur without amendment of the plan as long as assumptions and impacts disclosed in the analysis remain valid and broad-scale goals and objectives are not changed." *Id.* A plan amendment may become necessary if **major changes** are needed or in consideration of a proposal or action that is not in conformance with the plan." § 2.11.7 (emphasis added).

The BHRMP provides that BLM is encouraged to (1) use joint uses of existing corridors and (2) promote renewable energy. §2.3.5.2.2. The ACC Certified Route fits squarely within these directives.<sup>6</sup> Consequently, because the "assumptions and impacts disclosed in the

---

<sup>6</sup> The ACC Certified Route also fits within the policies set forth in BLM Rights-of-Way Manual, which directs BLM to provide policy, procedures, and guidance for managing ROWs on public land so as to:

\* \* \*

2. Minimize the proliferation of separate ROWs.

analysis remain valid and broad-scale goals and objectives" are not changed, it would not be a "major change" for BLM to approve the ACC Certified Route. Accordingly, no amendment to the plan is necessary. Requiring an amendment to the plan would be applying inflexible standards and prescriptions that should not be applicable to a situation such as this where the Transmission Line fits squarely within the plan's goals and objectives.

**E. If the BHRMP Is Revised, Omissions and Inconsistencies Should Be Resolved.**

1. If revised, the BHRMP should consider the consensus-based decisions/plans adopted by the ACC, ADOT, and impacted local communities.

As discussed above, BLM encourages consensus-based management, from initial scoping to the implementation of the bureau decision. Federal regulations require BLM to consider any consensus-based alternative(s) put forth by those participating persons, organizations or communities who may be interested in or affected by the proposed action. See 43 C.F.R. § 46.110. Therefore, if the BHRMP is revised, it should be amended to reflect the ACC proceedings relating to this matter. BLM must also evaluate the proposed action and any alternatives, to ensure that they are consistent with the Voter Approved City of Peoria General Plan and the Maricopa County Voter Approved expansion of SR74 through the Regional Transportation Sales Tax.

2. To the extent that the BHRMP does not adequately reflect the Administration's priority of promoting renewable energy, it should be revised accordingly.

The BHRMP provides that "many decisions are not appropriate at this level of planning and are not included in the ROD, including the decision . . . to change the BLM's obligation to conform to current or future national policy." § 1.4.2. As discussed, the Administration has consistently stated that the promotion of renewable energy is one of its "highest priorities." Secretarial Order at 3. The BHRMP, however, provides some potentially conflicting guidance. Specifically, it states, in relevant part, that:

- 
3. Promote the sharing of ROWs with respect to engineering and technological compatibility, national security, and land use planning.
  4. Provide a system of designated ROW corridors on public land to help meet future ROW needs as appropriate.
  5. Promote efficiency in granting ROWs.
  6. Promote uniform ROW application processing and granting requirements and procedures.

§ 2801, 2(B).

\* \* \*

State Directors, District Managers and Field Managers, within their delegated areas of responsibility, are responsible for uniformly implementing and carrying out the guidance and instruction contained in this 2800 Manual/Handbook/IM series.

§ 2801, 4(C).

- all major utilities will be routed through designated corridors. Encourage new rights-of-way within designated corridors to promote the maximum use of existing routes. Encourage joint use whenever possible.
- whenever possible, promote energy transfer efficiency and support alternative energy sources. . .
- whenever possible, design or route transmission lines to minimize adverse visual impacts to the surrounding lands and vistas.

§ 2.3.5.2.2.

These directives in the RMP create a potential inconsistency between the national policy that the Administration has embraced for renewable energy and the directive to route major utilities through designated corridors on the one hand the desire to minimize adverse visual impacts on the other hand. As a result, the BHRMP should be amended to reflect one of the Administration's "highest" national priority of promoting renewable energy projects, particularly when they can be located within existing designated corridors.

3. If amended, the BHRMP should be revised to clarify certain key terms in a manner consistent with federal policy encouraging joint use.

"Utility corridors" and "transportation corridors" appear as section headings in the Table of Contents in the BHRMP and are jointly referenced throughout the BHRMP. Neither term, however, is a defined term in the BHRMP Glossary. Although the term "Multi-Use Corridor" appears as an undefined term on the legend of Map 9 referenced in the BHRMP, it does not appear anywhere in the BHRMP text and is also not defined in the Glossary. "Designated Corridor" is the only defined term for any corridor in the BHRMP. It is defined as "BLM's preferred route for placing rights-of-way for utilities (i.e. pipelines and power lines) and transportation (i.e. highways and railroads)."

To be consistent with BLM directives regarding joint-use corridors, the BHRMP should be revised to include definitions of both utility and transportation corridors. The definitions should expressly provide that both that transportation and utility corridors should be co-located wherever possible and that transmission lines, regardless of capacity, are not precluded within transportation corridors.

4. If the RMP is amended, it should be revised to designate the SR-74 transportation corridor as a multi-use corridor.

As discussed in detail above, BLM policy expressly encourages the joint use of corridors whenever possible. BHRMP, § 2.3.5.2.2. Here, there is an existing transportation corridor, which DOT has confirmed will accommodate the Transmission Line. Moreover, both the Committee and the ACC approved the siting of the Transmission Line within the SR-74 transportation corridor after an extensive public and environmental review. Designating the subject transportation corridor as a multi-use corridor would minimize any environmental impacts while satisfying the national policy of promoting renewable energy. Therefore, the RMP should be revised to designate the SR-74 transportation corridor as a multi-use corridor that would accommodate the Transmission Lines.

5. The BHRMP should clarify that the boundary of the Castle Hot Springs Management Unit is the northern boundary of the designated corridor on SR74.

Certain maps contained within the BHRMP<sup>7</sup> indicate that the Castle Hot Spring Management Unit (CHSMU) includes the area contained within the one-mile designated corridor of SR74 and extends south of SR 74 to include BLM lands. However, the location of the CHSMU boundary on the northern edge of the designated corridor of SR74 is more consistent with the desired future conditions of this management unit because the CHSMU is bounded by the designated transportation corridor of SR74 (Carefree Highway) on the south, which provides (1) for accessible open space and recreational opportunities on federal lands to the north, (2) acknowledges the development associated with the corridor designation and expansion of SR74, and (3) recognizes that SR 74 serves the urban growth areas on State and private lands to the south in the City of Peoria and greater metropolitan Phoenix area.

#### **F. Other Relevant Issues That Require Analysis.**

In addition to the issues described above, issues that require analysis for the proposed action and each reasonable alternative meriting a detailed analysis include, but are not limited to the following:

- BLM must evaluate the amount of time each alternative will take to proceed through any State or local permitting processes compared to the proposed project given the Department of the Interior's interest in expeditiously increasing the amount of renewable energy generation and transmission.
- BLM should consider how approval of the Transmission Line and the development that would occur would generate fees, property and sales taxes for the state, county, region, and city governments in comparison to other alternatives.
- The current RMP lists plans that were consulted in its development. However, most of the Plans consulted were for the 1998-2001 timeframe. Arizona and Metro Phoenix experienced incredible growth during the RMP process. Numerous Plans with new information and changed circumstances were being adopted by agencies within the RMP boundaries during the PEIS and FEIS. Each of those plans must be incorporated into the RMP to the maximum extent feasible.

---

<sup>7</sup> See:

- Map 4 Planning Area Management Units
- Map 9 Utility & Transportation Corridors and Communication Sites
- Map 10 Closed to Leasable Minerals
- Map 11 Closed to Saleable Minerals
- Map 12 Closed to Locatable Minerals
- Map 13 Grazing Allotments
- Map 15a Route Network for the South Black Canyon and Castle Hot Springs MUs
- Map 16 Visual Resource Management
- Map 18 Wilderness Characteristics
- Map 21 Castle Hot Springs Management Unit

- The BHRMP text indicating 115kV electric transmission facilities as a facility significant for the basis of corridor designation may not be reasonably interpreted as precluding placement of 115kV or greater transmission right of way as a shared use in a designated corridor that is a transportation corridor.
- Only a small amount of all the lands in Arizona are privately owned and an even smaller amount of private land has potential to be developed. Therefore, BLM must consider both the social and economic consequences which are both forestalling development opportunities and also delaying the provision of services that are in the public interest when examining the proposed action in comparison to other alternatives.
- In the event that BLM considers alternatives that are not on BLM lands, BLM must evaluate whether those alternatives are currently compatible with the approved land use plans on State land and private land south of SR 74, and BLM is obligated to analyze the impacts of that alternative on the visual resources, desert tortoise and other desert wildlife values.
- BLM must consider the potentially negative impacts to private adjacent landowners if BLM were to deny or modify the proposed action to place all or components on lands that are outside of its lands of jurisdiction.
- BLM must consider the availability of recently generated environmental data and information that was produced relative to the Transportation Corridor (proposed Multi-Use Corridor) during the BHRMP process that concluded in 2009. The recent approval of the BHRMP supported by a recent EIS provides a significant opportunity to accelerate the review and approval of the amendment to the BHRMP due to the availability of recently generated and approved environmental data and information.
- BLM must consider the evaluation of Recreational Impacts relative to the City of Peoria approved General Plan. As represented in the City of Peoria's voter approved General Plan, the recreational uses south of SR 74 would be severely impacted by the placement of the power line south of SR 74 due to the highly integrated nature land uses on the south side of SR 74 involving schools, parks, commercial, residential and open space. By comparison, the relative recreational impact of locating the power line north of SR 74 would be much less than the location of the power lines south of SR 74.
- BLM must consider the evaluation of Visual Impacts performed as part of the ACC line siting process. The Visual Impacts of the proposed line of the transmission line were thoroughly reviewed during the ACC line siting process relative their placement north or south of SR 74. A forensic level visual resource impact analysis was prepared for the ACC line siting process that demonstrated the lower visual impact of locating the power lines north of SR 74. The visual impact analysis also demonstrated how visual impact of the power line north of SR 74 can be mitigated while being co-located with the planned transportation improvements for SR 74.

### III. CONCLUSION

As discussed above, the Transmission Line (1) will assist the region in meeting the national policy of promoting renewable energy and (2) is in the public interest. The ACC Certified Route is also consistent with BLM's policy of siting rights-of-way for utilities and transportation within existing designated corridors, both transportation and utility corridors. Accordingly, the EIS should provide that the ACC Certified Route for the Transmission Line is the preferred alternative and proceed to expeditiously approve the right of way request.

Sincerely,

A handwritten signature in black ink, appearing to read "KD Abrahams". The signature is written in a cursive, somewhat stylized font.

Kenneth D. Abrahams  
Executive Vice President, Diamond Ventures, Inc.

# Attachment "A"

**Congress of the United States**  
Washington, DC 20515

Received  
7/7/10  
ES

July 1, 2010

James G. Kenna  
Arizona State Director  
Bureau of Land Management  
One North Central Avenue, Ste. 800  
Phoenix, Arizona 85004-4427

Angelita Bullets  
Manager, Phoenix District, BLM  
21605 N. 7<sup>th</sup> Avenue  
Phoenix, Arizona 85027-2929

Steven Cohn  
Field Manager, Hassayampa Field Office, BLM  
21605 N. 7<sup>th</sup> Avenue  
Phoenix, Arizona 85027-2929

Dear State Director Kenna, Ms. Bullets and Mr. Cohn,

As the elected Arizona Congressional Representatives serving Districts 2, 4, and 8, we are writing to request that you exercise your authority and rescind your April 28, 2010 rejection of Application AZA-35079, the Arizona Public Service Company application for Transportation and Utility Systems and Facilities on Federal Lands. The Right-of-Way application submitted to the BLM by Arizona Public Service Company included the corridor that was approved by the Arizona Corporation Commission in Decision 70850 after extensive environmental and public review. Not considering this valid and important information in evaluating APS' ROW application is not in the best interest of the State of Arizona and our constituents. Further, it is consistent with Section 2.1.10 Mission and Goals of the final 1610 (AZP010) Bradshaw Harquahala Resource Management Plan and Record of Decision, (RMP).

The RMP accommodates the complexity of the land planning process by providing flexibility and identifying a number of administrative actions which your office may employ to address the current situation. These are provided for in the RMP under "Modifications", "Clarifications", "Plan Monitoring", "Implementation Monitoring" and "Effectiveness Monitoring" as well as "Adaptive Management". Additionally, the BLM H-1601-1 Land Use Planning Handbook has specific sections which address the importance of "Coordination and Cooperation with Other Federal Agencies and State and Local Governments" as well as the procedures for administrative

authority in "Considering New Proposals, Circumstances and Information", and "Amending and Revising Decisions".

The installation of the TS-5 to TS-9 electric transmission line by its scheduled in-service date is essential for the elimination of electric transmission congestion and for furthering the development and conveyance of renewable energy, including the numerous solar energy ROW applications pending on BLM lands. BLM's acceptance of the APS ROW application for this line will address area-wide constraints and restrictions for energy transmission, and the need for enhanced redundancy and reliability. The TS-5 to TS-9 transmission line per the ACC decision will better promote the long-term sustainability of the population and environment in Arizona.

There are at least three important reports and decisions that occurred in 2009 which provide data and refer to issues covered in the RMP. These include: Arizona Corporation Commission Decision No. 70850, Docket No. L-00000D-08-0330-00138; Department of Energy National Electric Transmission Congestion Study; and BLM RMP ROD Designation of Energy Corridors on Bureau of Land Management Administered Lands in 11 Western States. These are not listed in the "Related Plans" section of the RMP. The integration of information from these State and Federal documents warrant an administrative adjustment to the management decisions and would not affect the broad-scale goals and objectives of the RMP.

The ACC decision and the DOE and BLM reports were available to the BLM prior to the April 2010 RMP Record of Decision. These reports provide information which create a changed circumstance and make the granting of the ROW north of State Route 74 an appropriate location for the APS TS-5 to TS-9 Project. The information from these 2009 State and Federal Agencies is important to be integrated into the Bradshaw Harquahala RMP land use plan implementation.

In addition, it appears that there may be an incorrect designation of BLM lands along State Route 74 as a "Transportation Corridor", which is an undefined term in the RMP Glossary. State Route 74, approved for expansion and development by the voters of Maricopa County and identified on the Regional Transportation Plans by Maricopa Association of Governments is more appropriately a "Designated Corridor". This BLM RMP defined term would be consistent with BLM's position on co-location of utility and transportation rights-of-way, regional transportation plans, the ACC decision and the APS ROW application.

We strongly urge you to consider the facts, federal policy decisions, 2009 reports, and the Arizona State Siting Process as outlined in this letter. This body of information merits the location of this electric transmission line in its ACC approved location and confirms that location as consistent with the RMP. Please take a course of action, including the possibility of errata that will expedite the approval of the APS ROW application.

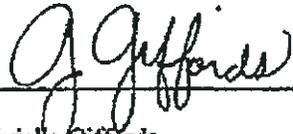
It is our goal, as Congressional Representatives, to ensure that the State of Arizona continues to be a leader in promoting renewable energy projects in the west, which will help relieve our dependence on fossil fuels. The APS TS-5 to TS-9 500/230kV Transmission Line Project will help achieve that goal. We thank you in advance for your consideration and swift action to approve these recommendations.

Most sincerely,



---

Trey Franks  
United States Congress



---

Gabrielle Giffords  
United States Congress



---

Ed Pastor  
United States Congress

# Attachment "B"



**Arizona Department of Transportation**  
**Intermodal Transportation Division**

206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Janice K. Brewer  
Governor

John S. Hallikowski  
Director

Floyd Roehrich Jr.  
State Engineer

December 7, 2010

Bureau of Land Management  
21605 N. 7<sup>th</sup> Avenue  
Phoenix, AZ 85027

ATTN: Steve Cohen  
Hassayampa Field Manager

RE: SR 74

Mr. Steve Cohen

This letter is in follow up to a request by our industry and agency partners to review a proposed 500kV/230kV electric transmission line by Arizona Public Service adjacent to SR 74. As you know, the Arizona Department of Transportation has a transportation easement within the Bradshaw-Harquahala Planning Area for our facility. Based on the information provided, the Department does not see any conflicts with the placement of this line adjacent to our future right-of-way easement needs as identified in the ADOT SR 74 Feasibility Report, Right-of-Way Preservation. Please let me know if you have any questions or would like to discuss this further.

Sincerely

*Robert Samour*

Robert Samour, P.E.  
Deputy State Engineer  
(602) 712-8274

C: John Halikowski, ADOT Director  
Steve Burg, City of Peoria  
Eric Anderson, MAG Transportation Director  
Priscilla Storm, Diamond Ventures, Inc.

# Attachment "C"



# BLACKSTONE

December 6, 2010

Mr. Jim Kenna, Director  
Bureau of Land Management  
Arizona State Office  
One North Central Avenue  
Suite 800  
Phoenix, AZ 85004-4427

Re: BLM Right of Way for APS TS-5 to TS-9 Transmission Facilities

Dear Director Kenna:

Enclosed please find a copy of a letter that the Blackstone at Vistancia Community Association recently sent to Congressman Trent Franks reasserting our community's support of the Arizona Corporation Commission (ACC) decision regarding the route for the above referenced planned energy transmission facilities. We believe the planned energy transmission facilities and the existing and expanded State Route 74 transportation facilities are compatible and should be co-located within BLM's current designated Transportation Corridor.

The community of Blackstone at Vistancia has and will continue to monitor BLM's activities on this matter. We anticipate being active in any public comment or other input process and highly energized in support the co-location of the planned energy facilities in accordance with the current approved ACC certificated route. We will also be active in any comment or other public input process and highly energized in opposition of any alternative alignments that is not consistent with and within the current ACC certificated route.

The community of Blackstone at Vistancia urges BLM to promptly proceed with the acceptance of the APS right of way application in accordance with the ACC certificated route and to establish an approval process that meets the regulatory requirements of BLM and enables APS to achieve its in-service date for the TS-5 to TS-9 transmission facilities.

Thank you for your cooperation on this matter.

Sincerely,

Lisa M. Lundskow, CMCA, AMS, CAAM  
Blackstone at Vistancia Community Manager

CC: Congressman Trent Franks  
Councilmember Cathy Carlat  
Paul Herndon - APS Project Manager



# BLACKSTONE

December 6, 2010

Congressman Trent Franks  
7121 West Bell Road  
Suite 200  
Glendale, AZ 85308

Re: Arizona Public Service Company (APS) – TS-5 to TS-9 Transmission Facility

Dear Congressman Franks:

The community of Blackstone at Vistancia is located in the City of Peoria, Arizona and is currently the home for 210 residents. Blackstone at Vistancia is planned for 600 homes and a future population of over 2,100 residents. The Blackstone at Vistancia Community Association has actively monitored and participated the above referenced power transmission facility alignment and decision process over the past several years and formally intervened in the Arizona Corporation Commission (ACC) line siting process that resulted in a decision that established the certificated route for the planned future facilities. Blackstone at Vistancia is in full support of the ACC decision to co-locate the TS-5 to TS-9 transmission facilities with State Route 74 and to coordinate the planned transmission facilities with the planned expansion of State Route 74.

We understand that since the ACC decision in March 2009 BLM has yet to accept the APS right of way application or take the necessary actions that would result in BLM accepting the right of way application for the portion of the planned transmission facility that is on BLM lands. The Blackstone at Vistancia Community Association is very concerned that such non-action on the part of BLM may force APS to revisit this matter with the ACC since BLM's non-action directly threatens APS's ability to meet its established 2016 in-service date.

In the unfortunate event that this matter must be revisited by the ACC due to BLM's lack of action to approve the APS right of way application All of Vistancia Village will again be highly involved and active in its support of the current ACC certificated route and opposed to any changes in the approved route for the TS-5 to TS-9 transmission facilities.

The community of Blackstone at Vistancia remains vigilant and highly engaged on this matter. We appreciate your long standing support of our community's position and the position of the ACC on this matter.

Sincerely,

Lisa M. Lundskow, CMCA, AMS, CAAM  
Blackstone at Vistancia Community Association Manager

C: BLM Director Kenna  
APS Project Manager Horndon  
City of Peoria – Cathy Carlat

# Attachment "D"



December 6, 2010

Mr. Jim Kenna, Director  
Bureau of Land Management  
Arizona State Office  
One North Central Avenue  
Suite 800  
Phoenix, AZ 85004-4427

Re: BLM Right of Way for APS TS-5 to TS-9 Transmission Facilities

Dear Director Kenna:

Enclosed please find a copy of a letter that the Vistancia Maintenance Corporation recently sent to Congressman Trent Franks reasserting the Maintenance Corporation's support of the Arizona Corporation Commission (ACC) decision regarding the route for the above referenced planned energy transmission facilities. We believe the planned energy transmission facilities and the existing and expanded State Route 74 transportation facilities are compatible and should be co-located within BLM's current designated Transportation Corridor.

The Vistancia Maintenance Corporation has and will continue to monitor BLM's activities on this matter. We anticipate being active in any public comment or other input process and highly energized in support the co-location of the planned energy facilities in accordance with the current approved ACC certificated route. We will also be active in any comment or other public input process and highly energized in opposition of any alternative alignments that is not consistent with and within the current ACC certificated route.

The Vistancia Maintenance Corporation urges BLM to promptly proceed with the acceptance of the APS right of way application in accordance with the ACC certificated route and to establish an approval process that meets the regulatory requirements of BLM and enables APS to achieve its in-service date for the TS-5 to TS-9 transmission facilities.

Thank you for your cooperation on this matter.

Sincerely,

  
Lisa M. Lundsков, CMCA, AMS, CAAM  
Vistancia Maintenance Corporation Manager

CC: Congressman Trent Franks  
Councilmember Cathy Carlat  
Paul Herndon -- APS Project Manager



December 6, 2010

Congressman Trent Franks  
7121 West Bell Road  
Suite 200  
Glendale, AZ 85308

Re: Arizona Public Service Company (APS) – TS-5 to TS-9 Transmission Facility

Dear Congressman Franks:

The Vistancia Maintenance Corporation is located in the City of Peoria, Arizona and maintains hundreds of acres of common area for the residents of all of Vistancia Village. The Vistancia Maintenance Corporation has actively monitored and participated the above referenced power transmission facility alignment and decision process over the past several years and formally intervened in the Arizona Corporation Commission (ACC) line siting process that resulted in a decision that established the certificated route for the planned future facilities. Vistancia Maintenance Corporation is in full support of the ACC decision to co-locate the TS-5 to TS-9 transmission facilities with State Route 74 and to coordinate the planned transmission facilities with the planned expansion of State Route 74.

We understand that since the ACC decision in March 2009 BLM has yet to accept the APS right of way application or take the necessary actions that would result in BLM accepting the right of way application for the portion of the planned transmission facility that is on BLM lands. The Vistancia Maintenance Corporation is very concerned that such non-action on the part of BLM may force APS to revisit this matter with the ACC since BLM's non-action directly threatens APS's ability to meet its established 2016 in-service date.

In the unfortunate event that this matter must be revisited by the ACC due to BLM's lack of action to approve the APS right of way application All of Vistancia Village will again be highly involved and active in its support of the current ACC certificated route and opposed to any changes in the approved route for the TS-5 to TS-9 transmission facilities.

The Vistancia Maintenance Corporation remains vigilant and highly engaged on this matter. We appreciate your long standing support of our community's position and the position of the ACC on this matter.

Sincerely,

Lisa M. Lundsckow, CMCA, AMS, CAAM  
Vistancia Maintenance Corporation Manager

C: BLM Director Kenna  
APS Project Manager Herndon  
City of Peoria – Cathy Carlat

**Trilogy at Vistancia Community Association  
c/o AAM, LLC  
7740 N. 16<sup>th</sup> Street, Suite 300  
Phoenix, AZ 85020**

December 6, 2010

Mr. Jim Kenna, Director  
Bureau of Land Management  
Arizona State Office  
One North Central Avenue  
Suite 800  
Phoenix, AZ 85004-4427

Re: BLM Right of Way for APS TS-5 to TS-9 Transmission Facilities

Dear Director Kenna:

Enclosed please find a copy of a letter the community of Trilogy at Vistancia recently sent to Congressman Trent Franks reasserting the Maintenance Corporation's support of the Arizona Corporation Commission (ACC) decision regarding the route for the above referenced planned energy transmission facilities. We believe the planned energy transmission facilities and the existing and expanded State Route 74 transportation facilities are compatible and should be co-located within BLM's current designated Transportation Corridor.

The community of Trilogy at Vistancia has and will continue to monitor BLM's activities on this matter. We anticipate being active in any public comment of other input process and highly energized in support the co-location of the planned energy facilities in accordance with the current approved ACC certificated route. We will also be active in any comment or other public input process and highly energized in opposition of any alternative alignments that is not consistent with and within the current ACC certificated route.

The community of Trilogy at Vistancia urges BLM to promptly proceed with the acceptance of the APS right of way application in accordance with the ACC certificated route and to establish an approval process that meets the regulatory requirements of BLM and enables APS to achieve its in-service date for the TS-5 to TS-9 transmission facilities.

Thank you for your cooperation on this matter.

Sincerely,



Jeff Dixon, Community Manager  
Trilogy at Vistancia

CC: Congressman Trent Franks  
Councilmember Cathy Carlat  
Paul Herndon – APS Project Manager

# **Why are we here?**

What were the processes involved?

## Processes up to this point

- Peoria General Plan
  - Process for approval
  - Process for adoption
  - Reliance
- APS, ACC certification process
- BLM RMP
- Timing

# Opportunities and Constraints

**Opportunities and Constraints**

**Site condition review**  
**New information**

# TS-5 TO TS-9 500/230KV Project

Dr. Suzanne Griset  
Consultant

## Suzanne Grisct

### Background

- Education
  - M.A. in Anthropology, University of California, Davis, 1978
  - Ph.D. in Anthropology, with specialty in North American Archaeology, University of California, Davis 1996

### Professional History

- Consulting Archaeologist throughout California, (1978-2006)
- 30 years experience in Cultural Resource management, as a private contractor, as a federal employee managing contracted archaeological projects, and as a peer reviewer for federal agencies.
- Principal Investigator for SWCA Environmental Consultants since 2006.

Suzanne Griset

## Procedure

- First, we obtained the necessary permits to conduct survey on state/federal land:
  - Notice of Intent to Survey on state lands
  - Survey permit from BLM
- We prepared maps of the Alternative 3 North route using data provided by Diamond Ventures (DV) and conducted records searches of previous archaeological work and sites recorded within one mile of the route:
  - AZSITE (the official online database of archaeological sites and surveyed areas, maintained by the Arizona State Museum)
  - Bureau of Land Management GLO land survey records
  - Arizona State Historic Preservation Office (SHPO) records.
- Three previously recorded sites are within the project area: AZ T:3:5(ASM), the Beardsley Canal; and two historical road segments recorded as AZ T:3:200(ASM) and AZ T:3:201(ASM).

## Suzanne Griset

- Two professional archaeologists in our Phoenix office conducted the field survey, walking a 150 ft corridor in 20 m transects.
- They recorded two new sites (described herein) and 22 isolated artifacts, evaluated their eligibility for nomination to the National Register of Historic Places (NRHP), and prepared the draft report and management recommendations.
  - Dr. Suzanne Griset performed the technical review of the report; revisions were finalized, and the report was delivered to DV on October 15, 2008.
  - Copies will be curated at the Arizona State Museum as required by our state permit.
  - Official site records will be filed with AZSITE.
- On October 17th, Dr. Griset accompanied Gary Rich to examine the proposed pole locations and access routes, in light of the survey results.

## Site Eligibility Chart

Eligibility Recommendations	Preferred Route Segments 4 & 5 (1000' Area of Potential Effect (APE)); 34% surveyed)	Alt Route 3 (1000' APE; 36% surveyed)	Alt Route 3 North (150' APE; 100% newly surveyed)
Determined Eligible	1	1	1 <sup>a</sup>
Determined Eligible (excavations conducted)	3 <sup>b</sup>		
Rec. Eligible		1	
Determined Ineligible	2	2	2
Recommended Ineligible			2
Unevaluated	6	2 <sup>c</sup>	
Unevaluated (surface collections and documentation)		1 <sup>d</sup>	
<b>Total Sites</b>	<b>12</b>	<b>7</b>	<b>5</b>

<sup>a</sup> This historic canal can be easily spanned and direct impacts avoided.

<sup>b</sup> These sites may have been mitigated by the previous excavations.

<sup>c</sup> One unevaluated site contains significant prehistoric remains and is located close to the recommended eligible site.

<sup>d</sup> The documentation and surface collections of this historic mine may be sufficient to mitigate the site.

## Comparison of Biological and Cultural Resources by Route

<b>Route</b>	<b>Biological Resources Number of Special-Status Species with the Potential to Occur</b>	<b>Cultural Resources NRHP Status of Historic Properties &amp; Survey Status per AZSITE</b>
Preferred Route, Segments 4 & 5	0 ESA 4 BLM 2 STATE  6 TOTAL	7 SITES Must be Addressed* 66% Not Surveyed
Alternative 3	4 ESA 7 BLM 6 STATE  17 TOTAL	5 SITES Must be Addressed* 64% Not Surveyed
Alternative 3 North (new)	2 ESA 4 BLM 6 STATE  12 TOTAL	1 SITE Must be Addressed* 0% Not Surveyed
<b>All Routes</b>	Will Need Field Surveys for Presence of Species	Will Need Field Surveys of Access Roads

\*sites must be evaluated and/or mitigated

# Regional Context Map with APS Alt 3 Certificated North Corridor



# TS-5 TO TS-9 500/230KV Project

Gary Rich

Consulting Transmission Line Engineer

Gary Rich

## Background

- Education
  - B.S., Electrical Engineering  
Washington State University
  - M.S., Engineering  
University of Santa Clara (California)
- Professional Experience
  - 40 years experience in electric utility industry with Pacific Gas & Electric Company, PacificCorp and Nevada Power Company
  - Project Engineer and/or Project Manager in design, routing, permitting and construction of 1,000+ collective miles of 115 kV, 138 kV, 230 kV and 500 kV electric transmission lines in western United States

Gary Rich

- 500 kV transmission projects include California-Oregon Transmission Project, Path 15 (California), Harry Allen-Crystal (Nevada), Crystal Loop (Nevada), Robinson Summit-Harry Allen (Nevada)
- Chairman of Engineering/Technical Committee for 400-Mile 500 kV Transmission Project in Northern California
- Performance of numerous electrical engineering studies, development of electrical engineering standards, and testing of electrical transmission line hardware and material
- Participation in failure analysis and repair of EHV electric transmission line failures

Gary Rich

- Provision of electrical engineering consulting services to electric utilities, municipalities, residential and commercial developments and homeowner associations in connection with design, routing and permitting of high voltage electric transmission lines
- Presentation of testimony before Arizona Power Plant and Transmission Line Siting Committee in Case Nos. 126 (Area "A"), 126 (Area "C"), 137 and 138
- Presentation of testimony before Arizona Corporation Commission in Docket Nos. E-01032-99-0401, which relates to Siting Case No. 111.

Gary Rich

- Perform a detailed analysis of the proposed APS corridors and alignments to determine their viability in terms of constructability, and potential impacts to surrounding areas
- Evaluate and route a 500/230 kV transmission line which would achieve Arizona Public Service Company's ("APS") stated electrical objectives for APS' TS-5 to TS-9 project
- Evaluate and route a 500/230 kV transmission line which would provide the same electric reliability as would be provided using either Segment 5 of APS' Preferred Route or APS' proposed route south of SR 74 in Alternative Route 3 Corridor
- Evaluate and route a 500/230 kV transmission line which would be comparable in cost to the same facilities constructed on either Segment 5 of APS' Preferred Route or APS' proposed route south of SR 74 in Alternative Route 3 Corridor

Gary Rich

- Evaluate and route a 500/230 kV transmission line which would minimize impact on surrounding biological and cultural resources and be more suitable from a biological and cultural resource impact viewpoint than either Segment 5 of APS' Preferred Route or APS' proposed route south of SR 74 in Alternative Route 3 Corridor
- Evaluate and route a 500/230 kV transmission line which mitigates or eliminates the impact to Lake Pleasant Park and along SR 74
- Evaluate and route a 500/230 kV transmission line which mitigates the impact on surrounding land and does not physically encroach on any privately-owned acreage within or in vicinity of the eastern study area, including
  - Vistancia
  - Lake Pleasant Heights
  - Saddleback Heights
  - Estates At Lakeside
  - Saguario Bay
  - Quintero

Gary Rich

Summary of Reasons Why Suggested 500/230 kV Transmission Line Route Within

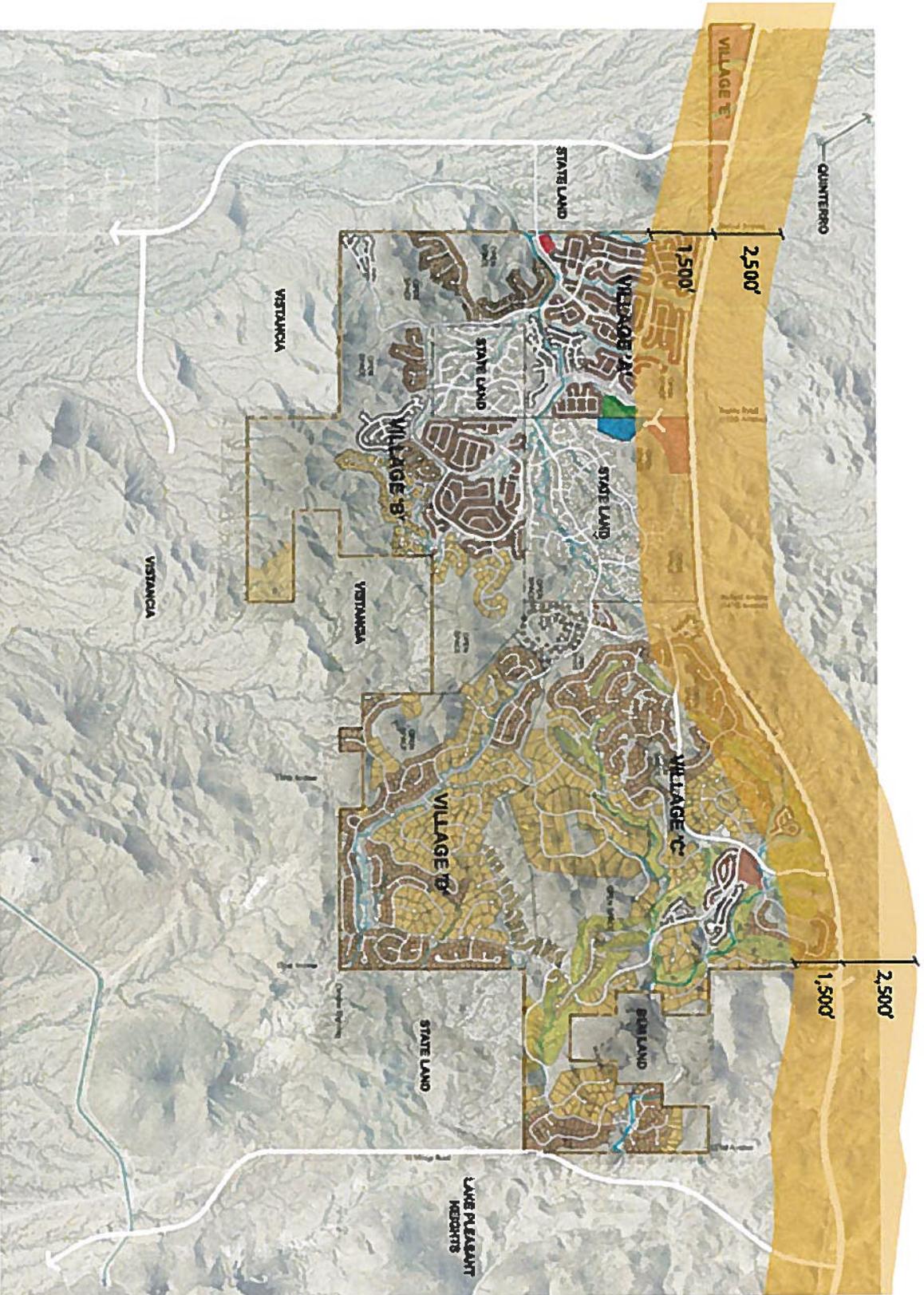
Alternative Route 3 North Corridor More Suitable Than APS' Proposed Route South of SR 74 in Alternative Route 3 Corridor:

- Achieves stated electrical objectives of APS' TS-5 to TS-9 project
- Satisfies same electric reliability standards as either Segment 5 or APS' Preferred Route of APS' proposed route south of SR 74 in Alternative Route 3 Corridor
- Alternative 3 North Corridor is the least expensive alternative
  - Shorter than Segments 4 or 5
  - Less right of way cost
- Entails less impact on surrounding biological and cultural resources than either of APS' proposed routes

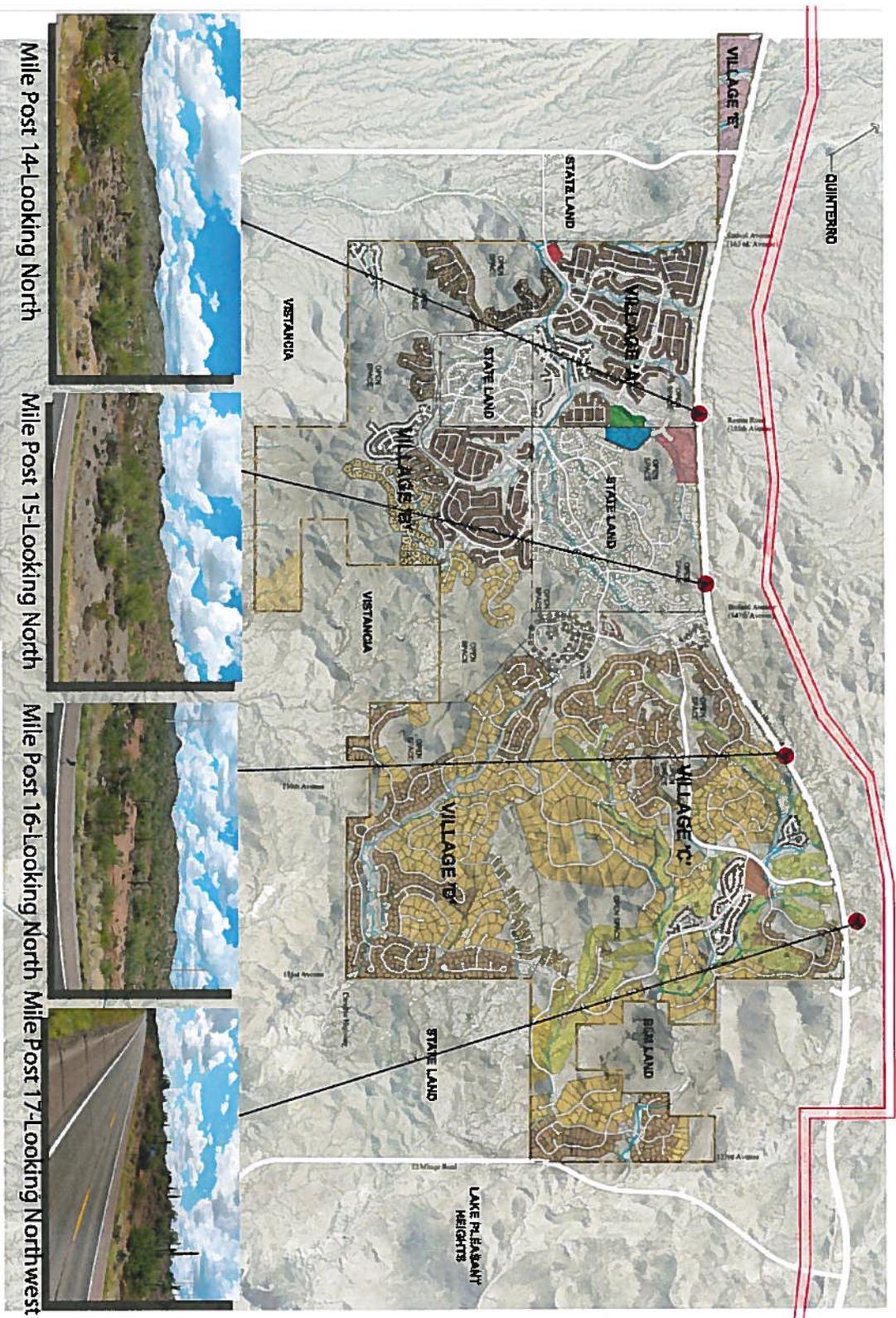
**Gary Rich**

- **Mitigates or eliminates impact to Lake Pleasant Park and along SR74**
- **Consistent with existing land use plans of City of**
- **Involves fewer constructability issues and associated environmental impacts**
- **Provides better future maintenance options**

# Site Plan and Alt-3 N and S Corridors



# Alt-3 North – Visual Resource Analysis



## Overall Corridor Key Map

**Alt-3 North – Visual Resource Analysis**



**Mile Post 14 – Looking North**

Alt-3 North – Visual Resource Analysis



Millie Post 15 – Looking North

**Alt-3 North – Visual Resource Analysis**



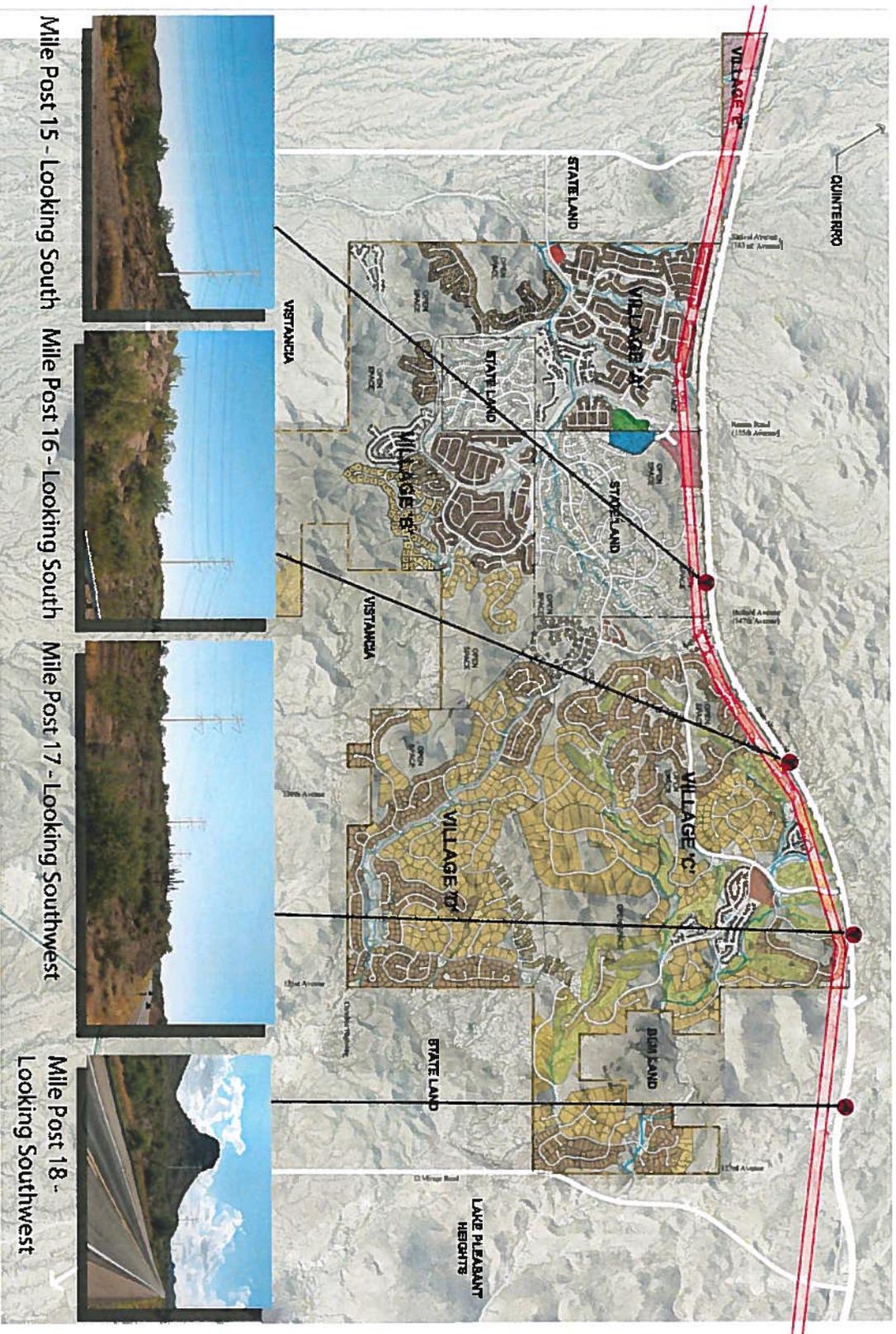
**Mile Post 16 – Looking North**

**Alt-3 North – Visual Resource Analysis**



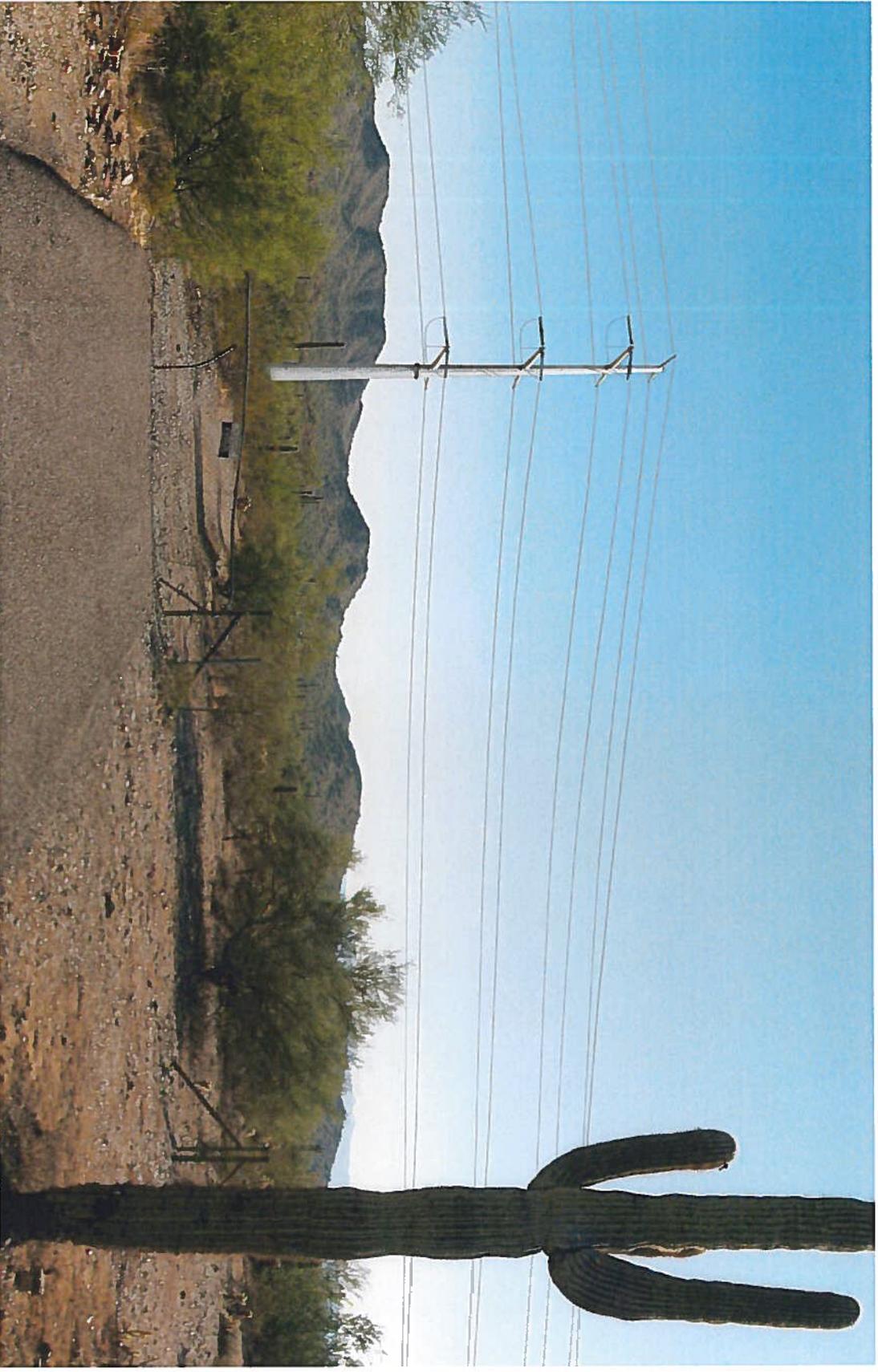
**Mile Post 17 – Looking Northwest**

# Alt-3 North – Visual Resource Analysis



## Overall Corridor Key Map

Alt-3 South – Visual Resource Analysis



Mile Post 14 – Looking South

Alt-3 South – Visual Resource Analysis



Mile Post 15 – Looking South

Alt-3 South – Visual Resource Analysis



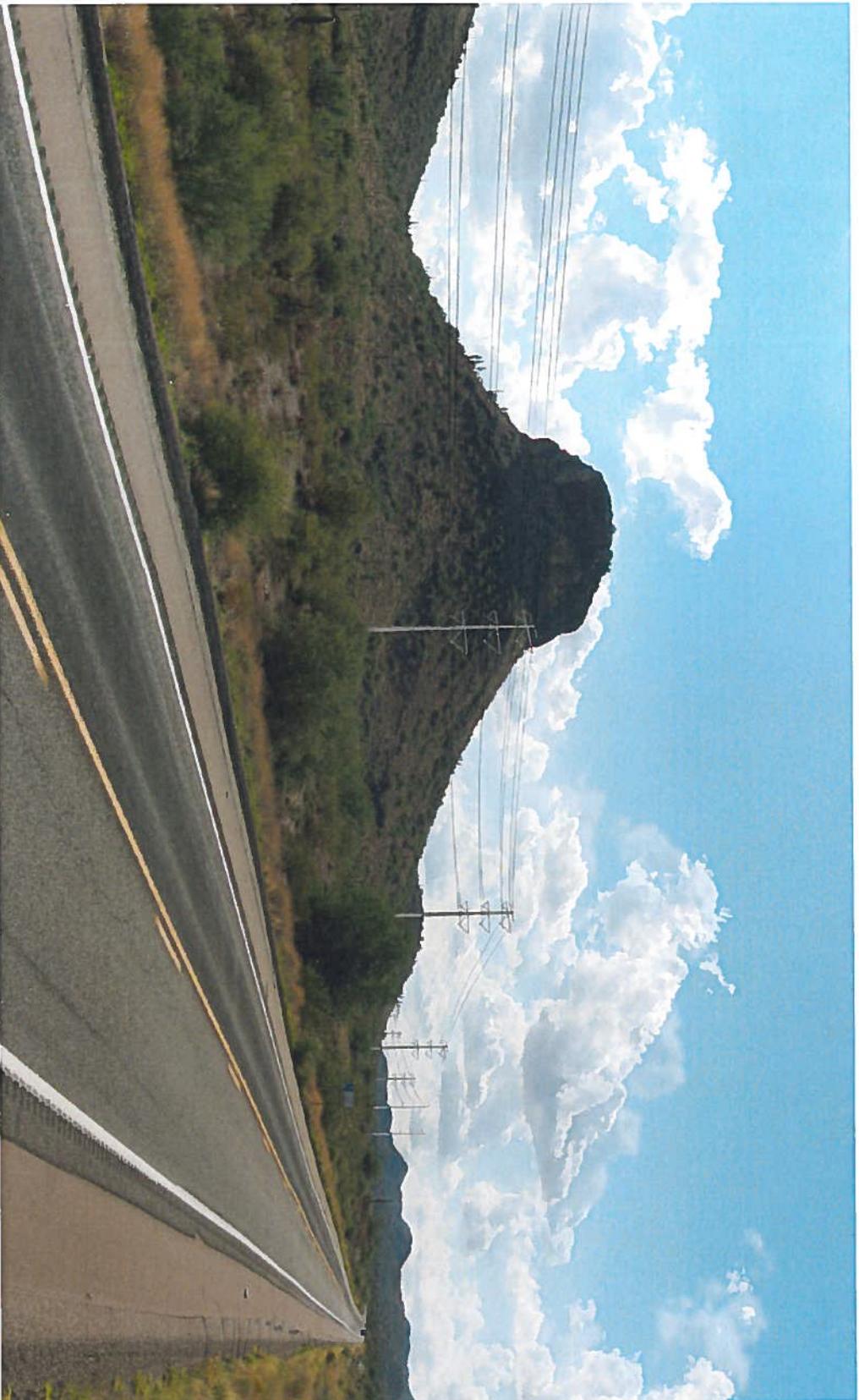
Mile Post 16 – Looking South

## Alt-3 South – Visual Resource Analysis



## Mile Post 17 – Looking Southwest

**Alt-3 South – Visual Resource Analysis**



**Mile Post 18 – Looking Southwest**

**TS-5 TO TS-9 500/230KV Project**

**Eleanor Gladding**

**Senior Biologist/Project Manager  
SWCA Environmental Consultants**

## Eleanor Gladding

### Background

- Education
  - B.S., major in Biology, Berry College, Rome, Georgia, 1994
  - M.S, major in Biology, University of Central Florida, Orlando, 1998
- Professional History
  - Senior Biologist/Project Manager, SWCA Environmental Consultants; Phoenix, Arizona (2000–present).
  - Biological Laboratory Technician, USDA Western Cotton Research Laboratory, Tempe, Arizona (May–September 2000).
  - Database Assistant, Hargis and Associates; Tempe, Arizona (October 1999–present).
  - Biological Research Assistant, OPS, Wekiwa Springs State Park; Wekiwa, Florida (May–September 1998).
  - Graduate Teaching Assistant, Biology Department, University of Central Florida (1997–1998).

## Eleanor Gladding

### Current Work Responsibilities at SWCA

• Ms. Gladding is a senior biologist in SWCA's Tucson office. As a biologist, she is adept at the identification of plants and animals, their habitat, and signs of presence. She is also skilled at writing technical and non-technical reports and conducting the extensive literature research that accompanies writing at the professional level.

### • Her responsibilities include:

- Managing, organizing, and conducting a variety of biological and environmental projects throughout central and southern Arizona.
- Managing projects, conducting fieldwork, and preparing reports for compliance with the National Environmental Policy Act, Endangered Species Act, and Clean Water Act.

• Her typical projects include biological evaluations; threatened and endangered species surveys; mitigation monitoring, planning, and report preparation; noxious weed surveys; and species-specific surveys.

## Eleanor Gladding

### Study Methodology and Data Sources

- Identification of applicable statutes and regulations
  - Endangered Species Act of 1973, as amended
  - Migratory Bird Treaty Act of 1918 (16 United State Code 703-711)
  - Arizona Native Plant Law (Arizona Revises Statues 3-904)
  - BLM Sensitive Species (BLM policy in Manual 6840)
  - Arizona Listed Species (Arizona Revised Statues Title 17)
- Preparation of area maps and background research
  - Heritage Database Management System search utilizing the AGFD on-line tool to identify documented records of occurrence for special-status species in the project vicinity
- Field investigations of area
  - Determination of species potentially affected by 500/230 kV transmission line corridor and route proposed by Diamond Ventures
  - Determination of applicable statutory requirements

## Eleanor Gladding

### Study Results and Conclusions:

- Proposed Alternative Route 3-North Corridor within Arizona Upland Subdivision of the Sonoran Desertscrub Biotic Community
  - Uplands characteristics (Illustrative Photo)
    - Creosote Bush
    - Brittlebush
    - Foothill Palo Verde
    - Triangle-Leaf Bursage
    - Cholla
    - Saguaro
    - Hedgehog Cactus
    - Native Grasses and Forbes
  - Xeroriparian Characteristics
    - Similar to Uplands with higher density
    - Catclaw Acacia
    - Wolfberry
    - Velvet Mesquite
    - Desert Ironwood

## Eleanor Gladding

- Riparian Vegetation along the Agua Fria River (Illustrative Photo)
  - Similar to Xeroriparian areas
  - Cottonwood
  - Willow
  - Burrobrush
  - Desert Broom

## Eleanor Gladding

- Species potentially present in proposed Alternative Route 3 North Corridor study area
  - ESA – Willow Flycatcher and Bald Eagle could be present near the Agua Fria River
  - Candidate - Cuckoo could be present near the Agua Fria River
  - MBTA - common species likely present
  - AZ NPL - common species present
  - BLM Sensitive species - 4 species could be present
    - 2 bat species could forage in area
    - Burrowing Owl could be present along the Agua Fria River and Beardsley Canal areas
    - Tiger beetle along the Agua Fria River or larger washes
  - State-listed species
    - One bat species could forage in the area
    - Sonoran Desert Tortoise is likely to be present within most of the project area

## Eleanor Gladding

- Identification of available mitigation measures
  - ESA - survey for Willow Flycatcher; may be required to construct in the area near the Agua Fria River outside of breeding season and their time in AZ; temporary and minimal noise disturbance for the bald eagle; may be required to construct outside of breeding season
  - Candidate - survey for cuckoo; construct in the area near the Agua Fria River outside of breeding season
  - MBTA – construct power line utilizing the current practices that minimize bird electrocutions; survey pad location for nests; only do vegetation removal outside of breeding season
  - AZ NPL - this law allows destruction of protected plants if notification to the ADA is made; survey for salvable species and relocate nearby
  - BLM Sensitive species - limited mitigation measures available for bats or beetle, but impacts would be minimal to none; survey for owls and relocate if in the path of construction; otherwise, mark area to avoid damage and limit disturbance

## Eleanor Gladding

- State-listed species - limited mitigation measures available for bats, but impacts would be minimal to none; may require that a biological monitor be present during construction activities for tortoise protection, plus tortoise education for construction personnel

Eleanor Gladding

Discussion of Arizona Game and Fish Department ("AGFD") Concerns

- October 14, 2008 telephone conference with Ms. Ginger Ritter of AGFD (1) discussing AGFD's August 11, 2008 letter to URS, and (2) clarifying AGFD's specific concerns
  - Preparation of October 15, 2008 Technical Memorandum Summarizing October 14, 2008 telephone conference with AGFD
- Point-by-point discussion of August 11, 2008 AGFD letter and SWCA's October 15, 2008 Technical Memorandum
  - Wildlife corridor concern
  - Removal of ground cover concern
  - Bird and bat strike concern
  - Morgan City Wash area concern
- SWCA's conclusion is that AGFD concerns either are inapplicable as to proposed Alternative Route 3 North transmission line corridor and route, or potential impact will be minimal and of short duration. In addition, these concerns would apply to any power line project route.

## Eleanor Gladding

- Comparison of Alternative Route 3-North with APS' suggested route (Alternative Route 3) south of SR74 within the Alternative Route 3 Corridor:
  - ESA Species:
    - APS' Alternative Route 3 has 4 species with potential to occur (willow flycatcher, cuckoo, Gila topminnow, and clapper rail)
    - Alternative Route 3-North has 2 species with potential to occur (willow flycatcher and bald eagle)
  - BLM Sensitive Species:
    - APS' Alternative Route 3 has 7 species with potential to occur (agave, frog, chuckwalla, burrowing owl, 2 bats, and 1 fish)
    - Alternative Route 3-North has 4 species with potential to occur (tiger beetle, burrowing owl, and 2 bats)

## Eleanor Gladding

### State Species:

- APS' Alternative Route 3 has 6 species with potential to occur (tortoise, garter snake, falcon, and 3 bats)
- Alternative Route 3-North has 2 species with potential to occur (tortoise and bat)

# Topographical Site Map

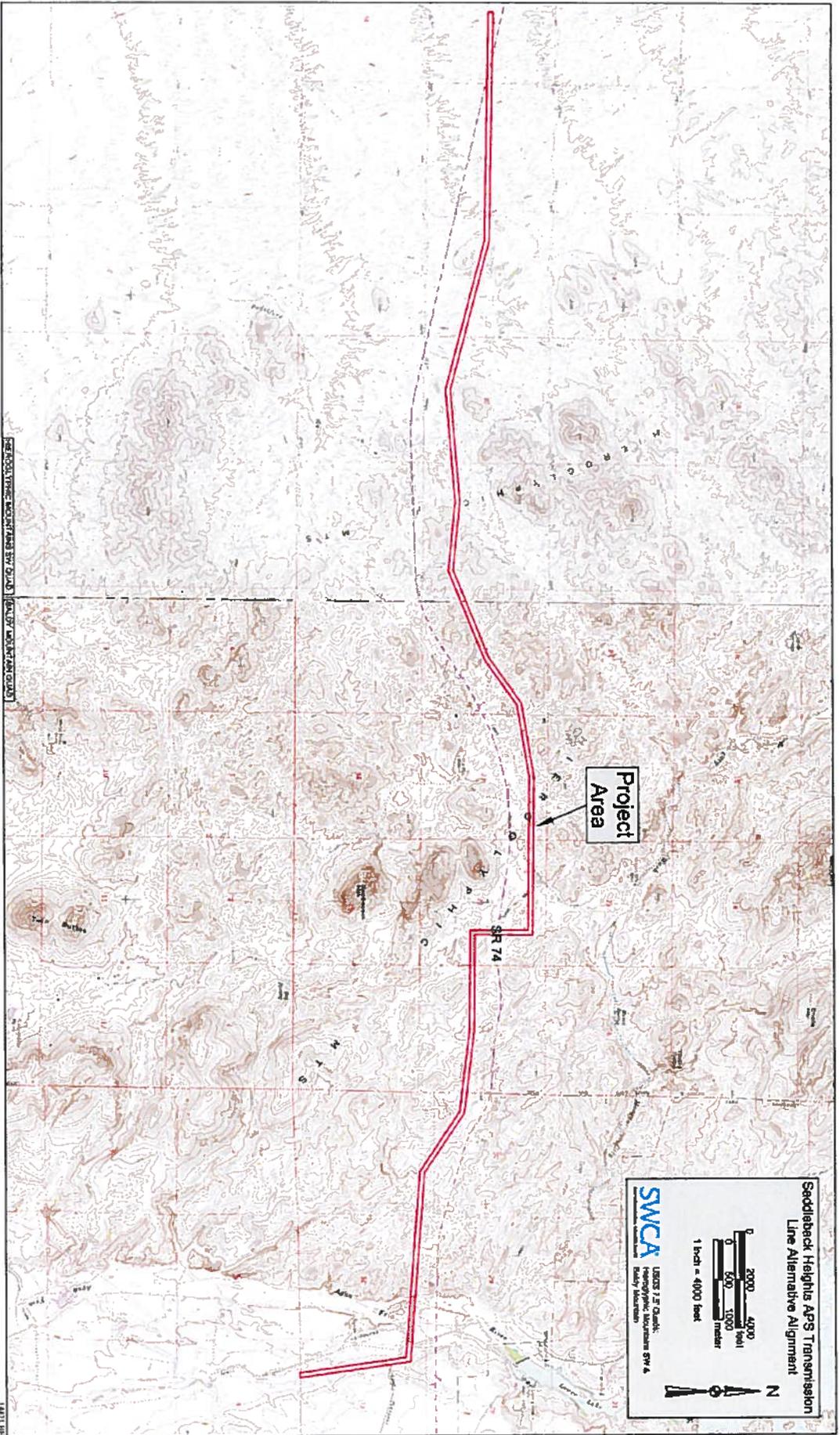
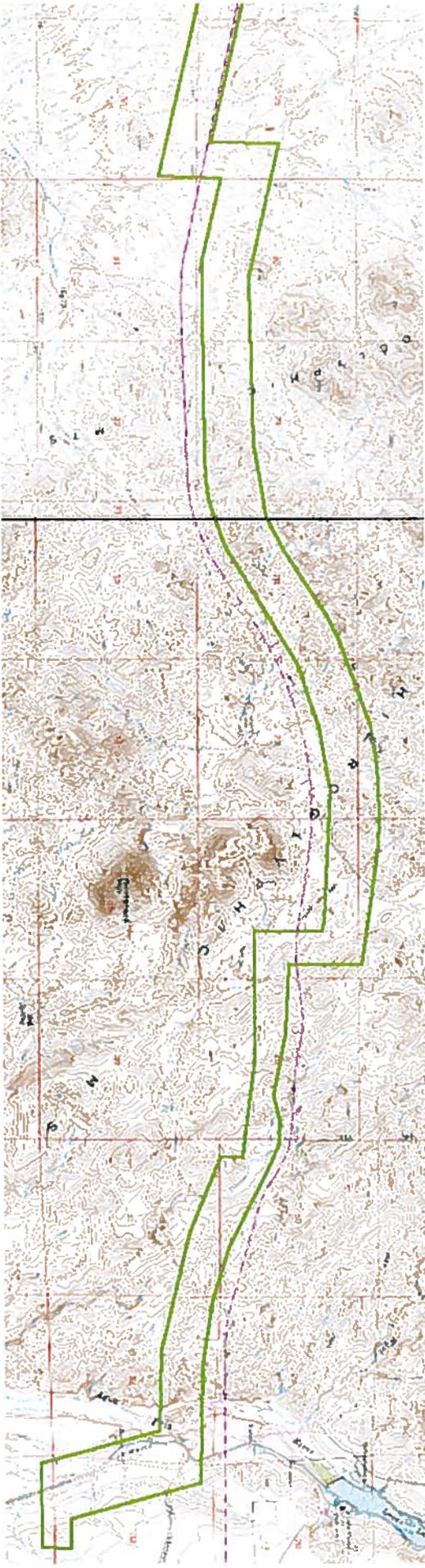


Figure 2. Project area location.

# Certificated Corridor Topographical Site Map



**TS-5 to TS-9 500/230KV Project**

**Ken Abrahams  
Executive Vice President  
Diamond Ventures, Inc.**

## Ken Abrahams

- Title - Executive Vice President, Diamond Ventures, Inc.
- Education/Credentials
  - BS – Psychology
  - BS – Landscape Architecture
  - MS – Renewable Natural Resource Planning
- Responsibilities – Land Acquisition, Planning and Development
- Years with Diamond Ventures – Since 1989
- Involvement with Saddleback Heights
  - From inception/first sight in 2001
  - Due Diligence and Purchase
  - Planning and Entitlement
  - Pre-Development Planning and Engineering

## Ken Abrahams

- Perception of overall setting and environmental quality (key part of the value proposition for a MPC)
  - MPC development is a 20 year commitment of time and capital requiring careful control of the built and un-built environment
  - Inside and on the perceived edge of the MPC
    - For Saddleback Heights, the value proposition includes a feeling of “health and wellness” as part of a resort lifestyle enclave community
- Specific Saddleback Heights land use impacts

## Ken Abrahams

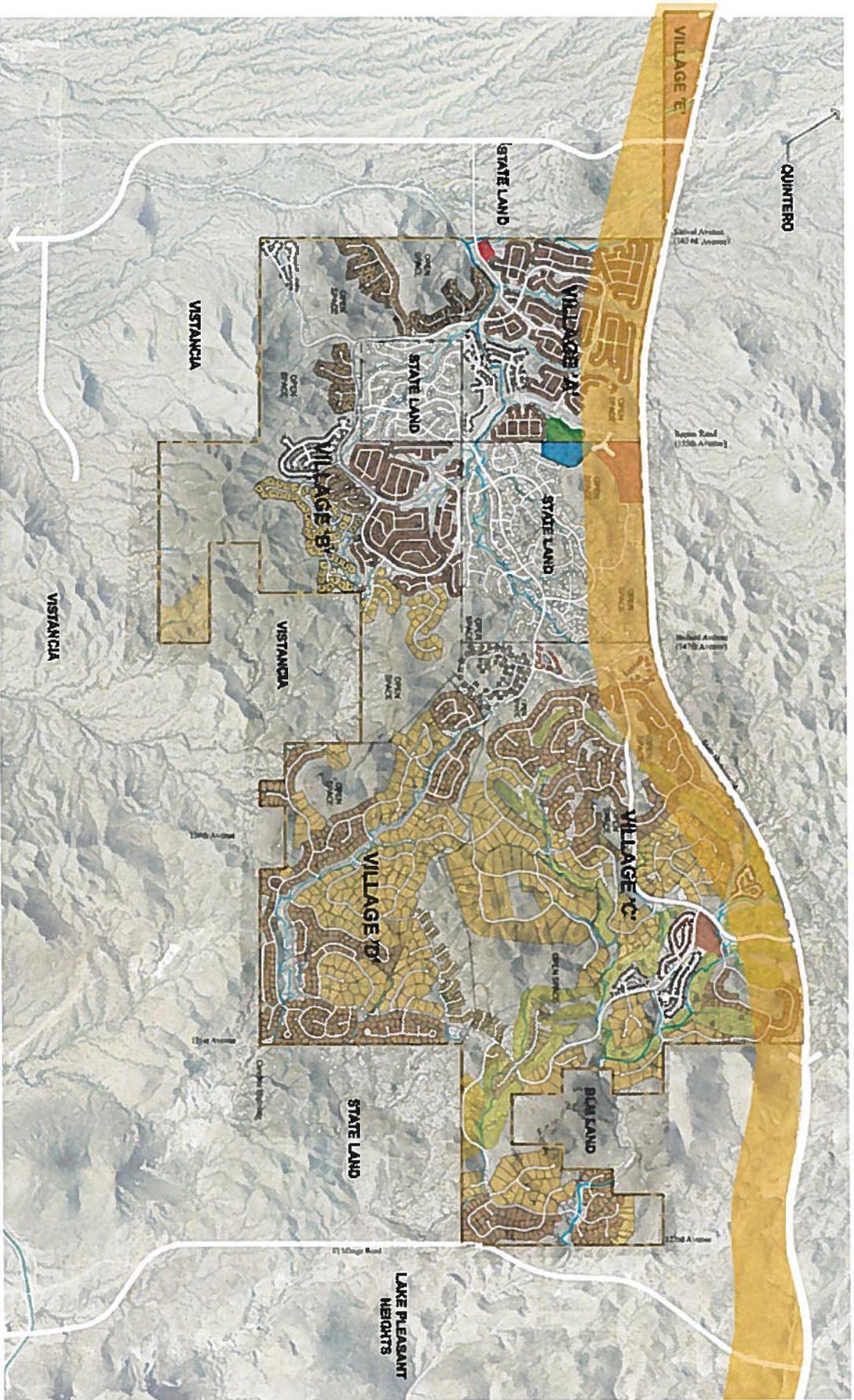
- Sense of arrival
  - “One never gets a second chance to make a first impression”
  - The arrival sequence at a MPC begins *before* entering the project
  - 5-miles of continuous frontage on SR74
    - Multiple project entries
      - 3 resort enclave entries
      - Multiple commercial entries
    - Project entries in MPCs (high-cost/value statement)
      - MPCs typically spend large sums of improvement dollars enhancing project entry areas and areas leading up to project entries to:
        - Communicate positive impressions to prospective buyers
        - Reinforce positive perceptions to existing owners
- Open Space
  - Protected/preserved open space at/near community entry(s)
- Saddleback Heights land use impacts

## Ken Abrahams

- Saddleback Heights, as a low-density master planned community is highly sensitive to financial impacts due to
  - The relatively low utility of the land
  - The physical site constraints and
  - Regulatory constraints.
- Land values and development would be frozen while specific alignments are determined, engineered and approved.
- Major amendments to the Saddleback Heights PCD, Development Agreement, Master Studies and Pre-Development Plans would require up to 2 years of activity, involve significant cost and incur significant financial cost.
- A “Scarlet Letter” would be placed on Saddleback Heights until all issues associated with directly impacting the property and project would be resolved.

## Ken Abrahams

- Why is Alternative 3 North the best choice?
  - Avoids direct impact to developments in the area
  - Shares the burden of indirect impact (visual only)
    - Saddleback Heights has 5 miles of close proximity frontage on Alternative 3 North
  - Mitigates financial impacts
  - Mitigates regional/community and area impacts and preserves the regional values
  - Respects Maricopa County scenic corridor standards
  - Complies with ADOT transportation planning criteria
  - Complies with City of Peoria vision of North Peoria
  - Consistent with the Bureau of Land Management historic practices of BLM in accommodating such utility improvements
  - Provides a constructible and cost-effective alignment for the proposed transmission facilities
  - Provides a reliable alignment for the proposed transmission facilities



Alt 3 South Alignment

### Alternative 3 South Land Use Matrix

<b>ALTERNATIVE 3 SOUTH IMPACT TOTALS</b>	
<b>LAND USE</b>	<b>IMPACTED PCL AC</b>
RES	405
OS	338
COMM	99
SCHOOL	2
<b>TOTAL ALT 3 IMPACT</b>	<b>844</b>

**Factors to be considered in issuing a certificate of environmental compatibility**

Existing plans of the state, local government and private entities for other developments at or in the vicinity of the proposed site.	
Fish, wildlife and plant life and associated forms of life upon which they are dependent.	
Noise emission levels and interference with communication signals.	
The proposed availability of the site to the public for recreational purposes, consistent with safety considerations and regulations.	
The total environment of the area.	
The technical practicability of achieving a proposed objective and the previous experience with equipment and methods available for achieving a proposed objective.	
The estimated cost of the facilities and site as proposed by the applicant and the estimated cost of the facilities and site as recommended by the committee, recognizing that any significant increase in costs represents a potential increase in the cost of electric energy to the customers of the applicant.	
Any additional factors which require consideration under applicable federal and state laws pertaining to any such site.	

ALT 3 Nor

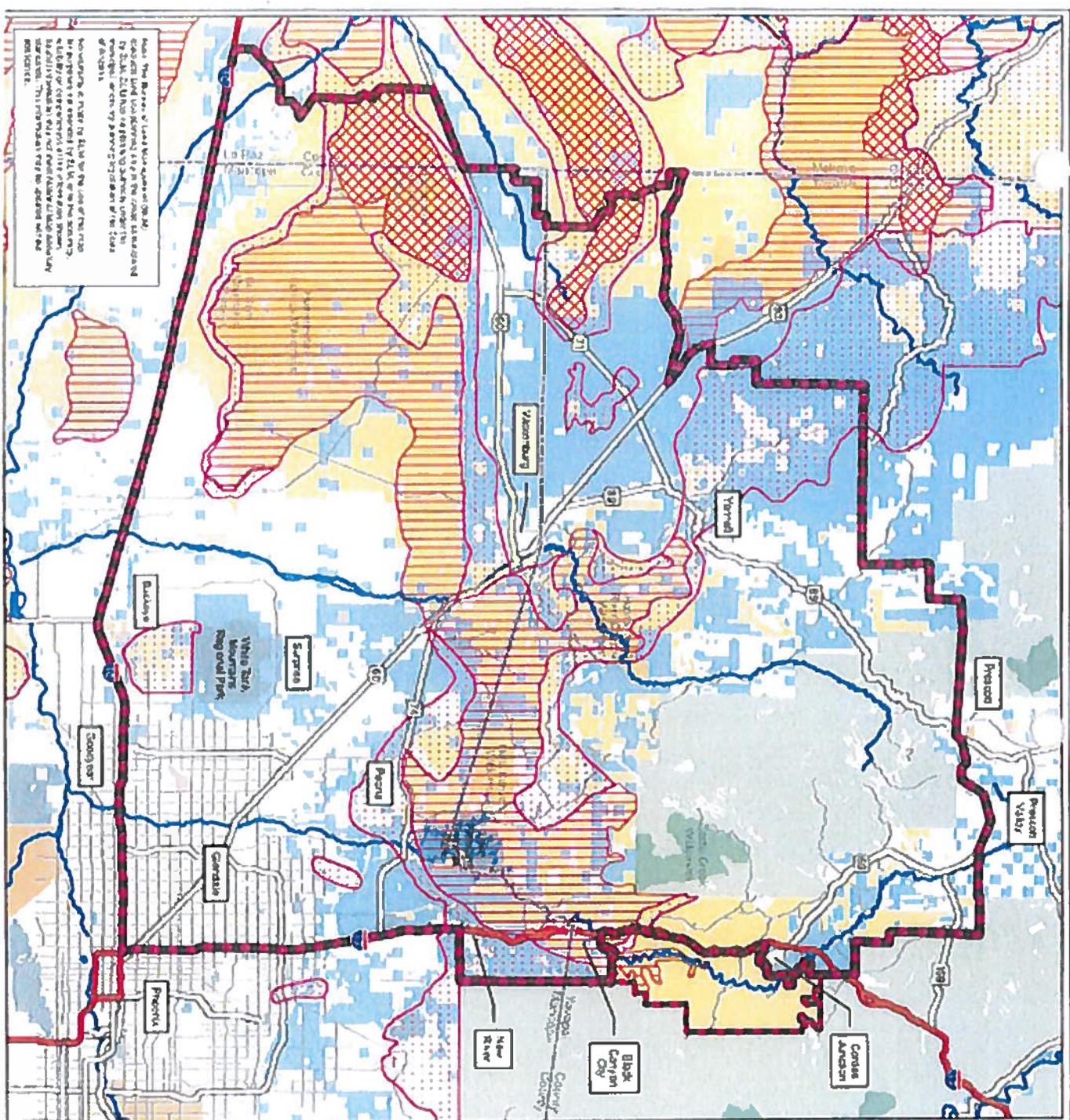
Mile Post 18 Photo Looking West



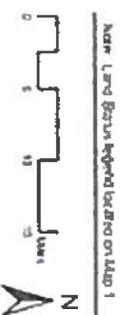
# Exhibits

BLM-RMP Maps

**Map**  
**Agua Fria National**  
**Monument / Bradshaw-**  
**Harquahala Planning Area**  
**Tortoise Habitat**



- Agua Fria National Monument Planning Area
  - Bradshaw-Harquahala Planning Area
  - BLM Wilderness
  - USFS Wilderness
  - Invertebrate
  - Highway
  - Major Road
  - Major River, Streams or Water
- Tortoise Habitat**
- Category 1
  - Category 2
  - Category 3



Bureau of Land Management  
 Prescott District Office  
 Prescott, AZ  
 October 1993

Notes: This Bureau of Land Management map shows the location of Tortoise Habitat in the Agua Fria National Monument and Bradshaw-Harquahala Planning Area. The map is based on the most current data available and is subject to change. The map is not intended to be used for legal purposes. The map is not intended to be used for legal purposes. The map is not intended to be used for legal purposes.

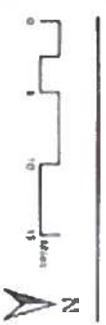
Map  
Bradshaw-Hatchabala  
Planning Area

Recreation Opportunity  
Spectrum

- Agua Fria National Monument Planning Area
- Bradshaw-Hatchabala Planning Area
- Planning Area

- Interstate
- Highway
- Major Road
- Major River, Streams or Wash

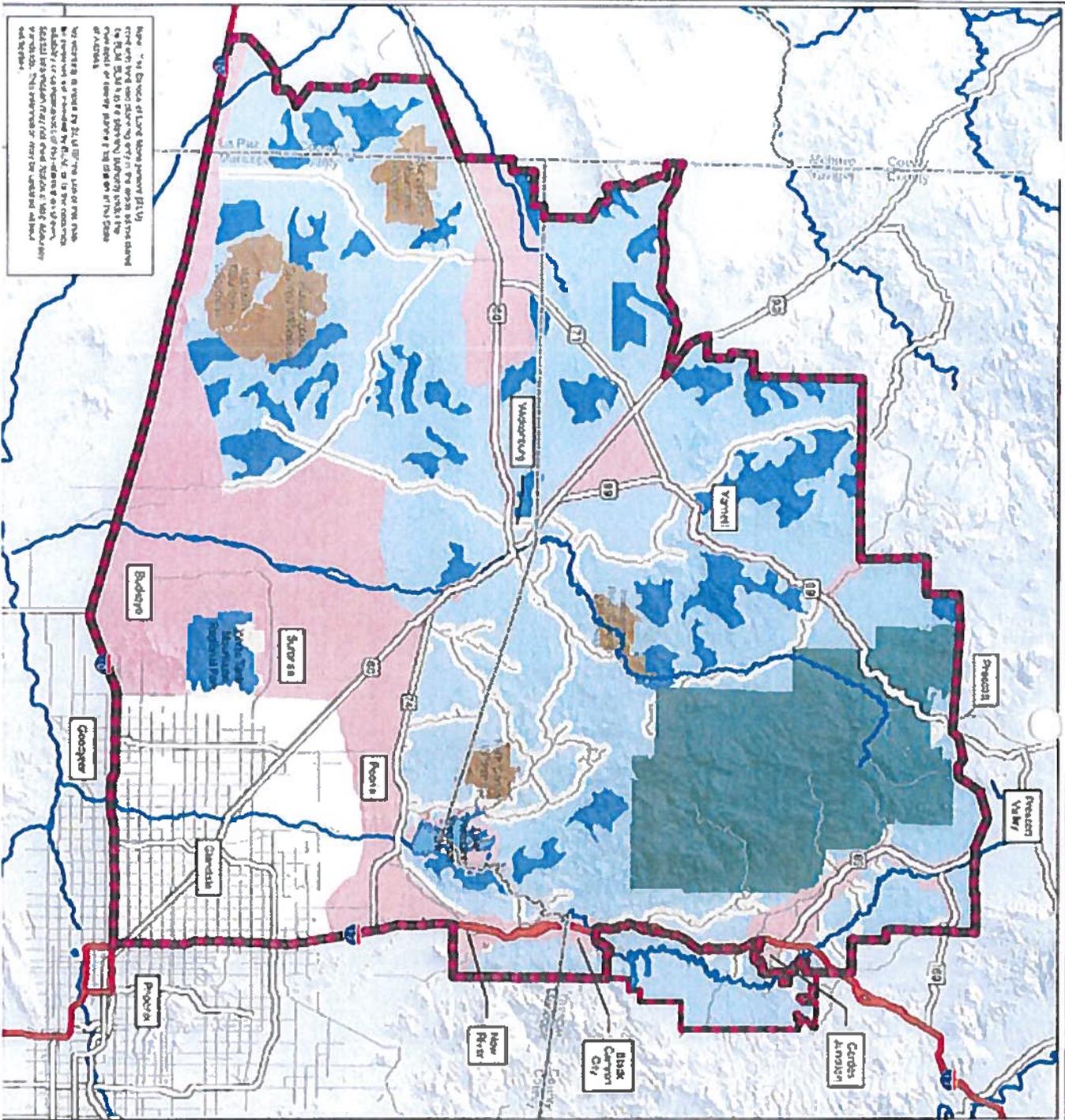
- Recreation Opportunity Spectrum
- National Forest
  - Pinyon
  - Roadside Natural
  - Rural
  - Semi-Primitive Motorized
  - Semi-Primitive Non-Motorized
  - Urban

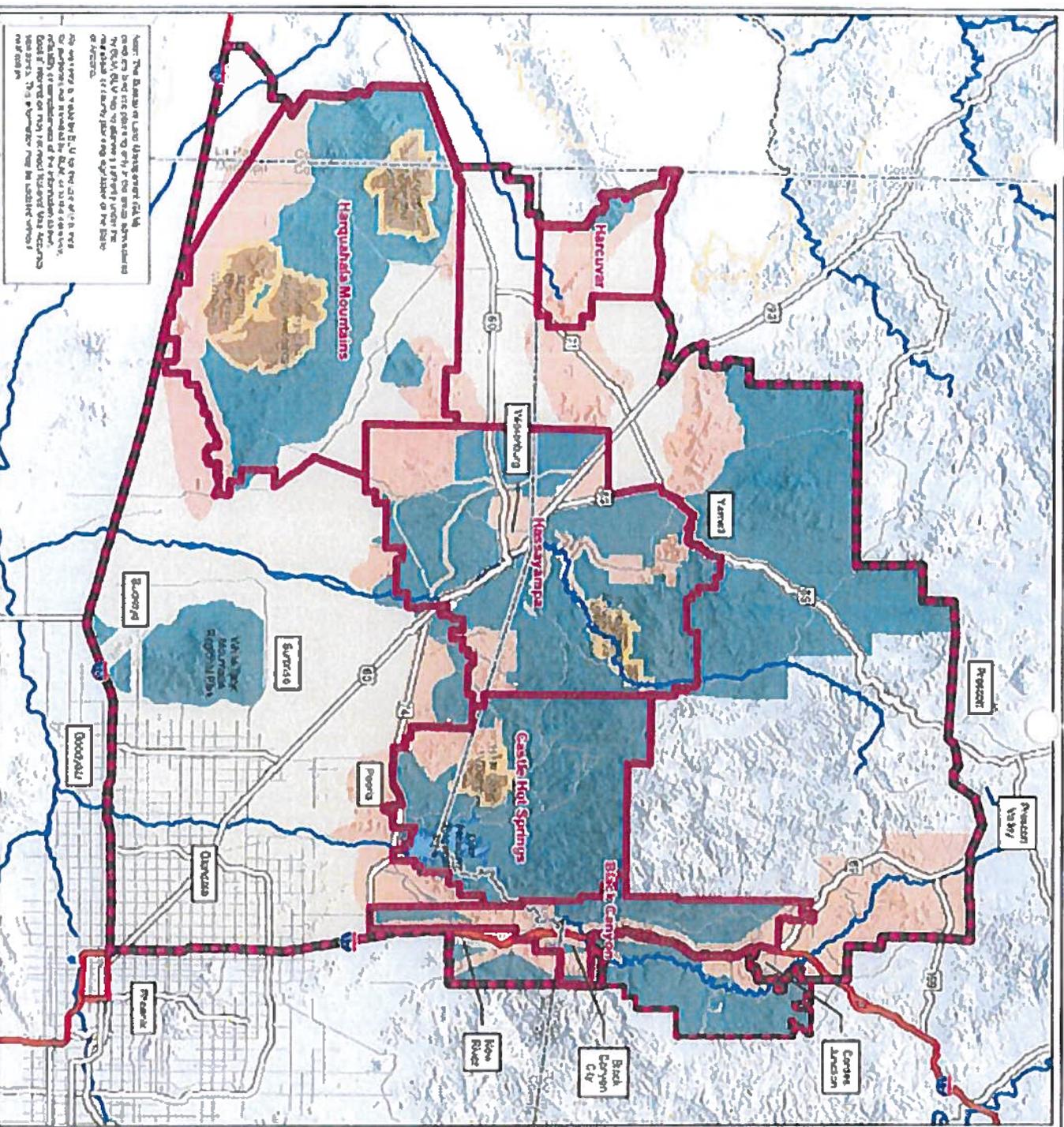


Bureau of Land Management  
Project District Office  
Phoenix, AZ  
October 2008

58

Note: The District of Long Mountain (DLM) and the District of Bradshaw-Hatchabala (BHM) are the only two districts in the state that are not included in the BLM's Recreation Opportunity Spectrum (ROS) analysis. The ROS analysis is a tool used by the BLM to assess the recreational value of public lands. The ROS analysis is based on the following factors: (1) the type of land use, (2) the amount of land available for recreation, and (3) the quality of the recreation experience. The ROS analysis is used to help the BLM make decisions about the management of public lands. The ROS analysis is a tool used by the BLM to assess the recreational value of public lands. The ROS analysis is based on the following factors: (1) the type of land use, (2) the amount of land available for recreation, and (3) the quality of the recreation experience. The ROS analysis is used to help the BLM make decisions about the management of public lands.





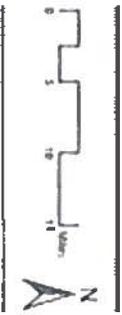
Note: The location of land development shall be determined by the planning area and the visual resource class. The location of land development shall be determined by the planning area and the visual resource class. The location of land development shall be determined by the planning area and the visual resource class.

Map  
**Agua Fria National Monument / Bradshaw-Harquahela Planning Area**  
**Visual Resource Management**

- Agua Fria National Monument Planning Area
- Bradshaw-Harquahela Planning Area
- Management Unit
- BLM Vicinities
- Vicinities
- Vicinities

- Major River, Stream or Vapn
- Major Road
- Highway

- Visual Resource Management**
- Class I
  - Class II
  - Class III
  - Class IV



**Where do we go from here?**

What do involved parties wish to ultimately accomplish?

**BLM**

Minimize impact on resources and implement RMP

**Peoria**

Guide the growth and development of the City of Peoria, and implement the voter-approved General Plan and commitments

**APS**

Operate reliably and distribute power to Greater Phoenix AZ in order to meet in-service dates

**ACC**

Facilitate and plan for the future energy needs of AZ, protect payer equity and meet their needs through renewable and sustainable energy sources.

**ADOT**

Responsibly plan for future transportation needs of the community at large, implement voter-approved projects

# Potential Solutions

## Potential Solutions

Minimize the impact of the power lines using a more compact...

**Trilogy at Vistancia Community Association**  
**c/o AAM, LLC**  
**7740 N. 16<sup>th</sup> Street, Suite 300**  
**Phoenix, AZ 85020**

Congressman Trent Franks  
7121 West Bell Road  
Suite 200  
Glendale, AZ 85308

December 6, 2010

Re: Arizona Public Service Company (APS) – TS-5 to TS-9 Transmission Facility

Dear Congressman Franks:

The community of Trilogy at Vistancia is located in the City of Peoria, Arizona and is currently the home for 5,697 residents. Trilogy at Vistancia is planned for 2,368 homes and a future population of over 7,100 residents. Over the past several years Trilogy at Vistancia Community Association has actively monitored and participated in the above referenced power transmission facility alignment and decision process. Additionally, we have formally intervened in the Arizona Corporation Commission (ACC) line siting process that resulted in a decision that established the certificated route for the planned future facilities. Trilogy at Vistancia is in full support of the ACC decision to co-locate the TS-5 to TS-9 transmission facilities with State Route 74 and to coordinate the planned transmission facilities with the planned expansion of State Route 74.

We understand that since the ACC decision in March 2009 BLM has yet to accept the APS right of way application or take the necessary actions that would result in BLM accepting the right of way application for the portion of the planned transmission facility that is on BLM lands. The Trilogy at Vistancia Community Association is very concerned that such non-action on the part of BLM may force APS to revisit this matter with the ACC since BLM's non-action directly threatens APS's ability to meet its established 2016 in-service date.

In the unfortunate event that this matter must be revisited by the ACC due to BLM's lack of action to approve the APS right of way application. Rest assured Trilogy at Vistancia Community Association will again be highly involved and active in its support of the current ACC certificated route and opposed to any changes in the approved route for the TS-5 to TS-9 transmission facilities.

The community of Trilogy at Vistancia remains vigilant and highly engaged on this matter. We appreciate your long standing support of our community's position and the position of the ACC on this matter.

Sincerely,

  
Jeff Dixon, Community Manager  
Trilogy at Vistancia

Cc: BLM Director Kenna  
APS Project Manager Herndon  
City of Peoria – Cathy Carlat

### **INTEGRATION INTO THE GENERAL PLAN**

The combined effect of these planning efforts has been to establish an extensive body of community development, resource management and land use planning policies and programs. This General Plan recognizes, supports, and incorporates the key features of the recently adopted plans and policies that have given direction to the development of the City in recent years and provides direction for future informed planning and development decision-making.

While the City's recent planning efforts have provided excellent guidance for specific areas of the City, resolving key issues, the City still must address several challenges. Within the unincorporated General Plan Study Area, development projects approved by Maricopa County affect Peoria's land use pattern and transportation system. By addressing currently unincorporated land in this General Plan, the City intends to coordinate its planning efforts with those of the County.

### **COMMERCE AND EMPLOYMENT-GENERATING DEVELOPMENT**

The nature of commercial development has changed dramatically in the last 30 years. In many instances, services vacated the traditional core for more lucrative locations along major transportation corridors with better access and visibility. Traditional family-oriented businesses have been replaced with "big box" retail establishments promoting economies-of-scale.

Peoria is recapturing the experiences associated with a thriving and vibrant, pedestrian-scale City through downtown revitalization efforts and promoting new commercial nodes that employ progressive development strategies. These actions, along with limiting strip-style development and promoting mixed-use developments with office and housing components, will provide more dynamic and successful centers of commerce which will move Peoria towards its long-term goal of reaching equilibrium between housing and employment.

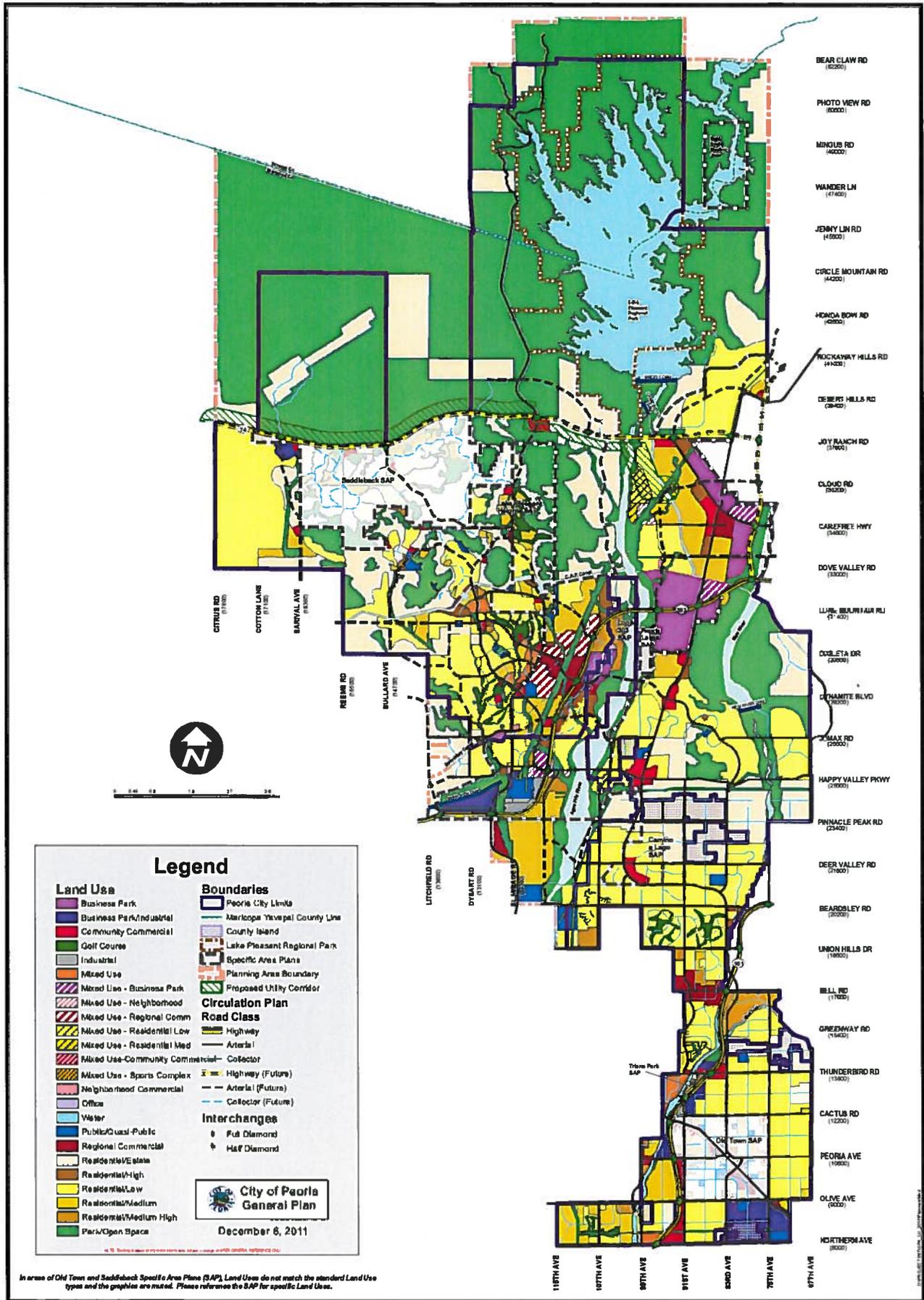
### **TRANSPORTATION LINKAGES**

The General Plan addresses the relationship between land use and transportation. It incorporates the future arterial roadway network identified in the Northwest Valley Transportation Study (Maricopa County Department of Transportation, 2000), including Loop 303. Existing major transportation corridors such as Loop 101, Lake Pleasant Parkway, State Route 74, Grand Avenue, and Bell Road are also key elements of the General Plan because of the connections and continuity they provide through the Northwest Valley and the Phoenix Metropolitan Area. Loop 101 provides direct access to commercial centers, industrial parks and high-density residential development. Lake Pleasant Parkway / State Route 74 provides access to key commercial nodes and recreation amenities. Land use designations along Grand Avenue reflect those adopted in the *Old Town Peoria Revitalization Plan*. These include plans for future mixed-use centers, cluster housing, a transit center and an attractive warehouse center. Bell Road continues to serve the regional commercial shopping district, including the Peoria Sports Complex and supporting business community.

The inventory and analysis of existing conditions, historic development pattern and input from community involvement efforts have helped guide the development of an overall vision and supporting goals, objectives, and policies that will ensure that future City of Peoria decision-making is consistent with the interests of the community.

### **INTENT OF THE LAND USE ELEMENT**

The Land Use Element, guided by its supportive goals, objectives, and policies, describes the desired land uses and development densities and intensities for future development in Peoria. The Land Use Element is the guide for implementation of the Zoning Ordinance and Official Zoning Map, two legal planning tools used to enforce the General Plan. The Land Use Element does not change or alter the



**Figure 2.1 - Land Use Plan**

**Report to Congress:**  
**Corridors and Rights-of-Way on Federal Lands**

**U.S. Department of Agriculture**

**U.S. Department of the Interior**

**U.S. Department of Energy**

**Council on Environmental Quality**

**November 7, 2005**

## EXECUTIVE SUMMARY

This report was prepared in response to Section 1221(b), Reports to Congress on Corridors and Rights of Way on Federal Lands, of Section 1221, Siting of Interstate Electric Transmission Facilities, in Title XII of the Energy Policy Act of 2005, Public Law 109-58. Congress requested that the Secretaries of Agriculture, Energy, and Interior and the Chairman of the Council on Environmental Quality prepare a report identifying the following:

- ◆ All existing designated transmission and distribution corridors on Federal land;
- ◆ The status of work related to proposed transmission and distribution corridor designations under Title V of the Federal Land Policy and Management Act of 1976 (FLPMA) and any impediments to completing the work;
- ◆ The number of pending applications to locate transmission facilities on Federal land; and
- ◆ The number of existing transmission and distribution rights-of-way (ROWs) on Federal land that will come up for renewal within the next 5-, 10-, and 15-year periods and how those renewals will be managed.

Authority to grant, issue, or renew electric transmission ROWs on Federal land is held by the Forest Service (FS) of the U.S. Department of Agriculture and the Bureau of Land Management (BLM) of the U.S. Department of the Interior pursuant to Title V of FLPMA. The FS and the BLM contributed the information presented in this report.

### ES.1 DEFINITIONS

In the absence of standard or regulatory definitions for these Section 1221(b) terms, “existing designated transmission and distribution corridors” and “transmission facilities,” FS and BLM representatives established consensus definitions for the terms to normalize data gathering and reporting. The following working definitions were developed for those terms for the purposes of this report:

*Existing designated transmission and distribution corridors* on Federal land are defined as all electric transmission line ROW corridors that have been formally designated by law, Secretarial order, land use planning process, or other management decision.

*Transmission facilities* include 69 kV and greater transmission lines and ancillary facilities.

## ES.2 FINDINGS

### ES.2.1 Existing and Proposed Designated Transmission Corridors

There are approximately 66 existing BLM resource management plans (RMPs) that have designated transmission and distribution corridors on Federal lands. The FS has designated 317 transmission and distribution corridors through its land and resource management plans (LRMPs). The FS has also identified 14 utility corridors that do not preclude use for transmission facilities.

The approximate number of new RMPs and RMPs being revised or amended to designate transmission and distribution corridors by BLM is 35. The FS is proposing to designate 44 transmission and distribution corridors.

The impediments to processing proposals for transmission and distribution corridors under FLPMA include legal challenges to the land use planning decision, backlogs of other agencies involved in the approval process, requests for extended comment periods, the complexity of some requests, and competing priorities affecting BLM and FS agency staff resources and workloads.

### ES.2.2 Pending Applications for Transmission Facilities

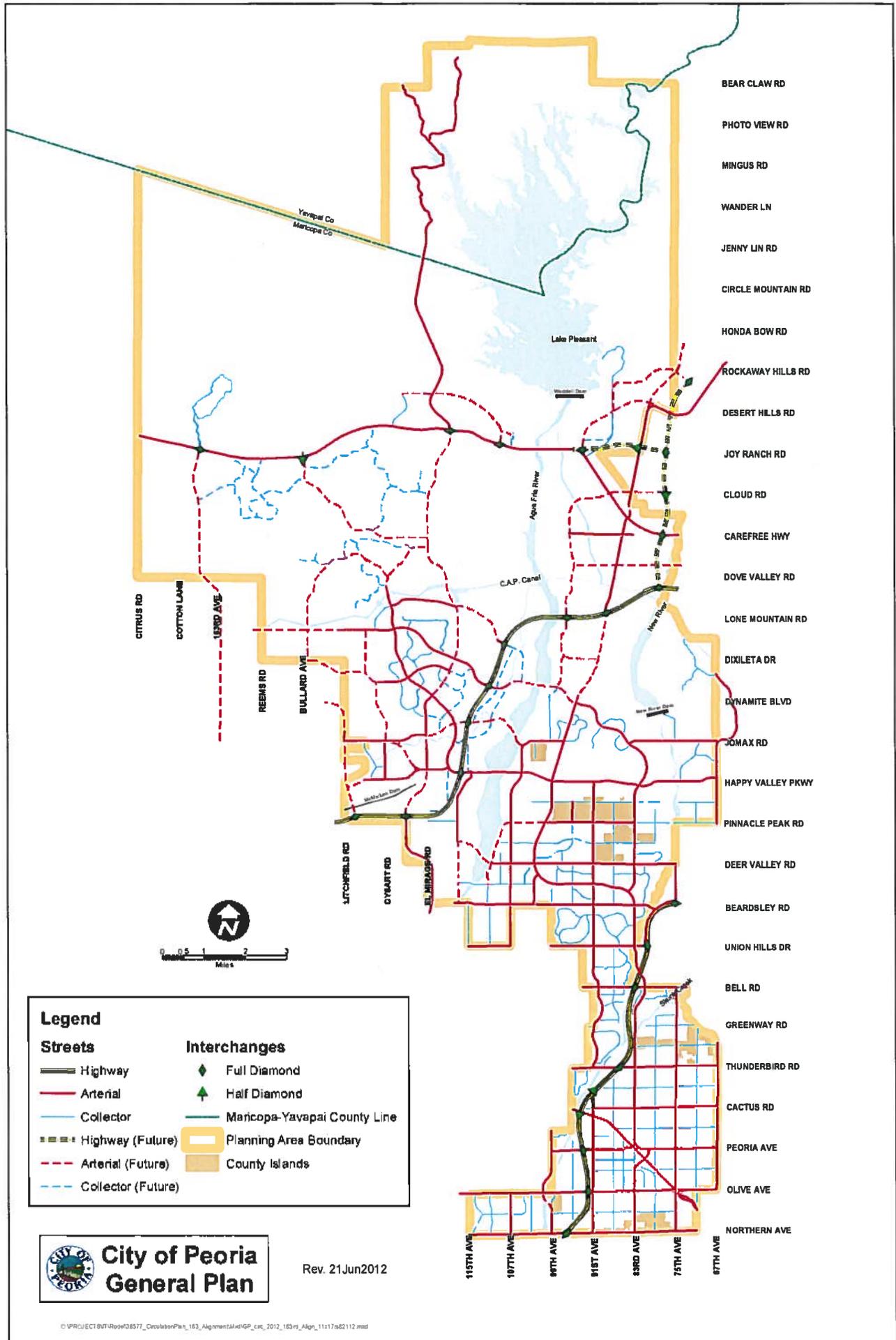
Some of these same impediments also contribute to delays in processing pending applications for transmission facilities. Presently, 46 applications are pending with the BLM and 13 with the FS. Applications for transmission facilities may also be pending at the applicant's request to place the application on hold, or because the agency is waiting for additional information from the applicant. Table ES.1 lists the number of pending transmission facility applications and identifies the facility sizes associated with the applications.

**TABLE ES.1 Pending BLM and FS Transmission Facility Applications**

Agency	No. of Applications Pending	Facility Size (kV)		
		138 and Lower	230	345–500
Bureau of Land Management	46 <sup>a</sup>	23	10	14
Forest Service	13 <sup>a</sup>	10	b	4
Total	59	33	10	18

<sup>a</sup> The totals do not add up arithmetically because applications proposed more than one facility.

<sup>b</sup> None reported.



- BEAR CLAW RD
- PHOTO VIEW RD
- MINGUS RD
- WANDER LN
- JENNY LIN RD
- CIRCLE MOUNTAIN RD
- HONDA BOW RD
- ROCKAWAY HILLS RD
- DESERT HILLS RD
- JOY RANCH RD
- CLOUD RD
- CAREFREE HWY
- DOVE VALLEY RD
- LONE MOUNTAIN RD
- DIXILETA DR
- DYNAMITE BLVD
- JOMAX RD
- HAPPY VALLEY PKWY
- PINNACLE PEAK RD
- DEER VALLEY RD
- BEARDSLEY RD
- UNION HILLS DR
- BELL RD
- GREENWAY RD
- THUNDERBIRD RD
- CACTUS RD
- PEORIA AVE
- OLIVE AVE
- NORTHERN AVE

**Legend**

<b>Streets</b>	<b>Interchanges</b>
Highway	Full Diamond
Arterial	Half Diamond
Collector	Maricopa-Yavapai County Line
Highway (Future)	Planning Area Boundary
Arterial (Future)	County Islands
Collector (Future)	

**City of Peoria**  
**General Plan**

Rev. 21Jun2012

**Figure 3.1 - Circulation Plan**

© PROJECT 801-R00W03577\_OcculationPlan\_153\_AlignmentMapGP\_cnc\_2012\_103r1\_Align\_1117a02112.mxd

## Valuation Guidelines for Properties with Electric Transmission Lines

By: Kurt C. Kielisch, ASA, IFAS, SR/WA, R/W-AC

Before a discussion can be entered about the perception of electric transmission lines and their effect on property value, it is important to understand what a transmission line is and how it differs from a distribution line.

An electric *transmission* line is an electric line that transports electrical power from one substation to another. These lines are typically 100kV (kilovolts) or larger exceeding one mile in length<sup>1</sup>, have large wood or steel support towers over 45ft in height, and often have more than one set of wires (3 wires per circuit plus the static wire). Electric transmission lines do not directly serve electric utility customers: their power is distributed from distribution point to distribution point. Transmission line wires are not insulated and are “bare”. Typically, they constructed to have at least 20ft of clearance between the ground elevation and wire at low sag.

An electric *distribution* line is a power line that transports electricity from the substation to the electric utility customers. These lines are of less voltage, typically under 65kV, carried on wood poles of 45ft in height or less and hold one pair of wires. The voltages of these lines are downgraded before the electricity is brought to the customer’s residence or commercial building. The focus of this report is on “transmission” lines, not “distribution” lines

### Perception = Value

The valuation of properties that have an electric transmission line requires an understanding of the basic principles of Market Value. Market Value is defined, in layman's terms, as the value a property would sell for at a given date considering an open market. (A complete definition of this term is included in the body of the appraisal report.) An open market assumes that the property is available for purchase by the public, being properly marketed for maximum exposure, and that the buyer is well informed, fully knowledgeable and acting in their best interest. Included in this definition is that the buyer has full knowledge of the pros and cons of the property, and then acts with that knowledge in a way that will benefit them. In other words, the value of the property is based on the perception of the buyer. Understanding that perception drives value is the foundation in analyzing the effect that electric transmission lines have on property value.

The key point of the Market Value definition, which gives guidance to answer the “impact” question, is the “willing buyer” part of the equation. In appraising a property the appraiser attempts to reflect the potential buyer of the subject property and estimate their action as to the subject property with all its advantages and disadvantages (knowledgeable buyer). To accurately reflect this buyer, the appraiser must determine the typical profile of such a buyer of the property in question. An example of this

---

1 Wis. Stat. 196.491(1)(f)

would be a one bedroom condominium along a lake may indicate a typical buyer to be a retired couple who is looking for a recreational retreat for themselves and their guests. Another example would be a parcel with the best use being a dairy farm; the typical buyer would be a person either currently engaged in dairy farming looking to expand or relocate, or one who desires to enter into this field -- in either case a "dairy farmer." Such an analysis should be obvious, yet often overlooked when appraising properties.

For rural properties that are utilized for agricultural purposes, the most likely buyer would be one who: (1) prefers the rural lifestyle over the urban lifestyle; (2) typically generates their income from working in the agricultural field; (3) would be sensitive to environmental issues that affect the uses of the land and the view shed of the land; and (4) would be sensitive to health and safety issues relating to the land and its use.

It is most likely that such a person, when confronted with an electric transmission line traversing the property, would view such an improvement as aesthetically "ugly," potentially hazardous to their health, disruptive to rural lifestyle and potentially harmful to the use of the land for agricultural purposes.

### **Research Format**

Our research into the impact of electric transmission lines followed several stages. The first was a "literature" study. This study involved investigating, collecting, indexing and reading many of the published articles, news stories and published transcripts relating to the topics of EMFs and stray voltage. Stray voltage was included in this research due to the concern dairy farmers have relating to its presence from high voltage power lines. This research resulted in over 2,500 pages of information collected and analyzed. The purpose of this study was to discover "what is the public's perception of high voltage transmission lines." Overall, the majority of the articles indicated a "fear" of these power lines, citing health concerns as the primary factor. Other concerns included stray voltage issues (mainly with rural publications) and aesthetics. It was clear that most of the information the public receives about these matters is negative. The literature study will follow these "guidelines."

The second part of our study involved researching studies completed on the effects on property value due to the presence of electric transmission lines. This included collecting many of the published research studies on this topic found in the public domain. Additionally, the study reviewed trade journals not available to the public, but available only to real estate professionals. Again, to be fair, some of the studies indicated that there was no measurable effect. However, there were a number of studies (mostly recent) that indicated there was a measurable effect and that effect ranged from a loss of 10% to over 30% of the overall property value. These studies included both improved and vacant land.

### **Empirical Studies**

Below is a sampling of some studies we have reviewed regarding the impact that electric transmission lines have on land value and were utilized to formulate our opinion of value when a property is impacted by a high voltage transmission line.

- *Study of the Impact of a 345kV Electric Transmission Line in Clark County, Town of Hendren.*

(Appraisal Group One, Kurt C. Kielisch, 2006, revised 2009) This study was limited to Hendren Township, Clark County, and covered a five year time period from January 1<sup>st</sup>, 2002 to June 1<sup>st</sup>, 2006. This study included 22 land sales of agricultural and recreation land, of which 4 were encumbered with a 345kV electric transmission line having wood H-pole design, 60ft height and 150ft wide easement. The other 18 land sales were considered comparable to the power line encumbered sales. The conclusion of this study was that: (a) the land sales with an electric transmission line sold for 23% less than comparable land sales without a transmission line; and, (b) the more severe the location of the power line the greater was the loss of value.

- *An Impact Study of a 345kV Electric Transmission Line on Rural Property Value in Marathon County - Wisconsin.* (Appraisal Group One, Kurt C. Kielisch, 2006) This study focused on the impact a 345kV line, known as the Arrowhead-Weston line, had on property value. This power line was a 345kV electric transmission line, having steel single poles ranging in height from 110ft to 150ft, single and double circuit lines, having a 120ft wide easement. The study compared sales within a 2 year time period (January 1<sup>st</sup>, 2004 to December 31<sup>st</sup>, 2005) in Marathon County, Wisconsin, focusing the area to the Townships of Cassel and Mosinee. This study used 14 land sales, of which 5 were encumbered with the power line and 9 were not. A simple regression technique and matched pair analysis was used to extract the value impact. The study concluded with a finding that when the power line traversed the property along the edge, such as a back fence line, the loss was as low as -15%, and when it bisected a large parcel the loss was as high as -34%. The properties were all raw land sales with either agricultural or residential land use.
- *Transmission Lines and Property Values State of the Science* (Electric Power Research Institute [EPRI], 2003). This study completed by EPRI for the benefit of its electric utility clients reviewed the issue of property values being impacted by electric transmission lines by summarizing research they had on the subject. Essentially they concluded that the results are mixed, some cases showing a loss in value ranging from 7-15% with appraisers who had experience with valuing such properties, to having no effect. Interestingly, it appeared in their survey that appraisers who did not have experience valuing such properties tended to overrate the negative effects.
- *American Transmission Company, Zone 4, Northeast Wisconsin - High Voltage Transmission Line Sales Study* (Rolling & Company, 2005). This study researched the impact that high voltage electrical transmission lines have on property value in the northeast Wisconsin area. They collected information on 682 land sales of which 78 involved lots near a transmission line corridor, but not directly encumbered by the transmission line. Their conclusions were: (a) easement lots sold at about 12% less than lots located over 200ft from the transmission lines; and (b) no clear impact on "proximity" lots those that lie within 200ft from the easement area but are not directly subject to the easement.

- *Properties Near Power Lines and Valuation Issues: Condemnation or Inverse Condemnation* (David Bolton, MAI. Southwestern Legal Foundation. 1993). This study cites a number of studies that prove a loss of property value due to proximity to an electric transmission line and then cites his own study. His own study found that in the Houston area assessed values of properties that adjoined a power line easement had a 12.8% to 30.7% lower assessment than the average homes not on the line, but in the same area. He also found that: (1) many buyers refused to even look at such properties; (2) such properties took at least twice as long to sell; (3) some brokers said such properties can take three times longer and finally sell at a 25% loss of value; and (4) overall homes adjoining transmission line easements took six times longer to sell and experienced a 10% to 30% loss in value.
- *Power Line Perceptions: Their Impact on Value and Market Time* (Cheryl Mitteness and Dr Steve Mooney. ARES Annual Meeting paper. 1998) The authors interviewed homeowners on or near electric transmission lines and found: (1) that in relation to the average impact of overall property value, 33% said 2-3% loss and 50% said a 5% loss or greater; (2) nearly 66% said the power line negatively affected their property value; (3) 83% of real estate appraisers surveyed said the presence of the power lines negatively affected the property values, most saying the loss was 5% or greater.
- *Analysis of Severance Damages* (James Sanders, SRA, 2007) This study completed an analysis of the impact of a transmission line through the middle of the Continental Ranch subdivision outside of the Tucson, Arizona area. This subdivision had a wood H-pole high voltage electric transmission line running through a portion of the subdivision. The author compared the residential lots abutting the easement to ones that were not. All lots abutting the easement were much bigger than the non-easement abutting lots. The author used improved properties for his study and by the use of regression analysis isolated many variables of value for an improved property to remove them from the analysis. In conclusion, through extensive use of the regression technique, the author finds an overall loss to the improved properties abutting the power line easement at -12%. This loss is attributed to both the land and improvements. However, the author notes that the lots are typically twice the size of the non-easement lots. When the size of lots was factored the overall loss to the land only was factored at -40%. It should be noted that the residences were at a distance from the power line.
- *The Peggy Tierney property: A Comparative Study of the Impact of a 69kV Transmission Line v. 345kV/69kV Transmission Line* (Kurt C. Kielisch). This was a brief study on the impact difference, if any, between an existing 69kV transmission line and a new proposed 345kV and 69kV transmission line on the same property. The property was a 3.70 acre residential lake front improved property that had an existing 69kV transmission line crossing the west half of the parcel along the road and required the property owner to cross under the power line to enter the parcel. The 69kV line had an easement width of approximately 100ft, wood H-poles at 50-60ft in height. The new 345kV line was to be placed within the existing easement, more or less, would have 140ft monopoles and carries both a 345kV and 69kV line. The seller attempted to sell the property at its full list price after an experienced lake front home Realtor established the list price from a comparative sales analysis. The home eventually sold for 27% less than the list price and took longer to sell in a relatively strong lake front home market. The buyer cited the pending 345kV line as the principle reason for their low offer.
- A comparative sales analysis to isolate the percentage of loss a residential and/or agricultural

land use property suffers due to the presence of a high voltage electric transmission line (HVTL). This study was found in an appraisal completed by Aari K. Roberts for American Transmission Corporation (ATC) on the Herbert Bolz property located in the Town of Rubicon, Dodge County, Wisconsin. Mr. Roberts compared the sale of a rural agricultural 24 acre land parcel that had an HVTL crossing the property, to three comparable agricultural land sales of comparability that did not have a HVTL. His sales comparison study concluded that the property with a HVTL suffered a 29% loss of value due to the presence of the HVTL. This study was completed in September 2007.

- A sales analysis of the property located at: N8602 CTH D, Town of Deer Creek, Outagamie County, Wisconsin. This is a single family home located on 3.19 acres in the rural area of Outagamie County. The home was a ranch style residence with 1,500sf GLA, attached 2-car garage, 8/3/2 room count, full basement and was in average condition overall. The property also had a 104ft x 52ft pole barn and two other outbuildings. There were two appraisals completed on this property, one by the condemner (ATC) and one by the property owner. The average Before taking value of the two appraisals was \$221,000. The property was then improved with a 345kV & 138kV electric transmission line having 126ft pole height and was placed along the roadside reaching 68ft into the property. The edge of the easement was in less than 20ft to the residence, however the placement of the pole was as close to the roadway right-of-way as possible. The condemner American Transmission Company (ATC) purchased the property and installed the transmission line. Then they upgraded the property with new paint, doors, sinks, dishwasher and flooring, plus cleaned the premises and outbuildings. ATC put the property on the market asking \$179,900 a number established by the appraiser for ATC as the After value. It was sold for \$128,500 10 months after ATC purchased it.

The Before taking average value was \$221,000. The property was then improved and upgraded at an expense estimated to be \$8,000-\$10,000, then resold 10 months later with the transmission lines in place for \$92,500 less or 42% less. The only differences between the Before taking market value and After taking sale price were the transmission line and time. A review of the Outagamie County market between November 2008 and September 2009 shows only a small downward trend in rural residential property value, therefore the biggest part of the loss is attributed to the presence and near proximity of the transmission line that being 38%-40%.

- *The Gene Laajala property: A Comparative Study of the Impact of a 161kV Transmission Line v. 345kV/161kV Transmission Line (Kurt C. Kielisch).* This was a brief sales study on the impact difference, between an existing 161kV transmission line and a new 345kV/161kV transmission line on the same property. The property was a 20 acre rural agricultural and residential property that had an existing 161kV transmission line bisecting the parcel along the east side. The 161kV line had an easement width of approximately 120ft, wood H-poles at 50ft± in height. This line was replaced with an upgraded easement comprised of 345kV/161kV line which was to be placed within the existing easement, more or less, and had (2) 110ft and (3) 120ft steel H-poles. The property was appraised in January 2007 with a Before condition value of \$204,500 using the Cost approach and \$185,500 using the Comparable Sale approach, by Ted Morgan, MAI. (The whole property appraised was 40 acres and the 20 acre parcel was portion out of this whole). The ATC appraiser did not appraise the home in the Before condition, but did conclude the Before taking land value was \$44,000 for 20 acres (using his \$2,200/acre conclusion for 40 acres) and the assessed value of the improvements were \$107,600, indicating a \$151,600 Before

value. The property sold and closed in October 2007 for \$120,000. The seller attributes the loss to the new power line, it being larger and more lines. The loss indicated was \$65,500 (using Morgan's Comparable Sales value) or \$31,600 (using ATC's land plus assessed improvement value), indicating a loss range of 35% to 21%.

- *An Impact Study of the Effect of High Voltage Power Lines on Rural Property Value in Southwestern Indiana (Kurt C. Kielisch, Appraisal Group One, 2010)*. This study was based in southwest Indiana in Gibson County. It was focused on large agricultural land and the impact of a high voltage transmission lines (HVTL) varying in size from monopole to large steel lattice towers. The study included 32 land sales of which 10 were HVTL sales. The time period was January 1<sup>st</sup>, 2006 to December 31<sup>st</sup>, 2009. Adjustments were made for time, location and other utility easements (if any) and the results were graphed to compare the non-HVTL land sales to the HVTL land sales. The study concluded that the power lines negatively impacted the property with an impact range from -5% to -36% with the average impact being -20%.

### Other Value Issues

Another issue relating to the presence of the transmission line is potential for the creation of an "utility" corridor. Such a corridor is a where several utility transmission lines are placed, such as gas transmission pipelines and communication lines. Indeed, the State of Wisconsin made it a legislative rule that future placement of such utilities are to be given preference to "existing utility corridors."<sup>2</sup> An electric transmission line meets the definition in this statute as an existing corridor. This "corridor" concept continues to grow in the perception of the public as such rules become more commonly known. The reality of such an event happening is the placement of the Arrowhead-Weston Power line, which was often placed within an existing utility corridor such as an oil transmission pipeline, smaller electrical transmission lines or abandoned electric transmission line easements. The very power line that is the focus of this analysis is further proof of the corridor effect for it has been expanded, enlarged and added circuits within the existing easement.

Other factors to consider regarding the valuation of HVTL impacted rural properties are agricultural equipment concerns operating under and near the line, health issues of workers in close proximity of the lines, health concerns of farm animals in close proximity of the lines, stray voltage, the concerns of public in relation to electro-magnetic fields, safety issues regarding bare wires of the transmission line and other concerns addressed in the literature study to follow.

In conclusion, it can be stated with a high degree of certainty that there is a significant negative effect ranging from -10% to -30% of property value due to the presence of the high voltage electric transmission line. The actual loss depends on factors of land use, location of the power line and its size.

---

<sup>2</sup> Wis. Stats 1.12(6)(a).

## Literature Study

### HVTL Impacts on Rural and Agricultural Properties

Throughout the nation's rural communities, literature research suggests that the presence of an HVTL easement can have a noticeable impact on both the use and appeal of rural properties and farms. Common concerns include stray voltage, health risks to livestock and cattle, diminished livelihoods and heritage, limited land use, and lessened aesthetic appeal. As the following literature survey will show, many different issues play a role in shaping one's perception of the impact of HVTLs on rural property values.

### Stray Voltage

To understand the potential impact of HVTLs on rural land, it's important to discuss a key component in many farmers' apprehension about HVTLs: stray voltage.

Stray voltage is the rural equivalent of the high-profile residential Electromagnetic Field (EMF) factor, but instead of fearing leukemia or brain cancer, farmers fear their animals will become unproductive, ill, and even die.

Whenever energy is transferred, some is lost along the way. If metal buildings are near leaking energy, they can act as a conduit for voltage to find its way to feeding systems, milking systems and stalls.

In their 1995 presentation, "Stray Voltage: The Wisconsin Experience," a team of researchers led by Mark Cook and Daniel Dascho stated that farmers most worry that stray voltage will increase somatic cell count in their animals, make cows nervous, reduce milk production, and increase clinical mastitis.<sup>3</sup>

"Few issues are more upsetting to dairymen than fighting case after case of clinical mastitis with more and more cows in the sick pen," writes Dr. Winston Ingalls. "It represents extra time to properly handle such cows, lost production, vet calls, treatment products, concern about contaminated milk and an occasional dead or culled cow."<sup>4</sup>

In Cook & Dascho's presentation, they discuss their findings from a non-random sampling study of farms with stray voltage complaints stemming from a nearby substation. Their research team found no significant relationship between cow contact current and distance from the substation or contact currents. However, they also noted that cow contact current depends on many physical factors from on-farm and off-farm electrical power systems. They say, "There are many confounding factors that may outweigh the impacts of stray voltage which makes it difficult to draw conclusions from field studies about its effects on production and animal health."<sup>5</sup>

---

<sup>3</sup> **Stray Voltage: The Wisconsin Experience.** Written for presentation at the 1995 International Meeting by Mark A Cook, Daniel M Dascho, Richard Reines and Dr. Douglas J Reinemann.

<sup>4</sup> **Clinical Mastitis.** Winston Ingalls, Ph.D. GoatConnection.com. August 2, 2003.

[http://goatconnection.com/articles/publish/article\\_173.shtml](http://goatconnection.com/articles/publish/article_173.shtml)

<sup>5</sup> **Stray Voltage: The Wisconsin Experience.** Written for presentation at the 1995 International Meeting by Mark A Cook, Daniel M Dascho, Richard Reines and Dr. Douglas J Reinemann.

In a 2003 study prepared for the NRAES Stray Voltage and Dairy Farms Conference, a research team conducted by the University of Wisconsin-Madison and led by Dr. Douglas J Reinemann studied the effects of stray voltage on cows at four dairy farms over a two-week time period. He and his team found that after the first few days of exposure, cows quickly acclimated to the presence of stray voltage. They also found that stray voltage of 1mA had little effect on the immune system of a cow.<sup>6</sup>

Concerning EMF levels, they noted that “even though man-made signals were larger than the naturally occurring currents, levels are significantly lower than what is considered sufficient earth current strength to develop step potential anywhere near the Public Service Commission ‘level of concern.’”<sup>7</sup>

Stray voltage is usually undetectable by humans, and some researchers believe it occurs when electricity escapes a power line or wiring system and emits a secondary current. The problem intensifies with older barns that add automated electrical equipment, “raising ambient levels of current. Soon the cumulative effect of these secondary currents becomes harmful to cows.” Though stray voltage can be measured, experts don’t know how and why it happens or what conclusive effect (if any) it has on animals.<sup>8</sup>

Despite little concrete evidence, courts have compensated farmers for their losses due to stray voltage when all other factors are eliminated. In 1999 a jury awarded Peterson Bros. Dairy \$700,000 after deciding that stray voltage from an automated feeding system from Maddalena’s Dairy Equipment of Petaluma, California slashed the herd’s milk output and increased the cow’s death rate.<sup>9</sup>

The company’s defense attorney called stray voltage “junk science,” the Petersons’ claim of stray voltage in the milk barn a “harebrained theory” unsupported by electrical engineers, and blamed the herd’s health problems on the Petersons’ own mismanagement.<sup>10</sup>

In a similar case in Wisconsin in 2004, a dairy operation owned by George and Kathy Muth successfully sued Wisconsin Electric Power Co. (now We Energies) for negligence in the maintenance and operation of a distribution system on their farm. They claimed that the system led to stray voltage that injured and killed several of their dairy cows and damaged their milk production. The utility said that the levels of stray voltage were “extremely low” and were levels you could find anywhere.<sup>11</sup>

---

**6 Dairy Cow Response to the Electrical Environment: A Summary of Research conducted at the University of Wisconsin-Madison.** Paper presented at the NRAES Stray Voltage and Dairy Farms Conference. Dr. Douglas J. Reinemann. April 2003.

**7 Results of the University of Wisconsin Stray Voltage Earth-Current Measurement Experiment.** A revised version of a report submitted to the State of Wisconsin Legislature on June 25, 2003. Written by David L Alumbaugh and Dr. Louise Pellerin.

**8 Jury gives \$700,000 to dairy farmers for losses blamed on “stray voltage.”** Author Unknown. The Associated Press. April 21, 1999.

**9 Ibid.**

**10 Ibid.**

**11 Power company negligent in dairy suit; Jury awards \$850,000 to couple over effect of stray voltage on cows.** Lauria Lynch-German. Milwaukee Journal Sentinel. February 27, 2004.

The farmers said that shortly after moving to their new location, they faced low milk production, excessive illnesses, and deaths of cows.<sup>12</sup> The cows didn't walk right or act normal. They didn't want to go into the barn, inside, or into the stalls. The Muths examined everything from the animals' food to their bedding until consultants told them it could be stray voltage. In one year, they lost 15-18 cows and calves. Autopsies were inconclusive.<sup>13</sup>

After reviewing herd management and nutrition, they hired a consultant who detected stray voltage. Later that year the utility found no stray voltage problems. The farmers further consulted with veterinarians and tested and ruled out all the other factors except for stray voltage.<sup>14</sup>

The farmers hired an electrician to upgrade the farm's wiring, but it didn't decrease the stray voltage. After being asked, the utility made some other changes, but this also had no effect. Further consultants still found stray voltage from a conductor on the utility's distribution lines. A couple years later the utility removed a piece of underground electrical equipment and the herd immediately recovered...though the level of stray voltage remained the same.<sup>15</sup>

The utility's attorney stated that being able to measure something doesn't make it harmful. He cited several federal and state studies that say the current must be 2 milliamps or higher to adversely affect cattle and said no reading on their farm reached that level.<sup>16</sup>

The jury awarded the dairy farm \$850,000 in damages.<sup>17</sup>

Stray voltage fears aren't limited to dairy or cattle operations. Max Hempt, a horse farm owner in Pennsylvania, tried to oppose a proposed 9-mile 138kV HVTL because he feared that the line's EMFs caused by stray voltage could cause sterility and death among his horses.<sup>18</sup>

Though it's difficult to prove a significant presence of stray voltage, and even more difficult to prove a direct correlation between stray voltage and poor health, courts have awarded farmers sizable judgments to compensate them for damaging stray voltage from nearby power lines.

In 2002, one such case in Iowa made it to the state supreme court where the court upheld a \$700,000 judgment to a dairy farmer who argued that stray voltage from nearby power lines injured his herd. A substation sits less than a quarter mile from his farm. He said he often got electric shocks from the metal buildings on the farm. Also, he said his herd acted oddly, appearing frightened and refusing to enter barns. Milk production also suffered.<sup>19</sup>

---

**12 Jury must decide in voltage complaint; Farm family says stray power harmed dairy herd.** Lauria Lynch-German. Milwaukee Journal Sentinel. February 5, 2004.

**13 Dairy farm owner testifies that stray voltage killed cows in his herd.** Lauria Lynch-German. Milwaukee Journal Sentinel. February 10, 2004.

**14 Jury must decide in voltage complaint; Farm family says stray power harmed dairy herd.** Lauria Lynch-German. Milwaukee Journal Sentinel. February 5, 2004.

**15 Ibid.**

**16 Ibid.**

**17 Power company negligent in dairy suit; Jury awards \$850,000 to couple over effect of stray voltage on cows.** Lauria Lynch-German. Milwaukee Journal Sentinel. February 27, 2004.

**18 Farmer Fears Stray Voltage From PP&L 138 kV Line Could Harm His Horses.** Author Unknown. Northeast Power Report. June 24, 1994.

**19 Court upholds stray voltage judgment.** Mike Glover. The Associated Press. October 10, 2002.

The defendant, Interstate Power Co., said that “there’s an inherent risk to transmitting electricity” and it shouldn’t be vulnerable to such lawsuits unless they were negligent. The court ruled in favor of the dairy farmer, citing the lack of a statute exempting electric utilities from nuisance claims.<sup>20</sup>

One year later the Wisconsin Supreme Court similarly found “that a utility can be held responsible for harming the health of a dairy herd with stray voltage even though state-recommended voltage tests did not find potentially damaging levels where the animals congregated.”<sup>21</sup>

As the preceding case studies show, courts have acknowledged stray voltage and its possible effects. However, to fully understand the apprehension surrounding power lines, one must examine the EMF debate and its fear factor.

### **EMFs and Fear**

In 1990, the EMF debate was so prevalent that members of Congress passed a bill that would limit the public’s exposure to EMFs.<sup>22</sup> A couple years later, in response to public concern about EMFs, Congress established the EMF-RAPID program in 1992. Its purpose was to coordinate and execute a limited research program to fill information gaps concerning the potential health effects of exposure to EMFs, to achieve credibility with the public that previous research has not earned, and to coordinate and unify federal agencies’ public messages about possible EMF effects.<sup>23</sup> The program originally was to receive \$65 million in funding, but total funding is expected to be \$46 million.<sup>24</sup>

Several years later in 1999, the National Institute of Environmental Health Sciences studied the health effects of EMF exposure and found conflicting results. Though they concluded that the evidence is weak linking EMFs to health risks, they also found that the most common health risk was leukemia (mostly appearing in children). They also found a fairly consistent pattern of a small, increased risk of childhood leukemia with increasing exposure. The majority of the panel’s voting members voted to acknowledge EMFs as a possible human carcinogen. They concluded that ELF-EMF exposure cannot be recognized as entirely safe because of weak scientific evidence.<sup>25</sup>

In 2005, UK scientists conducted a case-control study on childhood cancer in relation to distance from high voltage power lines in England and Wales. They found an association between childhood leukemia and proximity of home address at birth to HVTLs. “The apparent risk extends to a greater distance than

---

20 **Ibid.**

21 **Utility liable for stray voltage, high court says.** Don Behm. Milwaukee Journal-Sentinel. June 26, 2003.

22 **Electric Powerlines: Health and Public Policy Implications** – Oversight Hearing before the Subcommittee on General Oversight and Investigations of the Committee on Interior and Insular Affairs House of Representatives, 101<sup>st</sup> Congress, second session on electric powerlines: health and public policy implications. March 8, 1990.

23 **Electric and Magnetic Fields Research Program** by Mr. Mukowski from the Committee on Energy and Natural Resources. 105<sup>th</sup> Congress, first session. June 12, 1997.

24 **Ibid.**

25 **NIEHS Report on Health Effects from Exposure to Power-Line Frequency Electric and Magnetic Fields.**

Released by the National Institute of Environmental Health Sciences on May 4, 1999.

would have been expected from previous studies” although they have yet to discover an “accepted biological mechanism” to explain their results.<sup>26</sup>

Though an accepted biological mechanism remains elusive, an early nineties case made it possible to link loss of property value to a fear of EMFs. In the 1993 case, *Criscuola v. Power Authority of the State of New York*, the court found that, “there should be no requirement that the claimant must establish the reasonableness of a fear or perception of danger or of health risks from exposure to high voltage power lines” and “Whether the danger is a scientifically genuine or verifiable fact should be irrelevant to the central issue of its market value impact.”<sup>27</sup>

Utilities say that landowners should not be able to recover damages or injunctive relief “based on myth, superstition or fear about an alleged health risk that is not supported by substantial scientific or medical evidence.”<sup>28</sup>

With the EMF debate unresolved, and evidence for both sides of the argument, some communities are reluctant to approve new HVTLs...and may even legally oppose them.

In an effort to preempt public opposition, Public Service Enterprise Group offered hundreds of thousands of dollars to New Jersey towns opposing its proposed HVTL project if the towns dropped all opposition and didn’t comment on the payments. Opponents called them “bribes.” The utility called them “settlements” to help minimize impacts of the project on towns and residents.<sup>29</sup>

Some towns accepted payment, but the majority did not. Either they said they didn’t have enough time to respond to the offer, or they rejected them as payoffs. One of the opposing mayors, Mayor James Sandham of Montville, said it’s not about the money; “It’s about safety and property values.”<sup>30</sup>

## HVTLs and Property Values

Fear can impact the public’s buying habits. Residential homeowners’ resistance to abutting HVTLs is well documented. Though homeowners may fear negative effects on their community and environment,<sup>31</sup> their first point of opposition is usually safety, especially if there are many children in the neighborhood. Though the 1979 Wertheimer study linking EMFs to childhood leukemia has long been contested, supported, and contested again, the very existence of a debate about the safety of EMFs sows enough doubt in residents’ minds to justify the fear.<sup>32</sup> And that fear can influence the values of nearby homes.<sup>33 34 35 36</sup>

---

26 **Childhood cancer in relation to distance from high voltage power lines in England and Wales: a case-control study.** Gerald Draper, Tim Vincent, Mary E Kroll, John Swanson. *British Medical Journal* (bmj.com). June 3, 2005.

27 **‘Criscuola’ – The Sparks Are Still Flying.** Michael Rikon. *New York Law Journal*. April 24, 1996.

28 **High Court Hears Arguments Today on EMF Claims.** Todd Woody. *The Recorder*. June 6, 1996.

29 **Opponents of \$750M N.J. power line project argue towns were paid to drop opposition.** [Lawrence Ragonese. The Star-Ledger.](#) January 31, 2010.

30 *Ibid.*

31 **NY Power Line Opponents Win Court Fight.** Associated Press. *New York Post*. February 20, 2009.

32 **Lines in Sand and Sky.** B.Z. Khasru. *Fairfield County Business Journal*. September 3, 2001. Vol. 40 Issue 36, p3, 2p.

33 **Power line plan concerns metro residents.** Melissa Maynarich. *News 9 (Oklahoma)*. July 22, 2008.

When given the choice to purchase two identical homes, one with such health concerns and the other without, most buyers will choose the home without the concern,<sup>37</sup> forcing the homeowner to lower their price. Aesthetic impact can also influence a property's value. Many residents don't want to look at HVTLs,<sup>38</sup> something they consider to be an "eyesore."<sup>39</sup>

One of the hardest properties to sell can be one encumbered by an HVTL. Unlike roadway proximity, its effect isn't readily noticeable or measurable. Though homes near HVTLs typically have larger lots (and that can be a benefit), the biggest disadvantage is the fear factor surrounding EMFs.<sup>40</sup>

In the early nineties, when EMFs were just entering the public consciousness, it was difficult to find a measurable price difference between homes close to an HVTL and those that were not.<sup>41</sup> However, two researchers (Hsiang-te Kung & Charles F Seagle) conducted a case study on the impact of power transmission lines on property values and found that such negligible results depended almost entirely on the public's ignorance of EMFs and their related issues. They also found that the amount of potential property loss increased dramatically the more homeowners were aware of the potential health impacts of EMFs.<sup>42</sup>

The effect of HVTLs on property values has long been a matter of contention with many studies either proving a diminutive effect or none at all. Methodologies differ and different areas of the country register different results. Some markets (ex. high-end homes) are very sensitive to HVTLs whereas others (ex. low-end homes) hardly notice them. The size of the line and the pylons are also a factor. A 69kV power line will have less effect than will a 1,200kV power line. Distance from the easement also matters. Some studies combine homes thousands of feet from HVTLs with those directly encumbered. Research sponsors also may play a factor with many being funded by the utilities themselves.

For example, in a 2007 study funded by a utility, researchers Jennifer Pitts and Thomas Jackson conducted market interviews, literature research and empirical research and reported little (if any) impact of power lines on property values. However, they did note that there is an increasing recent opinion that proximity to power lines has a slight negative effect on property values.<sup>43</sup>

---

34 **Power Line Worries Landowners.** Ben Fischer. The Wisconsin State Journal. June 3, 2006.

35 **Lines in Sand and Sky.** B.Z. Khasru. Fairfield County Business Journal. September 3, 2001. Vol. 40 Issue 36, p3, 2p.

36 **Commissioners voice opposition to transmission lines.** David Rupkalvis. The Graham Leader. February 9, 2010.

37 **Real Estate Agents on Property Value Declines.** 4 Realtor opinion letters submitted to residents in the Sunfish, MN area whose properties are being affected by an HVTL.

38 **Ibid.**

39 **Power line plan concerns metro residents.** Melissa Maynarich. News 9 (Oklahoma). July 22, 2008.

40 **High Voltage Transmission Lines, Electric and Magnetic Fields (EMF's) And How They Affect Real Estate Prices.** David Blockhus. January 3rd, 2008. <http://siliconvalleyrealestateinfo.com/electric-and-magnetic-fields-emfs-and-how-they-affect-real-estate-prices.html>

41 **Impact of power transmission lines on property values: A case study.** Hsiang-te Kung & Charles F Seagle. Appraisal Journal. Vol. 60, Issue 3, p.413, 6p. July 1992.

42 **Ibid.**

43 **Power lines and property values revisited.** Jennifer M. Pitts & Thomas O. Jackson. Appraisal Journal. Fall, 2007.

Two California appraisers, David Harding and Arthur Jimmy, published a rebuttal to the Pitts-Jackson study that disagreed with their methodology, took issue with their sponsor, addressed omitted information, and failure to conduct before-and-after cost comparisons.<sup>44</sup>

Pitts and Jackson responded to the rebuttal and defended their methodology, saying they purposely limited their literature research to only include empirical, peer-reviewed articles from *The Appraisal Journal* and the *American Real Estate Society* journals. They acknowledged they conducted the research for “a litigation matter” but did not elaborate on their sponsor.<sup>45</sup>

In a similar case, researchers James A Chalmers and Frank A Voorvaart published a large study spanning nearly 10 years and over 1,200 properties in which they found that an encumbering HVTL had only a small negative effect on the sale price of a residential home. In half of their samples they found consistent negative property values mostly limited to less than 10%, with most between 3%-6%.<sup>46</sup>

They summarized their findings as showing “no evidence of systematic effects of either proximity or visibility of 345-kV (kilovolt) transmission lines on residential real estate values.”<sup>47</sup>

They did, however, say that “An opinion supporting HVTLs effects would have to be based on market data particular to the situation in question and could not be presumed or based on casual, anecdotal observation. It is fair to presume that the direction of the effect would in most circumstances be negative, but the existence of a measureable effect and the magnitude of such an effect can only be determined by empirical analysis of actual market transactions.”<sup>48</sup>

Appraiser Kerry M. Jorgensen disagreed with the authors’ views that paired data analysis and retroactive appraisal were “too unrefined and too subjective to be of much value,” and that only through objective statistics could the effect of HVTLs on property value be truly understood. He argued that relying too much on statistics can be dangerous as there could be problems with how the data is compiled and interpreted. For example, he points out that out of their set of 1,286 qualifying sales, only 78 (6%) are directly encumbered by a power line easement, and only 33 (2.6%) more are within 246 feet of a power line easement.<sup>49</sup>

---

44 Comments on “Property Lines and Property Values Revisited.” (Letter to the editor) David M. Harding & Arthur E. Jimmy & Thomas O. Jackson & Jennifer M. Pitts. *Appraisal Journal*. Winter, 2008.

<http://www.entrepreneur.com/tradejournals/article/176131510.html>

45 Ibid.

46 [High-Voltage Transmission Lines: Proximity, Visibility, and Encumbrance Effects](#). James A Chalmers and Frank A Voorvaart. *The Appraisal Journal* via the Appraisal Institute website. Volume 77, Issue 3; Summer, 2009; pages 227-246. Reposted by CostBenefit of the Environmental Valuation and Cost-Benefit News blog -

<http://www.envirovaluation.org/index.php/2009/11/09/high-voltage-transmission-lines-proximity-visibility-and-encumbrance-effects>

47 **Power Lines Don’t Affect Property Values**. *The Appraisal Journal*. July 30, 2009.

[http://www.appraisalinstitute.org/about/news/2009/073009\\_TAJ.aspx](http://www.appraisalinstitute.org/about/news/2009/073009_TAJ.aspx)

48 **High-Voltage Transmission Lines: Proximity, Visibility, and Encumbrance Effects**. James A. Chalmers, PhD and Frank A. Voorvaart, PhD. *The Appraisal Journal*. Summer 2009. Pgs. 227-245.

49 **Letters to the Editor**. Kerry M. Jorgensen. *Appraisal Journal*. January 1, 2010.

<http://www.thefreelibrary.com/Comments+on+high-voltage+transmission+lines:+proximity,+visibility,...-a0220765052>

The Chalmers-Voorvaart study also attracted the interest of Washington Post Real Estate writer Elizabeth Razzi who wrote that the study was paid for by Northeast Utilities and completed before they proposed a high-voltage transmission grid in New England. She also wrote that both Chalmers and Voorvaart are appraisers and expert witnesses for the power industry.<sup>50</sup>

Several studies have found that, over time, property value damages from nearby HVTLs diminish though properties near the pylons stay permanently damaged no matter the elapsed time.<sup>51</sup> In the first case, though the property owner may grow accustomed to HVTLs and thus think less of them, new potential buyers aren't as sensitized and the diminutive impact is fresh to them.

Realtors usually oppose HVTLs. Nearly all surveyed realtors and appraisers in the Roanoke and New River valleys of Virginia said that close proximity to HVTLs would diminish property values by as much as \$25,000, but mostly for high-end homes. Lower-end homes see little impact.<sup>52</sup>

Diminished property values can also impact communities. In one case, Delaware residents were worried that a proposed 1,200 megawatt HVTL would depress local property values, thus weakening the local tax base and leading to higher taxes to offset the losses. Kent Sick, author of a 1999 paper on power lines and property values, projects losses from a few percentage points to 53%.<sup>53</sup>

In Atlanta, a local realty group named Bankston Realty ranked power lines as the number one item that damages resale value, followed closely by busy roads and inferior lot topography. They advise buyers to pay 15% less of the asking price if power lines are present, and they advise sellers to accept it as a logical perception of value.<sup>54</sup>

Evidence suggests that HVTLs affect the health of residents in close proximity to lines 345kV and higher. Evidence also suggests that the power lines have little to no impact on property values because encumbered lots are often larger and more private than unencumbered lots, resulting in no diminution of purchase price. However, most studies did observe longer time on the market for encumbered properties.<sup>55</sup>

## Rural Impact

Now that the reader is aware of stray voltage, EMFs, and property values, the reader will have a deeper understanding of the potential effects of HVTLs on rural land throughout the United States.

---

50 **Do High-Voltage Lines Zap Property Values?** Elizabeth Rassi. Local Address. August 4, 2009.

[http://voices.washingtonpost.com/local-address/2009/08/do\\_high-voltage\\_lines\\_zap\\_prop.html](http://voices.washingtonpost.com/local-address/2009/08/do_high-voltage_lines_zap_prop.html)

51 **The Effect of Public Perception on Residential Property Values in Close Proximity to Electricity Distribution Equipment.** Sally Sims, B.Sc. Paper presented to the Ph.D. Forum at the Pacific Rim Real Estate Society Conference. January 2002. This is the first part to the study.

52 **A Question of Power: Part III – Realtors: High voltage lines lower property values.** Leslie Brown. Roanoke Times. 1998. <http://www.vaproperyrights.org/articles/98lineslowervalues.html>

53 **Expert: Power lines hurt property value, market research shows sellers lose up to 53 percent.** Elizabeth Cooper. Gannett News Service. May 20th, 2006.

54 **Atlanta Homes and Resale Value... Power lines are a definite NO.** The Bankston Group. July 17, 2008.

<http://atlantaintheknow.com/2008/07/17/atlanta-homes-and-resale-value-power-lines-are-a-definite-no/>

55 **High Voltage Power Lines Impact On Nearby Property Values.** Ben Beasley. Right of Way Magazine. February 1991.

In Goodhue County, Minnesota, an area locally known for protecting agriculture, CapX2020 (a utility consortium) is proposing to build a 345kV HVTL through the county that may be doubled to 690kV. Local landowner Linda Grovender voiced her concern in a 2010 letter to the editor of the Cannon Falls Beacon. She worries that the line, proposed to traverse residential and agricultural lands instead of following existing utility right-of-way, will have an adverse effect on her family's health (due to EMFs), jeopardize agricultural interests, result in lost agricultural productivity, and damage property values.<sup>56</sup> She wrote that if the proposed 345kV HVTL is doubled to 690kV (as it legally could be) it could have an adverse effect on her family's health, jeopardize agricultural interests, result in lost agricultural productivity, and damage property values.<sup>57</sup>

Elsewhere in Minnesota, Dairyland Power Cooperative (one of the chief members of CapX2020) surveyed rural landowners for their opinion regarding the proposed HVTL in their area. Whether they were crop or dairy farmers, each had several reasons why the proposed line would impact their business. The unnamed respondents shared Grovender's views and said they prefer to use highway corridors and woodlands to avoid impacts to productive agricultural land; protect livestock; avoid interference with large farm equipment, GPS, and navigation systems used in farm machinery; preserve open channels for crop-dusting; protect farm buildings; protect pasture land, tree farms, and timber production.<sup>58</sup>

The Dairyland survey also found that livestock operations are concerned that the HVTL will generate stray voltage, impacting livestock and feedlots. Cattle, horses, and other livestock will not go near transmission lines due to stray voltage. And stray voltage can impact the health of beef cattle and hogs. Farmers also fear potential impacts on dairy operations, poultry, livestock mortality, horse boarding facilities, and herd reproduction.<sup>59</sup>

HVTLs also pose potential technological obstacles. For example, The GPS equipment used in the farm equipment may not be able to steer around transmission poles, potentially making farming around the towers extremely difficult.<sup>60</sup>

One major concern was the routing the HVTLs through the middle of properties or fields. The surveyed farmers quoted many repercussions for bisecting a property. They include: Interrupted irrigation and tile drainage equipment and practices; decreased food production; fragmented existing cropland and dairy operations; diminished lease value: the addition of transmission lines would make it difficult to lease farm land for the top rental price; compacted soil from construction of the HVTLs and access roads: it would take 3–5 years to restore.<sup>61</sup>

Across the border in Wisconsin, the state's Department of Agriculture validated many of the Minnesota respondents' concerns when it found that HVTL construction could compact soil, making it difficult to

---

56 **No CAPX2020.** Letter to the Editor by Linda Grovender. The Cannon Falls Beacon. March 23, 2010.

57 **Ibid.**

58 **SE Twin Cities-Rochester-La Crosse Transmission System Improvement Project Macro-Corridor Study, Appendix A: Summary of Public Comments regarding a proposed HVTL.** Dairyland Farm Cooperative. September 2007.

59 **SE Twin Cities-Rochester-La Crosse Transmission System Improvement Project Macro-Corridor Study, Appendix A: Summary of Public Comments regarding a proposed HVTL.** Dairyland Farm Cooperative. September 2007.

60 **Ibid.**

61 **Ibid.**

plow and plant those areas, naturally resulting in reduced crop yields. The HVTLs force farmers to change planting patterns to avoid support structures. Since farm land is only as valuable as its ability to yield good crops, rural property values suffer from the limitations and effects of HVTLs on their land.<sup>62</sup>

Potential compaction, forced building changes, and lower property values equally threaten dairy operations as much as agricultural farmers. Susan and Robert Herckendorf, dairy farmers in the path of the proposed A-W HVTL, are worried that the line could put local dairies out of business.<sup>63</sup>

In researching the possible negative factors of the then-proposed Arrowhead-Weston HVTL in Wisconsin in 2000, the state's Public Service Commission found that rural property values may decrease from "concern or fear of possible health effects from electric or magnetic fields; The potential noise and visual unattractiveness of the transmission line; Potential interference with farming operations or foreclosure of present or future land uses."<sup>64</sup> They also found that the value of agricultural property will likely decrease if the pylons inhibit farm operations."<sup>65</sup> However, they also found that adverse effects appear to diminish over time.<sup>66</sup>

The impact report further states that, on farmland, HVTL installation can remove land from production, interfere with operation of equipment, create safety hazards, and deprive landowners the opportunity to consolidate farmlands or develop the land for another use. The greatest impact on farm property values is likely to occur on intensively managed agricultural lands.<sup>67</sup>

Nearly a decade later in 2009, the Wisconsin Public Service Commission conducted another study on the environmental impacts of transmission lines and found that "in agricultural areas, the number of poles crossing a field may be the most significant measure of impact," and "agricultural values are likely to decrease if the transmission line poles are in a location that inhibits farm operations."<sup>68</sup> Beyond the impact of pole placement, the PSC found that "the overall aesthetic effect of a transmission line is likely to be negative to most people, especially where proposed lines would cross natural landscapes. The tall steel or wide 'H-frame' structures may seem out of proportion and not compatible with agricultural landscapes or wetlands."<sup>69</sup> They further explained that "Transmission lines can affect farm operations and increase costs for the farm operator. Potential impacts depend on the transmission line design and the type of farming. Transmission lines can affect field operations, irrigation, aerial spraying, wind breaks, and future land development."<sup>70</sup>

The study further examines how rural HVTL pole placements can affect agricultural land values: They can create problems for turning field machinery and maintaining efficient fieldwork patterns; expose

---

62 Line could affect farms, property values. Author Unknown. Oshkosh Northwestern. June 26, 2000.

63 Ibid.

64 Property Values (pages 212-215) from Final Environmental Impact Statement, Arrowhead-Weston Electric Transmission Line Project, Volume 1. Public Service Commission of Wisconsin. Docket 05-CE-113. Date issued, October 2000.

65 Ibid..

66 Ibid.

67 Property Values (pages 212-215) from Final Environmental Impact Statement, Arrowhead-Weston Electric Transmission Line Project, Volume 1. Public Service Commission of Wisconsin. Docket 05-CE-113. Date issued, October 2000.

68 Environmental Impacts of Transmission Lines. Public Service Commission of Wisconsin. March 2009.

69 Ibid.

70 Ibid.

properties to weed encroachment; compact soils and damage drain tiles; result in safety hazards due to pole and guy wire placement; hinder or prevent aerial activities by planes or helicopters; interfere with moving irrigation equipment; hinder future consolidation of farm fields or subdividing land for residential development.<sup>71</sup>

To oppose these potentially diminutive effects on their land, landowners sometimes organize against them. In Ohio, a group of concerned citizens formed the group, Citizens Advocating Responsible Energy (CARE), to oppose FirstEnergy's proposed Geauga County power line. On their website they state the reasons for their opposition. They fear the HVTL will devalue the properties it crosses, force affected property owners to continue paying taxes on damaged property, damage natural beauty and local ecology, lessen agricultural productivity of impacted land, thus reducing farm income and local purchasing power, and create a thorough-fare for snowmobiles and off-road vehicles.<sup>72</sup>

Other times, concerned landowners are united in voice, but not in form. In 2010, Idaho property owners in Bonneville County are nervously following the progress of Idaho Falls Power's proposed 161kV HVTL that would pass close to their homes.<sup>73</sup>

Lynn Pack, a Bonneville County dairy farmer, has educated himself on HVTLs and said he's most concerned with stray voltage. "It causes so many problems with cow's production. They won't feed, they won't drink water, they dry up and when they dry up they just don't give any milk."<sup>74</sup> Another property owner, Sharon Nixon, fears the HVTL could harm her husband's health after his recent victory over bone cancer. She also fears the value of her home will fall. "It is not something we want in our backyard. We worked all our lives. This is our dream home."<sup>75</sup>

Idaho Falls Power General Manager Jackie Flowers said the HVTL is a necessary step to meet new federal energy reliability standards and that the utility is open to the public's input.<sup>76</sup>

A year earlier in Idaho, a coalition of Rockland County farmers tried to convince Idaho Power Company to avoid routing a new HVTL through their land, citing environmental and development concerns.<sup>77</sup> Doug Dokter, Idaho Power project leader, said the new lines are required because the existing lines are at their capacity.<sup>78</sup> Because of their concerns, utility representatives say they're looking at other options and hope for a compromise to avoid invoking eminent domain to take the land.<sup>79</sup>

Sometimes opposition to a proposed HVTL route can alter its course. In 1994, Public Service Company of New Mexico abandoned plans to take new right-of-way through the Jemez Mountains for a 50-mile long HVTL extension that Indian groups and environmentalists argued would cut through several miles

---

71 Ibid.

72 **We oppose FirstEnergy's proposed Geauga County power line.** Website posting by Citizens Advocating Responsible Energy (CARE). Date unknown but website copyright suggests sometime from 2008-2009.

73 **Transmission Lines Worry Property Owners.** [Brett Crandall](#). Local News 8. March 5, 2010.

74 Ibid.

75 Ibid.

76 Ibid.

77 **Headway being made on proposed route for power transmission line.** Author Unknown. The Power County Press and Aberdeen Times. April 8, 2009.

78 Ibid.

79 Ibid.

of pristine vistas and Native American ruins.<sup>80</sup> The utility instead re-routed the extension to follow an existing utility corridor, bringing the decade-long dispute to a close.<sup>81</sup>

In 2008, California farmers and ranchers found themselves in a similar situation. San Diego Gas & Electric proposed a 150-mile long, 500kV HVTL (in conjunction with several 230kV HVTLs) across San Diego and surrounding counties to meet increasing energy needs and transport required renewable energy.<sup>82</sup>

Affected landowners are worried the line will have “huge” impacts on their properties. Katie Moretti, an affected cattle rancher, and other farmers worry that building construction access roads across untouched land will limit their land’s future use. She also worries that the utility won’t compensate her for the loss of use.<sup>83</sup>

Another rancher, Glen Drown, also worries about the impact the line will have on land-use and property values since the proposed route bisects several of his parcels subdivided for future development.<sup>84</sup>

Local dairy producer, Richard Van Leeuwen, is worried that stray voltage from the line would damage the health of his calves and milking cows. To protect his herd’s health he said he would have to relocate the calf farm to another part of his property, costing millions.<sup>85</sup>

San Diego County Farm Bureau Executive Director Eric Larson acknowledges that the farming community won’t be able to stop the project, but he’s trying to make it compatible with the area’s farming interests by recommending burying the line underground in some areas, going around some areas, and utilizing existing right-of-way.<sup>86</sup>

Elsewhere in the state, the City of Brentwood researched the potential impact of HVTLs on agricultural land values by interviewing several of their local and experienced Real Estate brokers. All the brokers said that “Agricultural land with power lines above ground is worth less than properties with below-ground utilities.”<sup>87</sup>

However, in a 2007 report, the California Department of Conservation’s Farmland Mapping and Monitoring Program reported that HVTLs installed on agricultural land for a wind farm will result in a temporary disturbance of 10 acres of farmland and permanently affect 1 acre. Since the affected areas are mainly grazing land, the report concluded that the HVTL would not significantly impair productivity. Though the impact to agricultural productivity during construction would be negative, they claimed it would be mostly insignificant.<sup>88</sup>

---

80 PNM Scraps Jemez Power Line Plan. Keith Easthouse. Sante Fe New Mexican. December 16, 1994.

81 Ibid.

82 Proposed power line would impact farms. Christine Souza. California Farm Bureau Federation. May 28, 2008.

83 Proposed power line would impact farms. Christine Souza. California Farm Bureau Federation. May 28, 2008.

84 Ibid.

85 Ibid.

86 Ibid.

87 City of Brentwood, California. Website page explaining their approaches to valuing agricultural land. Date and author unknown.

88 3.3 Agricultural Resources. Part of the public draft by The California Department of Conservation’s Farmland Mapping and Monitoring Program. July 2007.

Across the country in Leesburg, Virginia, 26 landowners opposed Dominion Energy's proposed 230kV HVTL, saying it will damage their property values, thus decreasing their tax base and thus affect the county as a whole. They also fear its impact on Blue Ridge tourism.<sup>89</sup>

Bill Hatch, owner of a 400-acre farm was upset to learn the line would run through his farm. He said the proposed line would so affect his farm that he could only afford to keep it by direct marketing or agrotourism, but he admitted that few people would want to visit a farm with power lines.<sup>90</sup>

Landowners want the utility to bury the lines, but the utility says it will cost 10 times more than traditional overhead lines. However, Harry Orton, an underground power line expert, testified that while the initial costs of burying the lines are higher, the lower cost of maintenance over the years evens the cost along the lines' lifecycle.<sup>91</sup>

A year later in 2006, Dominion proposed an additional 500kV HVTL to meet growing demand and routed it through northern Virginia because it was the most efficient route. However, the area is also one of the state's most pristine, and the proposal met with fierce resistance from landowners, environmentalists, Congressman Frank Wolf, and actor Robert Duvall.<sup>92</sup>

In the path of the HVTL are landowners of some of the most valuable land in Virginia, and they were bothered that the utility plans to erect the 40-mile, 15-story HVTL in their back yards.<sup>93</sup>

One landowner, Cameron Eaton, fears the line will bring financial ruin and "sink" her investment into her 100-acre Fauquier County property and horse business. "No one will buy that land if some ugly power line could run right over their house. I'm broken off at the knees."<sup>94</sup>

Real estate agents consider the area's picturesque countryside to be its most valuable quality. Matt Sheedy, a land developer and president of Virginians for Sensible Energy Policy, said that the very proposal that the line will soon dominate the countryside has already "sent land values plummeting." Brokers confirmed that the market froze. People backed out of real estate contracts, unwilling to live anywhere under the line. Sheedy's groups estimated that land immediately affected could lose as much as 75% of its value.<sup>95</sup>

"When you're out in the country and you're selling property, what you're selling is the open space and the bucolic views and the history," Sheedy said. "Running power lines through an area like this is just devastating." To landowners Gene and Deborah Bedell, who were trying to sell their 223-acre farm to pay for their retirement, it was a hard blow. Their agent told them no one would buy their property if they knew "that it could have a power line looming over it."<sup>96</sup>

---

89 **Committee Hears Debate Over Underground, Overhead Power Lines.** Megan Kuhn. Leesburg Today. May 20, 2005.

90 **Ibid.**

91 **Committee Hears Debate Over Underground, Overhead Power Lines.** Megan Kuhn. Leesburg Today. May 20, 2005.

92 **Landowners Fear Ruin from Power Line Route.** Sandhya Somashekhar. Washington Post Staff Writer. December 11, 2006.

93 **Ibid.**

94 **Ibid.**

95 **Ibid.**

96 **Ibid.**

Further north in New York, over 50 landowners and local officials spoke before the state's Public Service Commission in opposition to Upstate NY Power Corp's proposed construction of a 230kV HVTL in their community.<sup>97</sup>

Sharon B. Rossiter, co-owner of Doubledale Farms in Ellisburg, said the HVTL will damage their crop cycle, remove 100 acres from use, and make planting difficult by having to navigate around the poles. Also worried is Roberta F. French, owner of Farnham Farms in Sandy Creek. The proposed line will bisect her blueberry farm, eliminating two-thirds of it.<sup>98</sup>

Jay M. Matteson, Jefferson County agricultural coordinator, advocated routing the HVTL through public land to avoid damaging productive, private land. "The burden should be on New York state and the developer to prove to local landowners why their land is less valuable than public land," he said.<sup>99</sup>

The Town of Henderson opposed it because the town's foundation is tourism and agriculture, and the community is "very concerned about the visual impacts of this project."<sup>100</sup>

Robert E. Ashodian, chairman of the Henderson Harbor Area Chamber of Commerce's Economic Development Committee, agreed. "The scenic resources of the community and the natural resources are at the heart of the value of the community."<sup>101</sup>

In an effort to appease worried or angry landowners, agricultural property owners in Montana with HVTLs encumbering their land will be exempt from paying taxes on land within 600 feet on either side of the HVTL Right-of-Way.<sup>102</sup>

In the 2002 study, "The Impact of Transmission Lines on Property Values: Coming to Terms with Stigma," authors Peter Elliott and David Wadley cite a 1978 Canadian study that, according to one commentary, found "the per acre values from more than 1,000 agricultural property sales in Eastern Canada were 16-29% lower for properties with easements for transmission lines than for similar properties without easements." The impact was greater on smaller properties. The 1978 study found little difference in impact from 230kV or 500kV HVTLs. The study also found that the impacts didn't seem influenced by time.<sup>103</sup>

Three more Canadian studies on the impact of HVTLs on agricultural land values found different results.<sup>104</sup> Brown 1976 studied the effect of low-voltage power lines on agricultural land in Saskatchewan and found no measurable impact on property values. The Woods Gordon 1981 study focused on the effects of 230kV to 500kV HVTLs on Ontario farmland and found some areas had an average of a 16.9% negative impact, two areas had a positive effect, and others showed no statistically

---

97 **Transmission line gets no support.** Nancy Madsen. Watertown Daily Times. November 17, 2009.

98 **Transmission line gets no support.** Nancy Madsen. Watertown Daily Times. November 17, 2009.

99 **Ibid.**

100 **Ibid.**

101 **Ibid.**

102 **Tax facts on proposed power line.** The Montana Standard Staff. The Montana Standard. July 11, 2009.

103 **The Impact of Transmission Lines on Property Values: Coming to Terms with Stigma.** Peter Elliott & David Wadley. Property Management, pgs.137-152. 2002.

104 **The Effects of Overhead Transmission Lines On Property Values: A Review And Analysis Of The Literature.** Edison Electric Institute Siting & Environmental Planning Task Force. 1992.

# THE POWER LINE DILEMMA: COMPENSATION FOR DIMINISHED PROPERTY VALUE CAUSED BY FEAR OF ELECTROMAGNETIC FIELDS\*

ANDREW JAMES SCHUTT\*\*

I. INTRODUCTION.....	125
II. THE THREE APPROACHES.....	130
A. The Minority View: Fear Can Never Be an Element of Damages.....	130
1. In General.....	130
2. The Minority View Applied: Alabama Power Co. v. Keystone Lime Co.....	130
B. The Intermediate View: Award Permissible Where Fear Depresses Value, As Long as Fear is Reasonable.....	133
1. In General.....	133
2. The Intermediate View Applied: Dunlap v. Loup River Public Power District.....	135
C. The Majority View: Reasonableness of Fear is Irrelevant—Award Permissible Where Fear Depresses Value.....	136
1. In General.....	136
2. Florida’s Reversal: Florida Power & Light Co. v. Jennings.....	137
3. New York’s Reversal: Criscuola v. Power Authority of New York.....	138
4. Kansas’s Move to the Majority View: Willsey v. Kansas City Power & Light Co. and Ryan v. Kansas Power & Light Co.....	139
5. Confusion in Virginia: Chappell v. Virginia Electric & Power Co.....	141
III. STRICT LIABILITY RATIONALES AS JUSTIFICATION FOR THE MAJORITY VIEW.....	142
A. Strict Liability.....	143
B. Corrective Justice.....	145
1. Causation.....	145
2. Reciprocity and Reasonableness.....	147
C. Economic Efficiency.....	150
1. Reduction of Transaction Costs.....	150
2. Cost Avoidance.....	151
3. The Enterprise Model.....	153
a. Loss Shifting.....	153
b. Internalization of Costs.....	154
c. Application of the Enterprise Model.....	155
IV. BALANCING INTERESTS.....	156
V. CONCLUSION.....	159

## I. INTRODUCTION

Electromagnetic field (EMF)<sup>1</sup> litigation is fast becoming the “asbestos of the 90s”<sup>2</sup> as concern over the potential adverse health

---

\* Copyright © 1996 Andrew James Schutt.

\*\* Associate, Arnall Golden & Gregory, Atlanta, Georgia. B.S., University of Florida, 1990; J.D., Florida State University, 1996. The author thanks Professor Larry Garvin, Florida State University College of Law, for his insight and contributions.

1. Electricity produces an electric field and a magnetic field, which together are called an electromagnetic field. NATIONAL INST. OF ENVTL. HEALTH SCIENCES & U.S. DEPT’ OF ENERGY, QUESTIONS AND ANSWERS ABOUT EMF, ELECTRIC AND MAGNETIC FIELDS ASSOCIATED WITH THE USE OF ELECTRIC POWER 5 (1995) [hereinafter QUESTIONS ABOUT EMF]. EMFs are generated by power lines, electrical wiring, and such common household items as radios, televisions, microwaves, and hair dryers. Id.; EDWIN F. FROELICH ET AL., EMF, ELECTROMAGNETIC FIELDS, SCIENTIFIC AND LEGAL ASPECTS 2 (1993). The strength of

effects from EMF has spawned extensive litigation.<sup>3</sup> With claims arising in many forms, especially in the areas of property damage and personal injury, a potential plaintiff has an array of legal theories from which to choose.<sup>4</sup> In fact, EMF litigation could become more common than asbestos litigation because the prevalence of EMF could lead to a higher number of potential plaintiffs.<sup>5</sup>

EMFs are generated not only from power lines, with which most people associate EMF, but also from such devices as microwave ovens, hair dryers, and cellular telephones.<sup>6</sup> Whether EMF causes cancer continues to be a hotly debated question.<sup>7</sup> Indeed, in 1992, Congress authorized the expenditure of sixty-five million

---

electric and magnetic fields decreases as one moves away from the source. QUESTIONS ABOUT EMF, *supra*, at 5. However, only the electric field can be eliminated by shielding in dense objects such as walls or houses. *Id.* This is important because the present health concerns about EMF revolve around the magnetic field. *Id.* at 6.

Most of the electricity generated by common household appliances is alternating current (AC), meaning the flow of the current reverses periodically—in the U.S., at a frequency of 60 Hz. *Id.* at 5, 7. The higher the frequency, the more energy there is in the field. *Id.* at 7. For example, an X-ray has a very high frequency and can cause ionization, which damages genetic material. *Id.* The EMFs generated by power lines do not cause ionization, but do create weak currents in people and animals. *Id.* at 9.

2. George Brandon, *Defending Against EMF Property Devaluation Cases*, PUB. UTIL. REP., Feb. 1, 1995, at 43. In the 1970s and 1980s, the United States saw a large amount of litigation involving asbestos, with asbestos manufacturers and their insurers incurring costs in the billions of dollars. See generally BARRY L. CASTLEMAN, *ASBESTOS: MEDICAL AND LEGAL ASPECTS* 666-676 (3d ed. 1990) (summarizing costs of asbestos litigation to manufacturers and insurance industry).

3. FROELICH ET AL., *supra* note 1, at 2.

4. See FROELICH ET AL., *supra* note 1, at 24-25 (summarizing EMF litigation theories and noting that both property damage and personal injury claims take many forms, including "trespass, conversion, nuisance, and undue burden upon the easements granted for the routing of lines" among the former and "negligence, product liability, and ultrahazardous activity" among the latter).

5. See Tom Watson & Curtis S. Renner, *The Scientific and Legal Bases for Litigating EMF Property Cases*, in *CURRENT CONDEMNATION LAW* 126 (Alan T. Ackerman ed., 1994) ("[T]he potential impact from EMF property damage claims could 'dwarf' the impact seen from asbestos litigation."); Roy W. Krieger, *On the Line*, A.B.A. J., Jan. 1994, at 40 ("We live surrounded by electromagnetic fields. Some say they are deadly. With these fields all around us, the litigation potential could dwarf the asbestos claims of the past decade.").

6. FROELICH ET AL., *supra* note 1, at 2.

7. Compare William J. Broad, *Cancer Fear is Unfounded, Physicists Say*, N.Y. TIMES, May 14, 1995, at 19 (discussing study by the American Physical Society which stated that "it [could] find no evidence that the electromagnetic fields that radiate from power lines cause cancer") and *Amicus Brief* at 4, *San Diego Gas & Elec. Co. v. Orange Co. Superior Court*, 895 P.2d 56 (Cal. 1995) (No. S045854) (stating that studies do not "demonstrate a causal association between electromagnetic fields and cancer") with Nancy Wertheimer & Ed Leeper, *Electrical Wiring Configurations and Childhood Cancer*, 109 AM. J. EPIDEMIOLOGY 2273-84 (1979) (arguing that there is an increase in the rate of childhood leukemia in homes located near power lines). See also QUESTIONS ABOUT EMF, *supra* note 1, at 57-63 (listing studies of the potential health effects caused by EMF); Muhammad Harunuzzaman & Govindarajan Iyyuni, *Electromagnetic Fields and Human Health: Revisiting the Issue*, 16 NAT'L REG. Q. BULL. 181, 182-88 (1995) (same).

dollars over a five-year period for an EMF research and public information program.<sup>8</sup> However, many in the scientific community only agree that "there may be a connection between EMF exposure and some forms of cancer."<sup>9</sup>

An issue of significant litigation, especially in recent years, is whether property owners may be compensated for the diminution in value of their land caused by the public's fear of EMF emanating from power lines.<sup>10</sup> This issue arises most often in condemnation proceedings brought by power companies seeking to install new power lines over a portion of property owners' land.<sup>11</sup> The property owners claim that the land has been partially "taken"<sup>12</sup>

---

8. See Energy Policy Act of 1992, Pub. L. 102-486, 102 Stat. 2776 (codified at 42 U.S.C.A. § 13478 (1994)). This Act created the Electric and Magnetic Fields Research and Public Information Dissemination (EMF RAPID) program. QUESTIONS ABOUT EMF, *supra* note 1, at 64. The EMF RAPID program's central purpose is determining whether EMF causes cancer and providing the public with information about EMF. *Id.* at 1, 65. Questions About EMF was prepared for the EMF RAPID program and provides answers to questions about EMF. *Id.* at 1. A copy can be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington DC 20402. The EMF RAPID program also provides a toll-free number to answer EMF-related questions: 1-800-363-2383.

9. Robert D. Chesler & Peter E. Nahmias, *The Next Wave? EMF Regulation and Litigation*, MEALEY'S LIT. REP. (TOXIC TORTS), Oct. 21, 1994, at 23 (emphasis added).

10. This Comment focuses on the EMF issue in terms of the fear of power lines and subsequent land value diminution caused by that fear. This is the context in which fear-based land value diminution arises most often and presumably will continue to arise, especially in light of increased public awareness and fear of EMF. Pipeline cases are the second most common scenario under which public fear may create a land value diminution. See James W. Springer & David G. Mawn, *Condemnation Law: Can a Landowner Recover for Damages Due to the Improvement?*, 22 REAL EST. L.J. 281, 287-88 (1994); see, e.g., *Willsey v. Kansas City Power & Light Co.*, 631 P.2d 268, 273-75 (Kan. Ct. App. 1981) (power line condemnation suit; summary of case law); *All Am. Pipeline Co. v. Ammerman*, 814 S.W.2d 249 (Tex. Ct. App. 1991) (pipeline condemnation suit). Public fear causing value diminution arises in other situations, however. For example, in *City of Santa Fe v. Komis*, 845 P.2d 753 (N.M. 1992), the New Mexico Supreme Court analyzed the issue in reference to a condemnation proceeding brought for the construction of a highway to transport nuclear waste. The landowner in *Komis* attempted to recover for diminution of the property's value caused by the public's fear of potential dangers from the nuclear waste. *Id.* at 755; see also *infra* note 96 (discussing *Komis*); *Department of Agric. & Consumer Serv. v. Polk*, 568 So. 2d 35, 41 (Fla. 1990) (noting that evidence of diminution in market value caused by public's fear of orange trees from infected nursery was relevant in determining damages in inverse condemnation suit); *Horsch v. Terminix Int'l Co., Ltd. Partnership*, 865 P.2d 1044, 1049 (Kan. Ct. App. 1993) (involving civil action by private homeowner against termite company; homeowner was entitled to damages for reduction in market value caused by public's fear of houses with prior termite damage). Thus, while this Comment focuses on power lines, its analysis and conclusions are meant to apply to most factual scenarios in which public fear creates a diminution in value.

11. See *Florida Power & Light Co. v. Jennings*, 518 So. 2d 895, 896 (Fla. 1987) (involving utility company condemnation of portion of property owner's land, of which owner retained some use); *Selective Resources v. Superior Court*, 700 P.2d 849, 850 (Ariz. Ct. App. 1984) (noting that pertinent valuation determination in easement condemnation proceeding was value of land taken for power line and power line's effect on market value of remaining land).

12. Eminent domain provides that if the government takes private property for a public use, the landowner must be justly compensated. U.S. CONST. amend. V ("[N]or shall

and assert that the public's fear that power lines cause cancer has decreased the remaining property's market value.<sup>13</sup> It is also conceivable that adjacent property owners could have a claim, albeit a less direct one.<sup>14</sup> While the former owner can seek compensation in a condemnation proceeding for the value lost,<sup>15</sup> the latter owner could file claims of inverse condemnation, nuisance, trespass, strict liability, or ultrahazardous activities.<sup>16</sup> In either situation, a court must decide whether a diminution in the property's value caused by the public's fear is compensable.

The jurisdictions that have addressed the issue of compensability for damages caused by the public's fear have followed three approaches.<sup>17</sup> The first, labeled the minority view,<sup>18</sup> holds that damages caused by the public's fear are never compensable.<sup>19</sup> The second, labeled the intermediate view,<sup>20</sup> holds that damages caused by the public's reasonable fear may be compensable.<sup>21</sup> Fi-

---

private property be taken for public use, without just compensation."). State legislatures allow power companies to utilize the power of eminent domain for the erection of power lines. See, e.g., FLA. STAT. § 361.01 (1995); IND. CODE § 8-1-8-1 (1995). If a power company or other governmental agency wants to implement eminent domain proceedings, the entity must seek to have the property condemned. See WILLIAM B. STOEBUCK, *NONTRESPASSORY TAKINGS IN EMINENT DOMAIN* 4 (1977). Every state except North Carolina has a similar provision in its constitution. *Id.* at 5-6. However, North Carolina provides for eminent domain proceedings through its supreme court. *Id.* at 6. In condemnation proceedings, landowners are usually awarded damages for the property taken and consequential damages for the diminished value of the remaining property. *Id.* at 18-19.

13. See, e.g., Gary A. Thorton, *Litigation Involving High-Power Electrical Transmission Line Cases*, in *CURRENT CONDEMNATION LAW* 118-19 (Alan T. Ackerman ed., 1994) ("In the past, people viewed electricity and the high-power lines that supplied it as a blessing. The opposite viewpoint is more common today. High-power lines are now more often seen as an eyesore at best and, at worst, as potentially dangerous, cancer-causing, or posing latent health risks."). This fear has developed in part because of the publicity surrounding studies that purport to show a correlation between EMF and cancer. See Chesler & Nahmias, *supra* note 9, at 20-21; Margo R. Stoffel, *Comment, Electromagnetic Fields and Cancer: A Legitimate Cause of Action or a Result of Media-Influenced Fear?*, 21 *OHIO N.U. L. REV.* 551, 587-90 (1994) (summarizing media's role in shaping public perception by encouraging fear of power lines).

14. See, e.g., *Adkins v. Thomas Solvent Co.*, 487 N.W.2d 715 (Mich. 1992) (involving nuisance claim for property value depreciation caused by public concern about contamination emanating from defendant's property); see also *infra* note 74 (discussing *Adkins*).

15. See *Jennings*, 518 So. 2d at 895; see also *Selective Resources*, 700 P.2d at 850.

16. See, e.g., *Adkins*, 487 N.W.2d at 717. See also Chesler & Nahmias, *supra* note 9, at 24 ("The nature of EMF lends itself to recovery under theories of nuisance, trespass and inverse condemnation."); Todd D. Brown, *The Power Line Plaintiff & the Inverse Condemnation Alternative*, 19 *B.C. ENVTL. AFF. L. REV.* 655, 681-90 (1992) (discussing possible claims for EMF exposure and suggesting that inverse condemnation suit on various theories, such as nuisance or airspace easement, might result in compensation for lost market value caused by public's fear).

17. See Chesler & Nahmias, *supra* note 9, at 24.

18. *Willsey v. Kansas City Power*, 631 P.2d 268, 273 (Kan. Ct. App. 1981).

19. See *infra* notes 32-56 and accompanying text.

20. *Willsey*, 631 P.2d at 273.

21. See *infra* notes 57-83 and accompanying text.

nally, the third approach, labeled the majority view,<sup>22</sup> holds that damages caused by the public's fear are always compensable.<sup>23</sup>

This area of law is confusing and unsettled.<sup>24</sup> There is no uniform approach to the issue, and there are variations of the three main approaches.<sup>25</sup> Moreover, in recent years, several courts have either reversed precedent and switched views, or cast doubt upon the state of law in their respective jurisdictions. The Florida Supreme Court reversed years of precedent by switching from the minority view to the majority view.<sup>26</sup> New York and Kansas switched from the intermediate view to the majority view.<sup>27</sup> Virginia's highest court recently decided a case that casts doubt upon that state's position.<sup>28</sup> This lack of consistency, coupled with the array of views on this issue, is a legal quagmire, with no end to the confusion in sight.<sup>29</sup> Courts<sup>30</sup> and commentators<sup>31</sup> offer many different justifications for why a particular view is superior.

Part II of this Comment attempts to summarize the current state of the law on the issue of fear-based land value diminution by examining relevant case law. Part III argues that the majority view is superior to the minority and intermediate views. This part demonstrates that the majority view is essentially a strict li-

---

22. Willsey, 631 P.2d at 273.

23. See *infra* notes 84-136 and accompanying text.

24. See *infra* note 61 (discussing further the confusion in this area).

25. For example, Arizona follows the intermediate view, but has modified the analysis. See *Selective Resources v. Superior Court*, 700 P.2d 849 (Ariz. Ct. App. 1984); see also *infra* note 75 (discussing *Selective Resources*).

26. See *infra* notes 102-09 and accompanying text.

27. See *infra* notes 110-28 and accompanying text.

28. It is now unclear whether Virginia has moved from the majority view to the intermediate view. See *infra* notes 129-36 and accompanying text.

29. See, e.g., *Florida Power & Light Co. v. Jennings*, 518 So. 2d 895 (Fla. 1987) (reversing *Casey v. Florida Power Corp.*, 157 So. 2d 168 (Fla. 2d DCA 1963)); *Criscuola v. Power Auth. of N.Y.*, 621 N.E.2d 1195 (N.Y. 1993) (reversing *Zappavigna v. New York*, 588 N.Y.S.2d 585 (N.Y. App. Div. 1992)); *Ryan v. Kansas Power & Light Co.*, 815 P.2d 528 (Kan. 1991) (explicitly adopting majority view, yet citing earlier court of appeals decision for proposition that Kansas followed intermediate view); *Chappell v. Virginia Elec. & Power Co.*, 458 S.E.2d 282 (Va. 1995) (casting doubt upon whether Virginia courts should follow majority or intermediate view). See also *infra* note 61 (discussing further the confusion in this area).

30. See *Jennings*, 518 So. 2d at 895 (discussing majority view arguments); *Heddin v. Delhi Gas Pipeline Co.*, 522 S.W.2d 886 (Tex. 1975) (discussing intermediate view arguments); *Pappas v. Alabama Power Co.*, 119 So. 2d 899 (Ala. 1960) (discussing minority view arguments).

31. See Linda J. Orel, *Perceived Risks of EMFs and Landowner Compensation*, 6 RISK: HEALTH SAFETY & ENV'T 79 (1995); Stoffel, *supra* note 13, at 582; Philip S. McCune, Note, *The Power Line Health Controversy: Legal Problems and Proposals for Reform*, 24 U. MICH. J.L. REF. 429 (1991); David Z. Kaufman, Comment, *Efficient Compensation for Lost Market Value Due to Fear of Electric Transmission Lines*, 12 GEO. MASON U. L. REV. 711 (1990).

ability approach, and suggests that the justifications for imposing strict liability upon an actor also support imposing upon power companies the cost of compensating property owners for losses caused by the public's fear of EMF health hazards. Part IV notes that in situations where the majority view may be inappropriate, courts or legislatures can create exceptions. Finally, Part V concludes that the majority view is the superior approach to determining damages caused by fear of EMF.

## II. THE THREE APPROACHES

### A. The Minority View: Fear Can Never Be an Element of Damages

#### 1. In General

The minority view holds that because fear is inherently subjective, damages are inappropriate even if the public's fear causes a reduction in the property's market value.<sup>32</sup> Only three jurisdictions follow this view: Alabama,<sup>33</sup> Illinois,<sup>34</sup> and West Virginia.<sup>35</sup>

#### 2. The Minority View Applied: *Alabama Power Co. v. Keystone Lime Co.*

In 1914, the Alabama Supreme Court first addressed the issue of compensation for damages caused by fear in *Alabama Power Co. v. Keystone Lime Co.*<sup>36</sup> The court held that compensation for diminution of property value in a condemnation proceeding is not permissible when the public's fear causes the diminution.<sup>37</sup> The property owner in *Keystone Lime* argued that people would be afraid to farm or work the land adjacent to the power line,<sup>38</sup> and thus this fear devalued the land because it would be difficult to find a willing buyer.<sup>39</sup> The court noted that many people were unaccustomed to power lines and afraid of them, and therefore would not purchase the property.<sup>40</sup> The court did not allow an award of damages for the diminution, however, noting that it was

---

32. See, e.g., *Alabama Power Co. v. Keystone Lime Co.*, 67 So. 833, 835 (Ala. 1914).

33. See *id.* at 833; see also Pappas, 119 So. 2d at 899.

34. See *Central Ill. Light Co. v. Nierstheimer*, 185 N.E.2d 841 (Ill. 1962).

35. See *Chesapeake & Potomac Tel. Co. v. Red Jacket Consol. Coal & Coke Co.*, 121 S.E. 278 (W. Va. Ct. App. 1924).

36. 67 So. 833 (Ala. 1914) (concerning condemnation proceeding for erection of power line).

37. *Id.* at 835.

38. See *id.* at 833-34.

39. *Id.* at 834-35, 837.

40. *Id.* at 837.

caused by "the mere fears of some of the people, which are founded in reality upon their lack of knowledge of the real effect of the line, and which human experience shows is not justified by the facts."<sup>41</sup> The court's reason for denying the property owner compensation for this loss centered around the irrationality of the public's fear.<sup>42</sup> The court found that electricity was of great social value and possessed a risk no greater than that of other technologies:

Having no actual knowledge of the practical operation and effect of such lines, [the public] may, as some of the testimony tends to show, be afraid of the property on which the lines are situated. A large percentage of the agencies which now conserve human effort are, when negligently controlled, dangerous to human life, and many things now daily used upon our streets and upon our public highways were, when they were first introduced, objects of terror to those who knew nothing about them. When the automobile was first introduced, especially in our towns, villages, and country neighborhoods, the driver . . . was known to be in possession of a dangerous instrument.<sup>43</sup>

The court concluded that it could not regard land value diminution created by fear as resting upon any substantial basis.<sup>44</sup>

The Alabama Supreme Court revisited the issue forty-six years later in *Pappas v. Alabama Power Co.*<sup>45</sup> In determining the damages award, the Pappas court similarly held that the property owner could not recover damages caused by the public's fear of the power lines.<sup>46</sup> The court stated: "The reasoning of [Keystone Lime] is sound and probably even more necessary in this modern age of scientific and industrial expansion."<sup>47</sup>

The Alabama Supreme Court has consistently reaffirmed *Keystone Lime*.<sup>48</sup> For example, in *Alabama Electric Cooperative, Inc. v. Faust*,<sup>49</sup> the Alabama Supreme Court responded to a property

---

41. *Id.* The court placed great emphasis on testimony offered to show that power lines are safe to humans and the environment. *Id.* at 833-34.

42. *Id.* at 837.

43. *Id.*

44. *Id.* at 835, 837.

45. 119 So. 2d 899 (Ala. 1960). Pappas was another condemnation proceeding brought by the Alabama Power Co. to erect power lines upon a property owner's land. See *id.* at 902.

46. *Id.* at 905.

47. *Id.*

48. See *Alabama Elec. Coop., Inc. v. Faust*, 574 So. 2d 734, 735 (Ala. 1990); *Deramus v. Alabama Power Co.*, 265 So. 2d 609, 614 (Ala. 1972); *Southern Elec. Generating Co. v. Howard*, 156 So. 2d 359, 362 (Ala. 1963).

49. 574 So. 2d 734 (Ala. 1990).

owner's request to expand the Keystone Lime rule by stating: "We decline so to do, for such a modification would materially change the established rule of damages relating to eminent domain cases. Although this Court is receptive to change where compelling reasons are advanced for making a change, we find no rational basis for changing the rule here challenged."<sup>50</sup> Other jurisdictions have not been as inclined to follow precedent, and have not hesitated to change years (or even decades) of established case law.<sup>51</sup>

Both Illinois and West Virginia follow the minority view.<sup>52</sup> Illinois applies a different rationale than that of Alabama, relying upon its supreme court's state constitutional analysis limiting the just compensation rule to property taken.<sup>53</sup> The Illinois court reasoned that there must be direct physical disturbance of a right, and thus "depreciation in market value will not, alone, sustain a claim for damages. The depreciation must be from a cause which the law regards as a basis for damages."<sup>54</sup>

Illinois appears to be moving away from the minority view, however. Illinois courts used to cite the above reasoning in refusing to allow landowners to recover for lost market value caused

50. *Id.* at 736.

51. See, e.g., *Florida Power & Light Co. v. Jennings*, 518 So. 2d 895 (Fla. 1987) (changing rule in Florida from minority view, established in 1963, to majority view).

52. See *Central Ill. Light Co. v. Nierstheimer*, 185 N.E.2d 841, 843 (Ill. 1962) (summarizing Illinois law on issue of proper elements of damages and noting that "imagined sources of danger . . . [are] so remote and speculative and uncertain as to afford no basis for the allowance of damages"); *Chesapeake & Potomac Tel. Co. v. Red Jacket Consol. Coal & Coke Co.*, 121 S.E. 278, 280 (W. Va. Ct. App. 1924) ("[D]angers which lessen the value of [property] may be considered in the ascertainment of damages; but . . . such dangers must be real, imminent and reasonably to be apprehended,—not remote or merely possible.").

Florida also followed the minority view until its supreme court reversed precedent and decided to follow the majority view. See *infra* notes 102-09 and accompanying text. Before the Florida Supreme Court's adoption of the majority view, Florida courts cited *Casey v. Florida Power Corp.*, 157 So. 2d 168, 170 (Fla. 2d DCA 1963), as the seminal case in Florida. The *Casey* court, in deciding to follow what it misstated as the majority view but what was actually the minority view, reasoned:

That a prospective purchaser of the land . . . will be so timid or so ignorant that he either will not buy at all or will offer less than the true value because of the transmission lines and towers is too highly speculative . . . to be taken into consideration. This court, like the majority of other courts, recognizes the owners' right to full and just compensation; but when a jury must base its award upon ignorance and fear, we must draw the line; such a basis cannot possibly result in fair and just compensation.

*Id.* at 170-71. The Florida Supreme Court subsequently reversed the *Casey* decision in *Jennings*, 518 So. 2d at 897. The *Jennings* court stated that the minority view ignored the key issue in eminent domain and condemnation proceedings, i.e., compensation to the landowner for the lost market value caused by the taking.*Id.*

53. *Illinois Power & Light Co. v. Talbott*, 152 N.E. 486, 489 (Ill. 1926).

54. *Id.* at 490.

by the unsightliness of power lines.<sup>55</sup> The Illinois Supreme Court has since receded from this view and now allows landowners to recover for this loss.<sup>56</sup> Whether the Illinois court will expand its approach and allow landowners to recover for the lost market value caused by the public's fear of power lines is still unclear.

## B. The Intermediate View: Award Permissible Where Fear Depresses Value, As Long as Fear is Reasonable

### 1. In General

Jurisdictions following the intermediate view hold that as long as the public's fear is reasonable, or at least not completely unreasonable, a damages award is permissible when the fear depresses market value.<sup>57</sup> These jurisdictions usually require expert testimony from a real estate appraiser or similar expert; the landowner cannot personally testify as to his or her own fears.<sup>58</sup> For example, a landowner cannot testify that he or she is afraid of power lines and thinks that a purchaser of his or her land would feel the same way.<sup>59</sup>

The U.S. Court of Appeals for the Ninth Circuit<sup>60</sup> and twelve states follow the intermediate view.<sup>61</sup> Those states are: Arkan-

---

55. Iowa-Illinois Gas & Elec. Co. v. Hoffman, 468 N.E.2d 977, 980 (Ill. App. Ct. 1984).

56. Central Ill. Pub. Serv. Co. v. Westervelt, 367 N.E.2d 661, 663 (Ill. 1977). See also Hoffman, 468 N.E.2d at 980 (agreeing with Illinois Supreme Court's move away from policy of not allowing compensation for unsightliness and noting that earlier policy was probably "based upon a conclusion that such damage was speculative and largely unquantifiable.").

57. Heddin v. Delhi Gas Pipeline Co., 522 S.W.2d 886, 888 (Tex. 1975). The reasoning of the intermediate view was enunciated in Olson v. United States, 292 U.S. 246 (1934). In Olson, the U.S. Supreme Court held that elements in a condemnation proceeding "that depend upon events or combinations of occurrences which, while within the realm of possibility, are not fairly shown to be reasonably probable should be excluded from consideration for that would be to allow mere speculation and conjecture to become a guide for the ascertainment of value . . ." Id. at 257.

58. See, e.g., Gullidge v. Texas Gas Transmission Corp., 256 S.W.2d 349, 353 (Ky. Ct. App. 1952).

59. Id.

60. United States v. 760.807 Acres of Land, 731 F.2d 1443, 1447 (9th Cir. 1984) (applying federal common law). The argument could be made that the Ninth Circuit follows the majority view. Specifically, the 760.807 Acres court stated: "[I]f fear of a hazard would affect the price a knowledgeable and prudent buyer would pay to a similarly well-informed seller, diminution in value caused by that fear may be recoverable as part of just compensation." Id. at 1447. The court went on to note, however, that damages for fears based wholly upon speculation are impermissible: "[F]ears must be 'reasonable' or 'founded on practical experience' in order to be compensable." Id.

61. In addition to the diverse number of approaches to the issue of whether property owners may be compensated for diminution due to fear, courts and commentators also disagree as to which states follow the majority or intermediate views. Compare Willsey v. Kansas City Power & Light Co., 631 P.2d 268, 273-75 (Kan. Ct. App. 1981) (asserting that

sas,<sup>62</sup> Connecticut,<sup>63</sup> Indiana,<sup>64</sup> Kentucky,<sup>65</sup> Nebraska,<sup>66</sup> New Jersey,<sup>67</sup> North Carolina,<sup>68</sup> Oklahoma,<sup>69</sup> Tennessee,<sup>70</sup> Texas,<sup>71</sup> Utah,<sup>72</sup> and Wyoming.<sup>73</sup> The Michigan Supreme Court appears willing to

---

Arkansas, Indiana, North Carolina, Oklahoma, and Virginia adopted majority view) with McCune, *supra* note 31, at 434-35 nn.25-26 (asserting that those states adopted intermediate view). The Willsey court asserted that those states adopted the majority view because the courts in those states assumed the reasonableness of the fear of power lines. McCune, *supra* note 31, at 434 n.25. Those courts still required a showing of reasonableness, however. See *id.* Therefore, this Comment includes all but Virginia among states taking the intermediate view. Virginia is listed as a majority-view state because language in the case cited by Willsey, see *Appalachian Power Co. v. Johnson*, 119 S.E. 253 (Va. 1923), was read for the proposition that property owners could recover for diminution caused by the public's fear in a subsequent Virginia Supreme Court decision, see *Chappel v. Virginia Elec. & Power Co.*, 458 S.E.2d 282 (Va. 1995). In that same decision, however, Virginia called that language dictum and appeared to be willing to adopt the intermediate view. See *infra* notes 129-36 and accompanying text.

The confusion in this area of law is heightened by courts mislabeling views. E.g., *Casey v. Florida Power Corp.*, 157 So. 2d 168, 170-71 (Fla. 2d DCA 1963) (incorrectly labeling approach that damages caused by public fear are never compensable as "majority view"); *Ryan v. Kansas Power & Light Co.*, 815 P.2d 528, 533-34 (Kan. 1991) (same).

62. See *Arkansas Power & Light Co. v. Haskins*, 528 S.W.2d 407, 409 (Ark. 1975) ("Apprehension of danger [from power lines] is very reasonable.").

63. See *Northeastern Gas Transmission Co. v. Tersana Acres, Inc.*, 134 A.2d 253 (Conn. 1957).

64. See *Southern Ind. Gas and Elec. Co. v. Gerhardt*, 172 N.E.2d 204, 206 (Ind. 1961) (holding that jury may consider effect upon market value of fears caused by possibility that power lines may break or fall during storms, "[i]f such possibilities exist").

65. See *Gullidge v. Texas Gas Transmission Corp.*, 256 S.W.2d 349 (Ky. 1959).

66. See *Dunlap v. Loup River Pub. Power Dist.*, 284 N.W. 742 (Neb. 1939).

67. See *Tennessee Gas Transmission Co. v. Maze*, 133 A.2d 28 (N.J. Super. Ct. App. Div. 1957).

68. See *Colvard v. Natahala Power & Light Co.*, 167 S.E. 472, 475 (N.C. 1933) (property owner may recover for lost market value caused by fear of power lines where such fear "sensibly impairs its value") (quoting *Carolina & Yadkin River R.R. v. Armfield*, 83 S.E. 809, 811 (N.C. 1914)) (emphasis added).

69. See *Oklahoma Gas & Elec. Co. v. Kelly*, 58 P.2d 328, 329 (Okla. 1936) (holding that it is proper to consider things that "sensibly" impair value in determining condemnation proceeding damages). There is room in Kelly to allow a future Oklahoma court to adopt the majority view. The Kelly court noted that while it would not allow recovery solely on speculative matters such as potential danger from power lines, it would "allow such hazards to be taken into consideration as affecting the market value of the land." *Id.*

70. See *Hodge v. Southern Cities Power Co.*, 8 Tenn. App. 636 (1928); see also *Alloway v. Nashville*, 13 S.W. 123 (Tenn. 1890).

71. See *Delhi Gas Pipeline Co. v. Reid*, 488 S.W.2d 612 (Tex. Ct. App. 1972); see also *Hedden v. Delhi Gas Pipeline Co.*, 522 S.W.2d 886 (Tex. 1975).

72. See *Telluride Power Co. v. Bruneau*, 125 P. 399 (Utah 1912).

73. See *Canyon View Ranch v. Basin Elec. Power Corp.*, 628 P.2d 530 (Wyo. 1981). *Canyon View Ranch* involved an appeal by several property owners from damages awards made to them in a condemnation proceeding brought for the erection of a power line. *Id.* at 531. The Wyoming Supreme Court endorsed the trial court's instruction to the jury that in determining damages to the property, "any factors which you consider must be direct and certain and may not be remote, imaginary, or speculative." *Id.* at 534, 541. The supreme court went on to hold that there was no error in refusing to allow the property owners to introduce into evidence magazine articles about the hazards of power lines. *Id.* at 536-37. The property owners had offered the articles to show that the property was further devalued because prospective purchasers, aware of the information within the articles, would find the property less desirable. *Id.* at 535-36. The court reasoned that because the prop-

follow the intermediate view,<sup>74</sup> and Arizona follows a modified version of this rule.<sup>75</sup> Moreover, after a recent decision by its supreme court, Virginia appears to be leaning toward the intermediate view.<sup>76</sup>

## 2. The Intermediate View Applied: *Dunlap v. Loup River Public Power District*

*Dunlap v. Loup River Public Power District*<sup>77</sup> illustrates the intermediate view. In *Dunlap*, the plaintiff's expert witness testified to the dangers inherent in power lines, including the dangers to individuals coming within the general vicinity of the power lines.<sup>78</sup> The Loup River Public Power District objected to the trial judge's jury instructions, which allowed consideration of the possible dangers of power lines.<sup>79</sup>

The Nebraska Supreme Court affirmed the lower court's award of damages to the landowner.<sup>80</sup> The court reasoned that while general fears should not be compensable, if there is a basis in experience for the fears, and the fears are reasonable and affect the price a purchaser of land is willing to pay, the loss should be compensable.<sup>81</sup> The court, however, reduced the damages

---

erty owner made no effort to prove the credibility of the information in the articles, the evidence was speculative. *Id.* at 537.

74. See *Adkins v. Thomas Solvent Co.*, 487 N.W.2d 715, 721 (Mich. 1992). In *Adkins*, the Michigan Supreme Court held that landowners could not recover in nuisance for property value diminution that was caused by the public's fear that contamination on the defendant's land might reach the landowners' property. *Id.* The majority specifically disagreed with the dissent. *Id.* at 726. The dissent would have held that the landowners could have recovered solely because their property had been devalued. *Id.* at 744-45. The majority held that "unfounded fears" could not be a basis for recovery. *Id.* at 726. The majority also noted that the case came to the court "singularly on the issue whether plaintiffs may proceed with their nuisance in fact claims solely on the basis of property depreciation due to public concern about contaminants in the general area." *Id.* n.34. The majority then held that the plaintiffs could not proceed. *Id.*

75. See *Selective Resources v. Superior Court*, 700 P.2d 849 (Ariz. Ct. App. 1984). *Selective Resources* held that proof of actual knowledge of the effect of power lines on the part of the buying public is not needed. *Id.* at 852. Instead, a landowner can recover based upon the theory of a hypothetical buyer, who is assumed to know all facts relevant to the purchase. *Id.*

76. See *infra* notes 129-36 and accompanying text.

77. 284 N.W. 742 (Neb. 1939). *Dunlap* involved the Loup River Public Power District's application for an easement to construct a power line over the landowner's dairy farm. *Id.* at 743.

78. *Id.* at 744-45. The plaintiff's expert testified that "a man on a load of hay would be partially grounded, and if he had a pitchfork in his hand he could receive a shock that might endanger his life." *Id.* at 744.

79. *Id.* at 745. "It is insisted by the power district that it is not an insurer against the dangers arising from [power lines]." *Id.* at 746.

80. *Id.* at 746.

81. *Id.* at 745.

award,<sup>82</sup> reasoning that it was necessary to curb over-imaginative speculation about dangers from power lines in condemnation proceedings.<sup>83</sup>

### C. The Majority View: Reasonableness of Fear is Irrelevant— Award Permissible Where Fear Depresses Value

#### 1. In General

Jurisdictions following the majority view hold that the reasonableness of the public's fear is irrelevant: if the public's fear depresses market value, the loss is compensable.<sup>84</sup> This view is premised upon the argument that the issue in eminent domain proceedings is full compensation.<sup>85</sup> Thus, if fear of power lines causes a loss of market value, that loss should be compensated.<sup>86</sup>

The U. S. Courts of Appeals for the Fifth<sup>87</sup> and Sixth<sup>88</sup> Circuits follow the majority view, as do thirteen states: California,<sup>89</sup> Florida,<sup>90</sup> Georgia,<sup>91</sup> Iowa,<sup>92</sup> Kansas,<sup>93</sup> Louisiana,<sup>94</sup> Mis-

82. *Id.* at 746.

83. *Id.*

84. *Florida Power & Light Co. v. Jennings*, 518 So. 2d 895, 899 (Fla. 1987).

85. *Id.* Of course, not all takings result in full compensation or any compensation at all. For example, with regulatory takings, value is taken away from property by some action of the government, but the landowner is not necessarily awarded compensation. See *Penn Cent. Transp. Co. v. City of New York*, 438 U.S. 104 (1978). The standard is whether the regulation has eliminated either all economically viable use of the property or the property owner's investment-backed expectations. See *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1016 (1992).

86. *Jennings*, 518 So. 2d at 899.

87. See *United States ex rel. TVA v. Robertson*, 354 F.2d 877 (5th Cir. 1966) (applying 16 U.S.C. § 831).

88. See *United States ex rel. TVA v. Easement and Right of Way*, 405 F.2d 305 (6th Cir. 1968) (applying 16 U.S.C. § 831).

89. See *Pacific Gas & Elec. Co. v. W.H. Hunt Estate Co.*, 319 P.2d 1044 (Cal. 1957); see also *San Diego Gas & Elec. Co. v. Daley*, 253 Cal. Rptr. 144 (Cal. Ct. App. 1988).

90. See *Jennings*, 518 So. 2d at 895.

91. See *Georgia Power Co. v. Sinclair*, 176 S.E.2d 639, 642 (Ga. Ct. App. 1970) (holding that "[p]otential danger of an electric power line . . . necessarily has a material connection with the market value of the adjacent land and is an item to be considered by the jury . . .").

92. See *Evans v. Iowa S. Utils. Co.*, 218 N.W. 66, 69 (Iowa 1928) (holding that it was proper for expert to consider as one of the damage elements in a condemnation proceeding "the fear prospective purchasers might have by reason of the high voltage line being on the premises."). But see *Iowa Power & Light Co. v. Stortenbecker*, 334 N.W.2d 326 (Iowa App. 1983) (holding that trial court improperly allowed expert testimony offered to illustrate effects fear of health hazards from power lines might have upon market value of property "because insufficient data existed for [the expert] to reach a conclusion that a reasonable probability of hazards to human health is created by the [power line].").

93. See *Ryan v. Kansas Power & Light Co.*, 815 P.2d 528 (Kan. 1991).

94. See *Claiborne Elec. Coop., Inc. v. Garrett*, 357 So. 2d 1251 (La. Ct. App. 1978), writ denied, 359 So. 2d 1306 (La. 1978).

souri,<sup>95</sup> New Mexico,<sup>96</sup> New York,<sup>97</sup> Ohio,<sup>98</sup> South Dakota,<sup>99</sup> Virginia,<sup>100</sup> and Washington.<sup>101</sup>

## 2. Florida's Reversal: Florida Power & Light Co. v. Jennings

The Florida Supreme Court reversed twenty-four years of precedent in *Florida Power & Light Co. v. Jennings*<sup>102</sup> by overruling *Casey v. Florida Power Corp.*<sup>103</sup> In *Casey*, the Florida Second District Court of Appeal announced that it would follow the majority view; however, it actually meant the minority view.<sup>104</sup> In *Jennings*, the Florida Supreme Court declined to follow *Casey*, noting that the issue in eminent domain proceedings should be to determine the true market value of the land taken.<sup>105</sup> Evidence "extremely relevant to the central issue of what is full compensation to the landowner," such as the impact of a potential buyer's fears on the land's value, should not be excluded.<sup>106</sup> The court also

---

95. For a number of years, Missouri was thought to adhere to the intermediate view. See *Willsey v. Kansas City Power*, 631 P.2d 268, 275 (Kan. Ct. App. 1981) (citing *Phillips Pipe Line Co. v. Ashley*, 605 S.W.2d 514, 517-18 (Mo. Ct. App. 1980)). However, the Missouri Supreme Court subsequently adopted the majority view, even though it did not explicitly overrule *Phillips Pipe Line*. See *Missouri Pub. Serv. Co. v. Juergens*, 760 S.W.2d 105, 106-07 (Mo. 1988) (en banc). In *Juergens*, the court held that "depreciation in market value due to a risk of harm is recoverable in a condemnation hearing. . . . '[I]t is the fear caused by the risk which actually depreciates the value of the remaining tract, rather than the risk itself.'" *Id.* (quoting *Phillips Pipe Line*, 605 S.W.2d at 518). Interestingly, the *Juergens* court relied upon *Phillips Pipe Line*, but only cited language from that opinion that supported the majority view. *Id.*; see also *Missouri Highway & Transp. Comm'n v. Horine*, 776 S.W.2d 6, 12 (Mo. 1989) (en banc) (adhering to same reasoning and holding as *Juergens* court).

96. See *City of Santa Fe v. Komis*, 845 P.2d 753 (N.M. 1992) (action to recover for diminution of property value caused by construction of highway to transport nuclear waste). After reviewing this case of first impression, the New Mexico Supreme Court considered the three primary viewpoints and adopted the majority view, reasoning that "[the] objective in a condemnation case is to compensate the landowner for damages actually suffered. . . . [I]f loss of value can be proven, it should be compensable regardless of its source." *Id.* at 756.

97. See *Criscuola v. Power Auth. of N.Y.*, 621 N.E.2d 1195 (N.Y. 1993); see also *infra* notes 110-14 and accompanying text (discussing *Criscuola*).

98. See *Ohio Pub. Serv. Co. v. Dehring*, 172 N.E. 448 (Ohio Ct. App. 1929).

99. See *Basin Elec. Power Coop., Inc. v. Cutler*, 217 N.W.2d 798, 800 (S.D. 1974) (holding that qualified witnesses in eminent domain proceeding can opine "as to [the property's] value and to also state the factors they considered in arriving at a depreciation in value even though some of those factors were in the nature of conjecture").

100. See *Appalachian Power Co. v. Johnson*, 119 S.E. 253 (Va. 1923). But see *infra* notes 129-36 and accompanying text.

101. See *State v. Evans*, 612 P.2d 442 (Wash. Ct. App. 1980), *rev'd on other grounds*, 634 P.2d 845 (Wash. 1981), *modified*, 649 P.2d 633 (Wash. 1982).

102. 518 So. 2d 895 (Fla. 1987).

103. 157 So. 2d 168 (Fla. 2d DCA 1963).

104. *Id.* at 170-71; see also *supra* note 52 (discussing *Casey* court's rationale for following minority view).

105. *Jennings*, 518 So. 2d at 897. But see *supra* note 85.

106. *Jennings*, 518 So. 2d at 897.

rejected the intermediate view, which the lower court had adopted.<sup>107</sup>

The Jennings court thus adopted the majority view: "We join the majority of jurisdictions who have considered this issue and hold that the impact of public fear on the market value of the property is admissible without independent proof of the reasonableness of the fear."<sup>108</sup> The court stated that the reasonableness of the public's fear either should be assumed or considered irrelevant.<sup>109</sup>

### 3. New York's Reversal: *Criscuola v. Power Authority of New York*

New York adopted the majority view in 1993, when its highest court overruled a lower court decision that had endorsed the intermediate view. In *Criscuola v. Power Authority of New York*,<sup>110</sup> the New York Court of Appeals decided whether landowners in a condemnation suit have to prove the reasonableness of the public's fear of power lines "as a separate, additional component of diminished market value."<sup>111</sup> The lower courts had ruled against the claimants, holding that they "had not met their burden of proving that the 'cancerphobia' was reasonable."<sup>112</sup>

The *Criscuola* court held that the landowners need not prove the reasonableness of the public's fear. The court noted:

The issue in a just compensation proceeding is whether or not the market value has been adversely affected. This consequence may be present even if the public's fear is unreasonable. Whether the danger is a scientifically genuine or verifiable fact should be irrelevant to the central issue of its market value impact. Genuineness and proportionate dollar effects are relevant factors, to be sure, but in the usual evidentiary framework.

---

107. *Id.*

108. *Id.* at 898.

109. *Id.* at 899. The court made reasonableness a matter of fact instead of a matter of law. See *id.* The court stated that the jury is capable of determining the reasonableness of an expert's testimony and noted: "[W]e believe that a jury could also determine the reasonableness of a valuation opinion which explains the devaluation of such adjacent property on the grounds that, e.g., the buying public is fearful that transmission lines attract alien being[s] in flying saucers." *Id.* The court opined that whether an expert's opinion is reasonable can be determined by the jury without additional experts testifying as to the reasonableness of a particular fear. *Id.*; see also *Missouri Pub. Serv. Co. v. Juergens*, 760 S.W.2d 105, 106 (Mo. 1988) (en banc) (holding that "[t]he weight to be given evidence which is remote or speculative is a task for the jury with proper instructions.").

110. 621 N.E.2d 1195 (N.Y. 1993) (reversing *Zappavigna v. New York*, 588 N.Y.S.2d 585 (App. Div. 1992)).

111. *Id.*

112. *Id.* at 1196.

Such factors should be left to the contest between the parties' market value experts, not magnified and escalated by a whole new battery of electromagnetic power engineers, scientists or medical experts.<sup>113</sup>

The court did state, however, that the plaintiffs must offer evidence of "some prevalent perception of a danger emanating from the objectionable condition" and establish that this perception diminishes market value.<sup>114</sup>

#### 4. Kansas's Move to the Majority View: *Willsey v. Kansas City Power & Light Co.* and *Ryan v. Kansas Power & Light Co.*

In 1991, the Kansas Supreme Court, applying the reasoning of the Kansas Court of Appeals in *Willsey v. Kansas City Power & Light Co.*,<sup>115</sup> adopted the majority view.<sup>116</sup> In *Willsey*, Kansas City Power appealed from a judgment in favor of the landowners in an easement condemnation proceeding.<sup>117</sup> Kansas City Power argued that the trial court had erred in allowing the jury to consider expert testimony regarding the impact that public fear of power lines had on the market value of the Willseys' home.<sup>118</sup> In considering compensation, the court examined the reasonableness of the

113. *Criscuola*, 621 N.E.2d at 1196 (citations omitted).

114. *Id.* at 1197; see also Richard A. Reed, *Fear and Lowering Property Values in New York: Proof of Consequential Damages from "Cancerphobia" in the Wake of Criscuola v. Power Authority of the State of New York*, 66 N.Y. St. B.J. 30, 34 (1994) (discussing *Criscuola* and its impact upon condemnation actions in New York).

115. 631 P.2d 268 (Kan. Ct. App. 1981).

116. *Ryan v. Kansas Power & Light Co.*, 815 P.2d 528, 533 (Kan. 1991).

117. *Willsey*, 631 P.2d at 270.

118. *Id.* Kansas City Power specifically objected to the Willseys' expert witness—a market analyst, realtor, and appraiser—regarding his answers to questions about the potential for loss to the home's market value caused by buyer aversion to power lines. *Id.* at 270-71. The witness testified that:

[P]eople don't like the unsightliness of it, and then, of course, there is a latent fear.

... There is a latent fear on the part of buyers due to this high voltage power line. This is due in part to some people, it may be imagined, and it may be due to what they see in the papers, on T.V. and hear on the radio.

... Q. Mr. Vickers, have you personally seen advertisements in the news media concerning danger of power lines, and proximity to power lines?

A. Well, the Kansas City Power and Light Company itself is probably the one who propagates or who informs the public of the danger of getting in contact or close proximity to power lines.

... Q. Mr. Vickers, have you in your experience as a real estate broker in talking to actual buyers in the pit, have those buyers expressed concerns to what you are relating to right now, to you as a realtor?

A. Absolutely.

*Id.* at 271.

public's fear of power lines and noted that "[a] certain amount of fear and a healthy wariness in the presence of high voltage lines strikes us as eminently reasonable."<sup>119</sup> The court concluded that as long as fear is not unreasonable as a matter of law, reasonableness is a question of fact for the jury to decide.<sup>120</sup> The court ultimately held that the property owner's evidence was "persuasive" and affirmed the damages award.<sup>121</sup>

The Willsey court left itself the option to move from the intermediate view to the majority view. While the court in one sentence used the rationale applied by courts that follow the intermediate view,<sup>122</sup> in the next sentence the court used the rationale applied by courts that follow the majority view.<sup>123</sup> The court explained that it preferred the majority view,<sup>124</sup> but because the facts of the case satisfied the intermediate view, the court chose to remain with that approach.<sup>125</sup> The court stated that "the evidence in this case makes it unnecessary for us to choose [between the intermediate view and the majority view]."<sup>126</sup> In fact, several years later, the Kansas Supreme Court officially chose the majority view in *Ryan v. Kansas Power & Light Co.*<sup>127</sup> The Ryan court stated:

We submit that in effect the Court of Appeals adopted the [majority rule] in Kansas in Willsey and we agree with its rationale therein. Accordingly, in a condemnation action to acquire an easement for installation of a high voltage electrical line we find evidence of fear in the marketplace is admissible with respect to the value of property taken without proof of the

---

119. *Id.* at 279.

120. *Id.*

121. *Id.* at 279-80.

122. *Id.* at 277. The court noted that "[r]emote, speculative and conjectural damages are not to be considered; the owner cannot recover today for an injury to his child which he fears will happen tomorrow." *Id.*

123. *Id.* at 277-78. The court stated that:

Logic and fairness, however, dictate that any loss of market value proven with a reasonable degree of probability should be compensable, regardless of its source. If no one will buy a residential lot because it has a high voltage line across it, the lot is a total loss even though the owner has the legal right to build a house on it.

124. *Id.*

125. *Id.*

126. *Id.* at 279.

127. 815 P.2d 528, 533 (Kan. 1991). The Kansas Supreme Court perpetuated the mislabeling of the majority view as the minority view, a trend initiated by the Florida Second District Court of Appeal in *Casey v. Florida Power Corp.*, 157 So. 2d 168, 170-71 (Fla. 2d DCA 1963). The Kansas Supreme Court, while referring to the minority view throughout the opinion, intended to state the majority view. *Ryan*, 815 P.2d at 533-34.

reasonableness of the fear. . . . [F]ear of a high voltage line is reasonable.<sup>128</sup>

##### 5. Confusion in Virginia: Chappell v. Virginia Electric & Power Co.

Virginia's highest court recently issued a decision with ominous overtones for property owners attempting to recover for diminution in property value caused by public fear. In *Chappell v. Virginia Electric & Power Co.*,<sup>129</sup> the Virginia Supreme Court cast doubt upon the validity of *Appalachian Power Co. v. Johnson*,<sup>130</sup> the case cited for Virginia's adoption of the majority view since 1923.<sup>131</sup> In affirming the lower court's denial of damages, the court stated:

We do not agree that *Johnson* is controlling precedent. . . . [T]he language *Chappell* invokes is obiter dicta. Nevertheless, we need not decide whether a landowner in a proceeding to condemn an easement for an electric transmission line may be entitled to compensation for diminution in the market value of the remaining land attributable to the fears of prospective purchasers. . . . And, as [the landowner] acknowledged on brief, "[s]peculative matters should not be considered by commissioners in determining just compensation."<sup>132</sup>

This language should disturb property owners in Virginia who face the possibility of litigating a condemnation action. The court did not need to question *Johnson*. The landowner merely offered insubstantial proof that the public's fear had diminished the value of the property.<sup>133</sup> Proof that the public's fear causes a diminution in property value is necessary in jurisdictions adopting the majority view.<sup>134</sup> Therefore, the *Chappell* court need only have stated that the plaintiff offered insufficient proof.<sup>135</sup> The court characterized as mere dictum the language from *Johnson* cited by the landowner, however, and left open the question of the

---

128. Ryan, 815 P.2d at 533. The court went on to conclude that "evidence of fear in the marketplace is admissible but no witness, whether expert or non-expert, may use his or her personal fear as a basis for testifying about fear in the marketplace." *Id.* at 533-34.

129. 458 S.E.2d 282 (Va. 1995).

130. 119 S.E. 253 (Va. 1923).

131. *Id.* at 258 ("[T]he commissioners could have properly taken into consideration the effect of the fear of the [power] line breaking down and injuring persons and property . . . if the liability [for] such injury in fact depreciated the market value of the property.").

132. *Chappell*, 458 S.E.2d at 284 (citations omitted).

133. *Id.* The plaintiff "failed to quantify any damage to the fair market value of the residue attributable to the alleged public fear of high voltage transmission lines." *Id.*

134. E.g., *Criscuola v. Power Auth. of N.Y.*, 621 N.E.2d 1195, 1197 (N.Y. 1993).

135. *Id.*

proper view regarding compensability for damages caused by fear of power lines.<sup>136</sup> Thus, property owners in a condemnation action in Virginia should consider offering evidence of the reasonableness of the public's fear of power lines—as is required of property owners in jurisdictions following the intermediate view—or face the possibility of a Virginia appellate court reversing an award for damages.

### III. STRICT LIABILITY RATIONALES AS JUSTIFICATION FOR THE MAJORITY VIEW

The majority view is hard to ignore or reason away. Why should a purely innocent landowner, whose property has depreciated because of the erection of a power line over a portion of his or her property, have to suffer this loss? Courts following the majority view rationalize holding power companies liable for diminished value caused by fear by stating that the issue in a condemnation proceeding is full compensation.<sup>137</sup> Additionally, many courts find it easy to hold against power companies because power companies often advertise the dangers of power lines, and thus are at least partially responsible for causing the public's fear.<sup>138</sup> However, putting aside temporarily the power companies' part in causing the fear, the argument that power companies should always pay for a loss caused by fear begs the question: why should an equally innocent power company, which cannot necessarily control the general public's fear, be held responsible for this loss?<sup>139</sup> Strict liability rationales offer the answer to this question.

---

136. Chappel, 458 S.E.2d at 284. The court actually stated that the issue was "whether a landowner in a proceeding to condemn an easement for an electric transmission line may be entitled to compensation for diminution in the market value of the remaining land attributable to the fears of prospective purchasers." *Id.*

137. *Florida Power & Light Co. v. Jennings*, 518 So. 2d 895, 897 (Fla. 1987). But see *supra* note 85 and accompanying text.

138. E.g., *Willsey v. Kansas City Power & Light Co.*, 631 P.2d 268, 279 (Kan. Ct. App. 1981). For example, the *Willsey* court noted that:

The landowner's expert testified to the perceived basis for popular fear, and that was the warning campaigns conducted by electric utilities themselves. . . . Although not a factor in our decision, it seems highly inconsistent for a company to warn the public repeatedly of the danger with which an instrumentality is fraught, and then say that public fear of that instrumentality is groundless.

*Id.*

139. Some liken the current EMF scare to medieval witchcraft trials. See Bruce W. Radford, *Lawyers, Witchcraft, and EMF*, PUB. UTIL. REP., Sept. 15, 1994, at 6. For example, one attorney noted that "[i]n olden days, . . . judges were prone to admit 'spectral evidence'—testimony about visions, demons, or mysterious events known only to the witness, and therefore immune to cross-examination." *Id.* The attorney continued, observing that

### A. Strict Liability

The majority view holds that landowners should always be compensated for loss of market value caused by fears of the general public.<sup>140</sup> This view holds that power companies, even though they have arguably done nothing to cause the fear, still must pay for this loss.<sup>141</sup> Courts following the majority view essentially impose liability upon innocent power companies in a manner similar to how the doctrine of strict liability imposes liability upon innocent actors.<sup>142</sup>

Strict liability is defined as "liability without fault,"<sup>143</sup> with the analysis focusing on who should bear the loss.<sup>144</sup> Strict liability allows one party to be compensated for a loss caused by another party, even though the party paying for the loss has done nothing wrong, morally or otherwise.<sup>145</sup> There are several defenses to strict liability, including assumption of the risk,<sup>146</sup> contributory

---

EMF litigation involves claims such as "cancerphobia" and inverse condemnation, which "rely more on a 'community-based fear standard' than scientific analysis: If everyone shares the belief that EMF is dangerous, it doesn't matter whether that belief is correct." *Id.* To support this view, the attorney cited *Criscuola*, 621 N.E.2d at 1195, "in which the New York Court of Appeals found scientific fact 'irrelevant' to the EMF debate, as long as public perception actually drives down housing prices." *Id.*

140. See *supra* notes 84-86 and accompanying text.

141. *Id.* In contrast, the minority view asks, albeit indirectly, why an actor (here a power company), through absolutely no fault of its own, should be responsible for a loss caused by an ignorant public. Minority view courts answer by holding that such a party should not be liable for that loss. See *supra* note 32 and accompanying text.

142. The majority view is "liability without negligence," in that an inference of negligence may be refuted by a showing of proper care. See, e.g., *Escola v. Coca Cola Bottling Co. of Fresno*, 150 P.2d 436, 441 (Cal. 1944) (Traynor, J., concurring). Even if power companies offer evidence showing that EMF does not cause cancer—thus proving that there is no lack of proper care on their part and no reasonable basis for the public's fear—the majority view still places the loss caused by that fear upon power companies. See *supra* text accompanying notes 84-86.

143. W. PAGE KEETON ET AL., *PROSSER AND KEETON ON THE LAW OF TORTS* § 75, at 534 (5th ed. 1984); see also *Spano v. Perini Corp.*, 250 N.E.2d 31, 33 (N.Y. 1969). Strict liability "means liability that is imposed on an actor apart from either (1) an intent to interfere with a legally protected interest without a legal justification for doing so, or (2) a breach of a duty to exercise reasonable care, i.e., actionable negligence." KEETON ET AL., *supra*, § 75, at 534. The case commonly cited as the seminal decision responsible for advancing notions of strict liability is *Rylands v. Fletcher*, 3 H.L. 330 (1868). See Francis H. Bohlen, *The Rule in Rylands v. Fletcher*, 59 U. PA. L. REV. 298 (1911). The Restatement (Second) of Torts later incorporated the *Rylands* holding. RESTATEMENT (SECOND) OF TORTS §§ 519, 520 (1964).

144. See KEETON ET AL., *supra* note 143, § 75, at 536; see also FRANK J. VANDALL, *STRICT LIABILITY: LEGAL AND ECONOMIC ANALYSIS* 46 (1989); *Escola*, 150 P.2d at 440-41 (Traynor, J., concurring); *Greenman v. Yuba Power Prod., Inc.*, 377 P.2d 897, 901 (Cal. 1963).

145. KEETON ET AL., *supra* note 143, § 75, at 536; VANDALL, *supra* note 144, at 46.

146. See RESTATEMENT (SECOND) OF TORTS § 523 (1964) ("The plaintiff's assumption of the risk of harm from an abnormally dangerous activity bars his recovery for the harm.").

In one suit against a power company, the property owner claimed that he had not been able to sell his house because nearby power lines scared off potential purchasers. Conn.

negligence,<sup>147</sup> and proximate cause.<sup>148</sup> Strict liability is used most often in tort claims relating to products liability and dangerous activities.<sup>149</sup> The scope of strict liability is expanding, however.<sup>150</sup> For example, strict liability has been applied in asbestos litigation.<sup>151</sup> Changing societal values, such as the desire to protect individuals from personal disaster, are one reason for this expansion.<sup>152</sup>

Applying strict liability rationales to the majority view does not require expanding the strict liability doctrine because the majority view essentially is a strict liability approach. This application is useful merely to illustrate the superiority of the majority view over the intermediate and minority views.

In applying strict liability rationales to the issue of compensability for fear-based market value diminution, one must illustrate why a negligence approach would not be preferable.<sup>153</sup> It is important to note that the majority view is not a negligence-based theory.<sup>154</sup>

---

Homeowner Sues CL&P Saying EMF Concerns Have Lowered Property Value, UTIL. ENVTL. REP., Sept. 15, 1995, at 5. However, the power lines were installed years before the property owner purchased the house. *Id.* As a possible defense to this claim, the defendant power company might argue that the plaintiff "assumed the risk" of lost property value when he moved into the house.

147. "The plaintiff's contributory negligence in knowingly and unreasonably subjecting himself to the risk of harm from the activity is a defense to the strict liability." RESTATEMENT (SECOND) OF TORTS § 524(2) (1964).

148. VANDALL, *supra* note 144, at 56.

149. See generally *id.* (summarizing law of strict liability).

150. See generally *id.* at 95-105 (discussing scope of strict liability); see also Virginia E. Nolan & Edmund Ursin, *The Revitalization of Hazardous Activity Strict Liability*, 65 N.C. L. REV. 257, 288 (1987) ("[S]trict liability has expanded beyond manufacturers to include retailers, wholesalers, and even lessors of products. Since the adoption of strict products liability . . . various proposals for new areas of strict liability have appeared, and courts have rendered decisions that suggest such new applications."). Some argue that strict liability should be extended to professionals such as doctors and lawyers. VANDALL, *supra* note 144, at 107.

151. See *Borel v. Fibreboard Paper Prod. Corp.*, 493 F.2d 1076, 1081 (5th Cir. 1973); see also VANDALL, *supra* note 144, at 98 (noting that "[a]sbestos has been a fertile ground for the application of strict liability").

152. Nolan & Ursin, *supra* note 150, at 289-93 (discussing reasons for expansion of strict liability).

153. Cf. Richard A. Epstein, *Causation—In Context: An Afterword*, 63 CHI.-KENT L. REV. 653, 657 (1987) ("One of the most debated topics in the law of tort is surely the choice of either a negligence or a strict liability rule for accidental harms.").

154. Starting with the traditional definition of negligence, stated by Prosser and Keeton: "Negligence is a matter of risk . . . of recognizable danger of injury. It has been defined as 'conduct which involves an unreasonably great risk of causing damage,' or, more fully, conduct 'which falls below the standard established by law for the protection of others against unreasonable risk of harm.'" KEETON ET AL., *supra* note 143, § 31, at 169 (citations omitted); see also RESTATEMENT (SECOND) OF TORTS §§ 282, 291-93 (1964). Negligence occurs when there is a violation of the duty of care. See KEETON ET AL., *supra* note 143, § 30, at 164. Strict liability requires no proof of the defendant's negligence. See 1 STUART M.

The majority view imposes liability upon power companies once the landowner shows that the public's fear of power lines has caused a diminution in property value; there is no determination of a duty of care as there is with a negligence approach.<sup>155</sup> Additionally, unlike a negligence approach, the majority view does not require balancing the parties' interests.<sup>156</sup> The property owner simply must demonstrate that the public's fear has caused a diminution in property value.<sup>157</sup> The majority view court then strictly imposes liability upon the power company, which must compensate the landowner for the diminution.<sup>158</sup> Therefore, because the majority requires no proof of care or balancing of interests, the majority view cannot properly be called a negligence approach.

The principal rationales for strict liability are discussed in the following sections and illustrate why the majority view is superior to the minority and intermediate views.<sup>159</sup>

## B. Corrective Justice

Several commentators support strict liability with notions of corrective justice.<sup>160</sup> Corrective justice focuses on determining what is fair between the victim and defendant, rather than broader concerns about society as a whole.<sup>161</sup>

### 1. Causation

One corrective justice model centers upon fairness and suggests that the primary issue should be causation: whether A caused harm to B.<sup>162</sup> Under this model, the objective should be to

---

SPEISER ET AL., *THE AMERICAN LAW OF TORTS* § 18:30 (1983). Indeed, the doctrine of strict liability applies even if the defendant "has exercised all possible care." *RESTATEMENT (SECOND) OF TORTS* § 402A(2) (1964).

155. See *Florida Power & Light Co. v. Jennings*, 518 So. 2d 895 (Fla. 1987) (failing to make duty of care determination).

156. Negligence requires that a balancing test be applied, usually through the use of a risk-benefit form of analysis. See *KEETON ET AL.*, *supra* note 143, at 173 (citations omitted); see also *RESTATEMENT (SECOND) OF TORTS* §§ 282, 291-93 (1964).

157. E.g., *Criscola v. Power Auth. of N.Y.*, 621 N.E.2d 1195, 1197 (N.Y. 1993).

158. *Id.*

159. Law and economics (economic analysis) and corrective justice are the two most powerful legal theories today, and both offer support for strict liability. Christopher H. Schroeder, *Corrective Justice and Liability for Increasing Risks*, 37 *UCLA L. REV.* 439, 439 (1990). This Comment justifies the majority view by concentrating analysis on these theories. See discussion *infra* part III.B-C.

160. See generally 1 *SPEISER ET AL.*, *supra* note 154, § 1:37.

161. G. EDWARD WHITE, *TORT LAW IN AMERICA: AN INTELLECTUAL HISTORY* 224 (1980). For a summary of corrective justice theories, see Susan Randall, *Corrective Justice and the Torts Process*, 27 *IND. L. REV.* 1, 2-3 (1993).

162. Richard A. Epstein, *A Theory of Strict Liability*, 2 *J. LEGAL STUD.* 151, 152, 166 (1973).

take "into account common sense notions of individual responsibility."<sup>163</sup> Individuals should be free from harm to either their personal bodily integrity or their property.<sup>164</sup> If a victim can show that a defendant's actions caused harm to the victim's bodily integrity or property, the victim should be able to recover, and any defenses the defendant might have should be narrowly applied.<sup>165</sup> After causation is established, a defendant can assert justifications or defenses, such as lack of causation or assumption of the risk.<sup>166</sup> The philosophy behind this theory and the reason causation is its focus is that allowing courts to decide cases involving individuals while considering society's needs at the same time delegates too much power to the judiciary to impose restrictions upon individual liberty.<sup>167</sup> Moreover, because individuals have a right not to be harmed, conduct causing harm cannot be justified by focusing on society's needs.<sup>168</sup> Therefore, the fairest standard is strict liability.<sup>169</sup>

When a power company erects a power line adjacent to an individual's property, and the public's fear of that power line causes an additional diminution in value to the land, the erection of the power line has harmed the landowner.<sup>170</sup> Before there will be liability, however, there must be damage, either to person or to property.<sup>171</sup> Under the corrective justice model, a *prima facie* case of liability is established if the landowner can show a causal link between the erection of the power line and the diminution in property value caused by the public's fear of the power line.<sup>172</sup>

The minority view does not permit recovery even in the face of evidence that the fear caused a diminution in market value.<sup>173</sup> The minority view appears to consider society's needs,<sup>174</sup> which is

163. *Id.* at 151.

164. *Id.* at 164; see also Richard A. Epstein, *Intentional Harms*, 4 J. LEGAL STUD. 391, 441 (1975).

165. Epstein, *supra* note 162, at 166, 204.

166. *Id.* at 204; Richard A. Epstein, *Defenses and Subsequent Pleas in a System of Strict Liability*, 3 J. LEGAL STUD. 165, 169, 170, 207-11 (1974).

167. WHITE, *supra* note 161, at 228.

168. 1 SPEISER ET AL., *supra* note 154, § 1:37, at 135.

169. *Id.*

170. See Epstein, *supra* note 162, at 166.

171. *Id.* The intermediate and majority views require a showing that the fear caused actual diminution in value to the property. See *supra* text accompanying notes 57, 84. As noted by Professor Richard Epstein, "the minimum condition of . . . liability is damage to the person or property of the plaintiff." Epstein, *supra* note 162, at 166.

172. See Epstein, *supra* note 162, at 168.

173. See *Alabama Power Co. v. Keystone Lime Co.*, 67 So. 833, 835 (Ala. 1914).

174. Cf. *Pappas v. Alabama Power Co.*, 119 So. 2d 899, 905 (Ala. 1960) (holding that the minority view "is sound and probably even more necessary in this modern age of scientific and industrial expansion.").

inappropriate in a corrective justice regime.<sup>175</sup> Thus, the minority view is inadequate because it imposes liability upon the harmed landowner.<sup>176</sup> The intermediate view also is flawed because it requires a showing of reasonableness,<sup>177</sup> when the main inquiry under the corrective justice model requires a showing of causation.<sup>178</sup> Because the requisite causation is present, liability should be imposed regardless of the reasonableness of the public's fear.<sup>179</sup>

The most forceful approach under a corrective justice regime is the majority view. The requisite causation is present: the erection of power lines caused a diminution in property value by creating a fear of contracting cancer in the buying public.<sup>180</sup> Thus, it is fair to impose this loss upon power companies rather than property owners.<sup>181</sup> The corrective justice model concludes that "the principles of strict liability say that the liberty of one person ends when he causes harm to another."<sup>182</sup>

## 2. Reciprocity and Reasonableness

Another theory advances notions of corrective justice and fairness, but notes that there are two paradigms, or models, of liability: the paradigm of reciprocity and the paradigm of reasonableness.<sup>183</sup> The basic premise of the paradigm of reciprocity is that, in determining liability, a court should examine the conduct of both the defendant and victim.<sup>184</sup> If the defendant and victim expose each other to an equal amount of risk, strict liability should not apply.<sup>185</sup> For example, "two airplanes flying in the same vicinity subject each other to reciprocal risks of a mid-air collision," and therefore strict liability should be precluded.<sup>186</sup> On the other hand, if the defendant's actions expose the victim to a unilateral, nonreciprocal risk, strict liability should apply.<sup>187</sup> For example, "a pilot or an airplane owner subjects those beneath the path of

---

175. 1 SPEISER ET AL., *supra* note 154, § 1:37, at 135.

176. See Epstein, *supra* note 162, at 168.

177. See *supra* note 57 and accompanying text.

178. Epstein, *supra* note 162, at 165-66, 204.

179. See *id.*

180. See *id.* at 166.

181. See *id.* at 151. "The task is to develop a normative theory of torts that takes into account common sense notions of individual responsibility." *Id.*

182. *Id.* at 203-04.

183. George P. Fletcher, *Fairness and Utility in Tort Theory*, 85 HARV. L. REV. 537, 540 (1972).

184. 1 SPEISER ET AL., *supra* note 154, § 1:37, at 131.

185. Fletcher, *supra* note 183, at 542.

186. *Id.*

187. *Id.*

flight to nonreciprocal risks of harm," and strict liability should apply.<sup>188</sup> If the victim's injury results from a nonreciprocal risk of harm, the defendant is not always under a duty to pay.<sup>189</sup> Nonreciprocal risk-creation may be excused when it is unfair to require the defendant to pay.<sup>190</sup>

Power lines fall into "the set of cases in which a socially useful activity imposes nonreciprocal risks on those around it."<sup>191</sup> When the presence of power lines causes a diminution in property value, however, a nonreciprocal risk is imposed upon an innocent landowner. Through no fault of the landowner, the property's value decreases. Thus, the paradigm of reciprocity permits recovery for the landowner and supports the majority view.

One must point out, however, the second model of liability—the paradigm of reasonableness. The paradigm of reasonableness suggests that instead of focusing solely on the defendant and the victim, the issue of liability must be decided by considering the impact the decision will have upon society at large.<sup>192</sup> This paradigm determines who will bear the loss by focusing on the reasonableness of the risk:

Reasonableness is determined by a straightforward balancing of costs and benefits. If the risk yields a net social utility (benefit), the victim is not entitled to recover from the risk-creator; if the risk yields a net social disutility (cost), the victim is entitled to recover. The premises of this paradigm are that reasonableness provides a test of activities that ought to be encouraged and that tort judgments are an appropriate medium for encouraging them.<sup>193</sup>

One can argue that society suffers by allowing property owners to recover the loss in market value caused by the public's fear.

188. *Id.*

189. *Id.* at 551.

190. *Id.* at 541, 551-556. For example, conduct may be excused in the case of unavoidable ignorance. *Id.* at 551-56. Professor Fletcher notes that the "issue of fairness is expressed by asking whether the defendant's creating the relevant risk was excused on the ground . . . that the defendant could not have known of the risk latent in his conduct." *Id.* at 541. Power companies must recognize that the erection of power lines will result in an additional diminution in property value because of the public's fear of adverse health effects. Cf. *Iowa Power & Light Co. v. Stortenbecker*, 334 N.W.2d 326, 331 (Iowa Ct. App. 1983) (power company conceded that testimony offered to show effect fear of adverse health consequences from power lines might have upon property value could be relevant in that regard). Thus, this excuse should not be available to power companies.

191. Fletcher, *supra* note 183, at 569.

192. *Id.* at 556.

193. *Id.* at 542-43. The paradigm of reasonableness represents economic efficiency analysis, see discussion *infra* part III.C, as opposed to the paradigm of reciprocity, which represents corrective justice. Joseph M. Steiner, *Economics, Morality, and the Law of Torts*, 26 U. TORONTO L.J. 227, 247 (1976).

Appealing to the paradigm of reasonableness, one could assert that the activity is socially advantageous and warrants encouragement. The dilemma is whether to focus on the parties and their relationship or on society and its needs.<sup>194</sup> Courts following the minority view employ the latter dynamic, which favors the power company, perhaps because they fear that finding in favor of property owners will ultimately impede progress and, therefore, hurt society.<sup>195</sup>

At least as the issue relates to power companies, however, corrective justice requires that courts protect individual interests. Indeed, corrective justice advocates the paradigm of reciprocity and rejects the paradigm of reasonableness as a model for liability.<sup>196</sup> And under the paradigm of reciprocity, "justice" . . . should be equated with justice between the parties, not with broader conceptions of the welfare of the community."<sup>197</sup> Individual interests should be insulated against "community demands."<sup>198</sup> Thus, according to the paradigm of reciprocity, the majority view is superior.<sup>199</sup>

---

194. Fletcher, *supra* note 183, at 569.

195. See *supra* text accompanying note 43; cf. *Pappas v. Alabama Power Co.*, 119 So. 2d 899, 905 (Ala. 1960). For example, the *Pappas* decision, in reaffirming *Keystone Lime*, implied that if the court permitted recovery of damages, the public would eventually suffer because it would be too costly to support projects for the public good. *Id.*

196. WHITE, *supra* note 161, at 224; Fletcher, *supra* note 183, at 550-51.

197. WHITE, *supra* note 161, at 224; see also Fletcher, *supra* note 183, at 550.

198. Fletcher, *supra* note 183, at 569. "The burden should fall on the wealth-shifting mechanism of the tort system to insulate individual interests against community demands. By providing compensation for injuries exacted in the public interest, the tort system can protect individual autonomy by taxing, but not prohibiting, socially useful activities." *Id.*

199. But see discussion *infra* part IV (discussing situations in which societal interests may take precedence over interests of the individual). For criticisms of the causation and reciprocity corrective justice models, see Richard A. Posner, *Strict Liability: A Comment*, 2 J. LEGAL STUD. 205, 215-221 (1973); Steiner, *supra* note 193, at 243-50; WHITE, *supra* note 161, at 224-30.

Jules Coleman advances another model centering on notions of corrective justice. See JULES COLEMAN, *RISKS AND WRONGS* 329 (1992). This model is quite different from his earlier writing on the subject. Interestingly, Coleman explicitly rejects his earlier views on corrective justice. See Jules L. Coleman, *Risks and Wrongs*, 15 HARV. J.L. & PUB. POL'Y 637, 644-45 (1992). The model has two components: wrongfulness and responsibility. See COLEMAN, *RISKS AND WRONGS*, *supra*, at 329. Corrective justice requires that an actor repair the wrongful losses for which he or she is responsible. *Id.* at 345. Indeed, corrective justice governs a loss only if the loss is wrongful. *Id.* at 361. An actor must repair wrongful losses that result from either wrongdoing (unjustified actions) or a wrong (an invasion of rights). *Id.* at 332, 361. The second category covers cases of strict liability.

In applying this model to strict liability, Coleman notes that:

Sometimes innocent or justifiable conduct can be contrary to the constraints imposed by the rights of others. If it is, justifiable or innocent conduct can constitute a wrong, and when it does, the losses that result are wrongful in the sense necessary to impose on the injurer a duty to repair.

### C. Economic Efficiency

Economic efficiency is the notion that rules of law should promote efficient resource allocation.<sup>200</sup> Strict liability is one means of attaining efficient resource allocation.<sup>201</sup> Theories of economic efficiency that support strict liability also support the majority view; most notable among these theories are the reduction of transaction costs, the cheapest cost avoider rationale, and the enterprise model.<sup>202</sup>

#### 1. Reduction of Transaction Costs

A liability rule is economically efficient if it reduces transaction costs.<sup>203</sup> Transaction costs include the cost of litigation.<sup>204</sup> Indeed, a liability rule that simplifies the proof necessary to establish liability is preferable to a rule that imposes more of a burden upon litigants.<sup>205</sup>

Under this view, strict liability is efficient because it reduces the costs of litigation, and by analogy, the majority view is efficient.<sup>206</sup> Unlike the intermediate view, the majority view does not require litigation of the reasonableness of the public's fear; this

*Id.* at 371. Thus, by installing power lines, power companies have invaded the rights of property owners. *Id.* at 361. The installation of power lines has resulted in a loss to the property owner because of the additional diminution in property value caused by the public's fear. *Id.* Even though power companies are "innocent," in that they arguably have no control over the public's fear, they must still repair, or compensate, landowners for diminution caused by fear. *Id.* at 371.

200. Steiner, *supra* note 193, at 227-28.

201. E.g., Guido Calabresi & Jon T. Hirschoff, *Toward a Test for Strict Liability in Torts*, 81 *YALE L.J.* 1055, 1060-64, 1084 (1972). But see Posner, *supra* note 199, at 221 (arguing that strict liability is not as efficient as negligence).

202. Cf. *Richman v. Charter Arms Corp.*, 571 F. Supp. 192, 203-04 (E.D. La. 1983) (finding that "economic efficiency" requires strict liability), modified, 762 F.2d 1250 (5th Cir. 1985).

203. See Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 *HARV. L. REV.* 1089, 1096-97 (1972).

204. See GUIDO CALABRESI, *THE COSTS OF ACCIDENTS* 225-26 (1970). As noted by one commentator:

[An] efficiency objective traditionally considered relevant in determining liability standards is the reduction of transaction costs, which include the costs of operating the accident reparation system. Holding other factors constant, liability standards that reduce these costs, by simplifying the proof necessary to establish liability, for example, are preferable to standards that are more costly to administer.

James A. Henderson, Jr., *Judicial Reliance on Public Policy: An Empirical Analysis of Products Liability Decisions*, 59 *GEO. WASH. L. REV.* 1570, 1579 (1991).

205. See Henderson, *supra* note 204, at 1579.

206. See CALABRESI, *supra* note 204, at 225-26; Henderson, *supra* note 204, at 1579. See also RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* §§ 6.5, 21.6 (1992) (debating whether strict liability is more efficient than negligence). The minority view achieves the same result, but, for other reasons, the majority view on balance is superior. See discussion *infra* part V (summarizing majority view's superiority).

simplifies "the proof necessary to establish liability."<sup>207</sup> The majority view also leads to certainty because litigators know the diminution caused by the public's fear is compensable.<sup>208</sup> Thus, the court's time and the client's money need not be wasted on a barrage of expert testimony about possible adverse health effects.<sup>209</sup>

In contrast, the intermediate view leads to economic inefficiency because courts must litigate the reasonableness of the public's fear.<sup>210</sup> Courts therefore end up hearing additional expert testimony as to whether, for example, power lines cause cancer.<sup>211</sup> Moreover, in many cases (but not all), the intermediate view leads to the same result as the majority view, with the majority view avoiding needless costs.<sup>212</sup> Indeed, many courts have held that the public's fear is reasonable and have therefore permitted a damages award.<sup>213</sup> Thus, from an efficiency standpoint, the intermediate view needlessly wastes resources by forcing parties to litigate the reasonableness of the public's fear.

## 2. Cost Avoidance

The "cheapest cost avoider" rationale suggests that if actors are held strictly liable, they will attempt to avoid suits by exercising a higher degree of care.<sup>214</sup> Under this rationale, losses should

---

207. See Henderson, *supra* note 204, at 1579.

208. See *Florida Power & Light Co. v. Jennings*, 518 So. 2d 895, 899 (Fla. 1987) ("[Under the majority rule,] the reasonableness of fear is either assumed or is considered irrelevant."). Conversely, if a jurisdiction follows the minority view, litigators know that the diminution is not compensable. See *Alabama Power Co. v. Keystone Lime Co.*, 67 So. 833, 835 (Ala. 1914).

209. See Henderson, *supra* note 204, at 1579.

210. See *Heddin v. Delhi Gas Pipeline Co.*, 522 S.W.2d 886, 888-89 (Tex. 1975) ("To establish that there is a basis in reason or experience for the fear, it is incumbent upon the landowners to show either an [a]ctual danger forming the basis of such fear or that the fear is reasonable . . ."); see also *supra* note 204 and accompanying text.

211. *Jennings*, 518 So. 2d at 899 ("The experts' scientific testimony introduced below was irrelevant to any fact at issue. . . . Instead, the scientific testimony altered the focus of the trial and confused the issue to be determined."); see also *Criscuola v. Power Auth. of N.Y.*, 621 N.E.2d 1195, 1196 (N.Y. 1993) ("[Valuation] factors should be left to the contest between the parties' market value experts, not magnified and escalated by a whole new battery of electromagnetic power engineers, scientists or medical experts.").

212. See, e.g., John Weiss, Note, *The Power Line Controversy: Legal Responses to Potential Electromagnetic Field Health Hazards*, 15 COLUM. J. ENVTL. L. 359, 373 (1990) ("This review of case law standards regarding power line electromagnetic fields has shown that most jurisdictions (courts following both the majority and intermediate standards) allow the public's fear of power line electromagnetic fields to be considered in awarding compensation.").

213. See, e.g., *Arkansas Power & Light Co. v. Haskins*, 528 S.W.2d 407 (Ark. 1975); *Northeastern Gas Transmission Co. v. Tersana Acres, Inc.*, 134 A.2d 253, 256 (Conn. 1957); *Colvard v. Natchala Power & Light Co.*, 167 S.E. 472 (N.C. 1933); *Delhi Gas Pipeline Co. v. Reid*, 488 S.W.2d 612, 614 (Tex. Ct. App. 1972).

214. See CALABRESI, *supra* note 204, at 26; *Escola v. Coca Cola Bottling Co. of Fresno*, 150 P.2d 436, 440-41 (Cal. 1944) (Traynor, J., concurring); *Halphen v. Johns-Manville Sales Corp.*, 484 So. 2d 110, 118 (La. 1986).

be allocated to those who can most inexpensively reduce the risk of "accidents," or, for our purposes, reduce the risk of diminution of property value.<sup>215</sup>

Under the cheapest cost avoider rationale, the minority view imposes the cost of avoiding diminution in market value upon the landowner,<sup>216</sup> a party not suited to manage the risks and perceptions associated with EMF.<sup>217</sup> Therefore, the minority view is inappropriate. The intermediate view is less objectionable because the landowner may recover once fear is established as reasonable.<sup>218</sup> If, however, the fear is unreasonable, the loss is again imposed upon the ill-suited landowner.<sup>219</sup> Therefore, the intermediate view is similarly inappropriate.

The majority view is superior because power companies are the cheapest cost avoiders. Power companies have more capital to invest in eliminating the risks associated with EMF, including continued scientific exploration of the relationship, if any, between EMF and cancer.<sup>220</sup> Research indicating EMF does not cause cancer can alleviate the general public's fear of power lines, and thus could eliminate the diminution in property value caused by that fear. Moreover, power companies can practice "prudent avoidance," the practice of minimizing the effects of EMF by taking reasonable steps to reduce the public's exposure to EMF.<sup>221</sup> Indeed, several jurisdictions already have adopted the policy of prudent avoidance.<sup>222</sup> Therefore, because power companies are the cheapest cost avoiders, the majority view is superior.

---

215. See *Escola*, 150 P.2d at 441 (Traynor, J., concurring).

216. See *supra* note 32 and accompanying text.

217. See CALABRESI, *supra* note 204, at 26.

218. See *supra* notes 57 and accompanying text.

219. See CALABRESI, *supra* note 204, at 26.

220. *Id.*; see also Lisa Bogardus, *Recovery and Allocation of Electromagnetic Field Mitigation Costs in Electric Utility Rates*, 62 *FORDHAM L. REV.* 1705, 1705-06 (1994) ("[E]lectric utilities are spending significant sums of money on research, education programs, design changes, and litigation fees.").

221. See *QUESTIONS ABOUT EMF*, *supra* note 1, at 51-52; Bogardus, *supra* note 220, at 1711-17; Harunuzzaman & Iyyuni, *supra* note 7, at 188-94 (summarizing state legislative action to EMF health effects issues). But see Edward Gerjuoy, *Electromagnetic Fields: Physics, Biology and Law*, 35 *JURIMETRICS J.* 55, 73-75 (1994) (arguing against policy of prudent avoidance).

222. Bogardus, *supra* note 220, at 1711-17; Harunuzzaman & Iyyuni, *supra* note 7, at 188-94.

### 3. The Enterprise Model

#### a. Loss Shifting

Under the so-called "enterprise model,"<sup>223</sup> strict liability is an appropriate response because the actor who caused the loss should bear the loss.<sup>224</sup> The rationale is that the seller is in a better position to absorb the damages than the consumer.<sup>225</sup> Thus, the loss is shifted to the manufacturer, who can then spread the loss among all consumers of the product by raising the price.<sup>226</sup> A commonly cited example of a judge applying this justification is Justice Traynor's concurring opinion in *Escola v. Coca-Cola Bottling Co. of Fresno*.<sup>227</sup> Justice Traynor noted that loss shifting focuses on public policy: "[t]he cost of an injury and the loss of time or health may be an overwhelming misfortune to the person injured, and a needless one, for the risk of injury can be insured by

---

223. See generally 1 SPEISER ET AL., *supra* note 154, § 1:30 (summarizing enterprise model).

224. See *Escola v. Coca Cola Bottling Co. of Fresno*, 150 P.2d 436, 440-41 (Cal. 1944) (Traynor, J., concurring); see also FOWLER V. HARPER ET AL., *THE LAW OF TORTS* 195, 195-96 (2d ed. 1986); Guido Calabresi, *Some Thoughts on Risk Distribution and the Law of Torts*, 70 *YALE L.J.* 499, 500-01 (1961).

225. *Wright v. Newman*, 735 F.2d 1073, 1077 (8th Cir. 1984); *Halphen v. Johns-Manville Sales Corp.*, 484 So. 2d 110, 118-19 (La. 1986); Calabresi, *supra* note 224, at 500-01; see also KEETON ET AL., *supra* note 143, § 75, at 537:

The courts have tended to lay stress upon the fact that the defendant is acting for his own purposes, and is seeking a benefit or a profit from such activities, and that he is in a better position to administer the unusual risk by passing it on to the public than is the innocent victim. The problem is dealt with as one of allocating a more or less inevitable loss to be charged against a complex and dangerous civilization, and liability is imposed upon the party best able to shoulder it.

226. *Wright*, 735 F.2d at 1077; *Becker v. IRM Corp.*, 698 P.2d 116, 123 (Cal. 1985); *Halphen*, 484 So. 2d at 118-19; Calabresi, *supra* note 224, at 500-01. But see RICHARD A. POSNER, *TORT LAW (CASES AND ECONOMIC ANALYSIS)* 517-18 (1982) (challenging loss shifting as an adequate rationale for strict liability). A similar concept is the "deep pockets" rationale, which holds that "losses can be reduced most by placing them on the categories of people least likely to suffer substantial social or economic dislocations as a result of bearing them, usually thought to be the wealthy." CALABRESI, *supra* note 204, at 40. Power companies would be likely candidates for liability under a deep pockets rationale as well because power companies are generally wealthier than individual property owners.

227. 150 P.2d 436, 440-46 (Cal. 1944) (Traynor, J. concurring). In *Escola*, a waitress in a restaurant was injured when a Coca Cola bottle exploded in her hand. *Id.* at 437-38. The majority upheld an award of damages based upon *res ipsa loquitur*, holding that "the thing speaks for itself": only a defective Coca Cola bottle will explode. *Id.* at 440. Concurring, Justice Traynor agreed with the result, but opined that a theory of strict liability was more appropriate:

I believe the manufacturer's negligence should no longer be singled out as the basis of a plaintiff's right to recover in cases like the present one. In my opinion it should now be recognized that a manufacturer incurs an absolute liability when an article that he has placed on the market, knowing that it is to be used without inspection, proves to have a defect that causes injury to human beings.

*Id.* (Traynor, J., concurring); see also ROBERT COOTER & THOMAS ULEN, *LAW AND ECONOMICS* 431-33 (1988) (discussing Justice Traynor's concurrence in *Escola*).

the manufacturer and distributed among the public as a cost of doing business."<sup>228</sup> In adopting Justice Traynor's loss shifting rationale in *Greenman v. Yuba Power Prod., Inc.*,<sup>229</sup> the California Supreme Court noted that "[t]he purpose [of strict liability] is to insure that the costs of injuries resulting from defective products are borne by the manufacturers that put such products on the market rather than by the injured persons who are powerless to protect themselves."<sup>230</sup>

#### b. Internalization of Costs

Loss shifting essentially requires that profit-motivated actors pay for all losses their activities generate.<sup>231</sup> Losses that the actor should bear include "externalities."<sup>232</sup> An externality is a "spillover effect" from an activity that is not considered by the actor at the time the actor decides the manner in which the activity will be accomplished.<sup>233</sup> The most common example of an externality is pollution.<sup>234</sup> Suppose a factory emits smoke that damages a neighboring farm's crops. This damage is an externality in that it is external to the factory's operation.<sup>235</sup> Stated another way, the damage caused by the smoke falls upon someone other than the factory.

Regardless of the social value of an actor's activity, the actor should internalize the loss if the activity exposes others to the loss.<sup>236</sup> The actor can internalize losses by raising the cost of the service or product, thus spreading the loss among consumers.<sup>237</sup> Externalities are inefficient; therefore, by requiring actors to internalize losses, society benefits.<sup>238</sup>

---

228. *Escola*, 150 P.2d at 441 (Traynor, J., concurring).

229. 377 P.2d 897 (Cal. 1963).

230. *Id.* at 901; see also HARPER ET AL., *supra* note 224, at 195.

231. See A. POLINSKY, *AN INTRODUCTION TO LAW AND ECONOMICS* 98-99 (1983); see also Steven Shavell, *Strict Liability Versus Negligence*, 9 J. LEGAL STUD. 1 (1980); *Wright v. Newman*, 735 F.2d 1073, 1077 (8th Cir. 1984); *Langan v. Valicopters, Inc.*, 567 P.2d 218, 222 (Wash. 1977); *Atlas Chemical Indus., Inc. v. Anderson*, 514 S.W.2d 309, 315-16 (Tex. Civ. App. 1974), *aff'd in part and rev'd in part*, 524 S.W.2d 681 (Tex. 1975).

232. COOTER & ULEN, *supra* note 227, at 169.

233. Steiner, *supra* note 193, at 229; see also COOTER & ULEN, *supra* note 227, at 169 (defining externalities as "a cost or benefit that the voluntary actions of one or more people impose or confer on a third party or parties without their consent"). The concept of externalities is discussed at length in Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. 347 (1967).

234. See, e.g., COOTER & ULEN, *supra* note 227, at 170.

235. See *id.*

236. See Calabresi, *supra* note 224, at 500-01.

237. See *id.*

238. "Efficiency can be restored by getting the externality-generator to internalize these external effects." COOTER & ULEN, *supra* note 227, at 170.

c. Application of the Enterprise Model

Applying the principles of the enterprise model (loss shifting and internalization of costs) to the three principal views addressing compensability for diminution in market value caused by the public's fear, the majority view emerges as superior. First, the minority view is contrary to the rationales behind the enterprise model. The minority view imposes the loss in all cases upon the injured person,<sup>239</sup> who is unable to spread the risk.<sup>240</sup> Moreover, the minority view perpetuates an externality: it allows power companies to expose landowners to a loss (the diminution in market value caused by the public's fear) yet does not require power companies to compensate landowners for the loss.<sup>241</sup> The minority view denies compensation to landowners even if the public's fear causes a reduction in market value.<sup>242</sup> Allowing power companies to escape liability for this loss allows them to externalize the loss.<sup>243</sup>

The intermediate view fails to incorporate fully the enterprise model because the view does not always impose the loss upon the responsible actor.<sup>244</sup> The intermediate view, however, is a move toward the enterprise model. Once a landowner establishes the reasonableness of the fear, the court imposes liability upon the power company, not the individual.<sup>245</sup> The intermediate view merely imposes an additional burden upon the landowner, the burden of proving the reasonableness of the fear.<sup>246</sup>

Of the three views, the majority view most adequately advances the goals of the enterprise model. The majority view holds that if the landowner establishes that the public's fear has depressed the market value of the land, then the loss is imposed upon the power company in all cases.<sup>247</sup> This is the best and most fair result because power companies are better equipped to bear the loss than innocent property owners.<sup>248</sup> Also, because most

---

239. *Alabama Power Co. v. Keystone Lime Co.*, 67 So. 833, 835 (Ala. 1914).

240. *Greenman v. Yuba Power Prod., Inc.*, 377 P.2d 897, 901 (Cal. 1963); *Halphen v. Johns-Manville Sales Corp.*, 484 So. 2d 110, 118-19 (La. 1986).

241. See, e.g., *Keystone Lime*, 67 So. at 837.

242. *Id.* at 835.

243. See COOTER & ULEN, *supra* note 227, at 170.

244. See Calabresi, *supra* note 224, at 500-01.

245. *Willsey v. Kansas City Power & Light Co.*, 631 P.2d 268, 279 (Kan. Ct. App. 1981).

246. *Id.* at 279.

247. See *Florida Power & Light Co. v. Jennings*, 518 So. 2d 895, 899 (Fla. 1987).

248. See *Halphen v. Johns-Manville Sales Corp.*, 484 So. 2d 110, 118-19 (La. 1986).

power companies are motivated by profit,<sup>249</sup> they should pay for all losses their activities generate.<sup>250</sup> The majority view incorporates this philosophy and rightly imposes the risk of market devaluation upon power companies, who, like manufacturers, can distribute the loss among the public as a business cost.<sup>251</sup>

Indeed, courts following the intermediate and majority views have used loss shifting rationales in holding for landowners. For example, the Willsey court opined that "[i]f [loss caused by the public's fear] is proven to the satisfaction of the jury we see no reason why the landowner should bear the loss rather than the customers for whose benefit the loss is inflicted."<sup>252</sup> Courts following the majority view also have used loss shifting rationales.<sup>253</sup>

Importantly, society experiences a net gain when power companies are required to internalize the problems associated with EMF because power companies will continue to research the effects of EMF, educate the public about EMF, and practice prudent avoidance.<sup>254</sup> If power companies are not held responsible for this loss, it is less likely that they will continue to engage in such beneficial activities.

#### IV. BALANCING INTERESTS

One must distinguish, however, power companies from actors who are either unable to avoid costs, spread the loss, or who provide significant societal benefits when measured against the landowner's interests, and who thus should not be required to compensate a private landowner. For example, it may be inappropriate to require compensation where homeless shelters, homes for maladjusted teens, or AIDS hospices have caused a

---

249. Power companies are regulated by the government, but profit does play a part in the decisionmaking process. Bogardus, *supra* note 220, at 1738-39.

250. See VANDALL, *supra* note 144, at 21; Bogardus, *supra* note 220, at 1721-24 (discussing processes involving ratemaking and assurances of reasonable profit).

251. See *Escola v. Coca Cola Bottling Co. of Fresno*, 150 P.2d 436, 441 (Cal. 1944) (Traynor, J., concurring); *Halphen v. Johns-Manville Sales Corp.*, 484 So. 2d 110, 118-19 (La. 1986). In fact, power companies frequently reflect the costs of litigating EMF claims, including tort damage awards, in utility rates, thus illustrating loss shifting in action. See Bogardus, *supra* note 220, at 1725; see also *In re Public Serv. Co. of Ind., Inc.*, 112 Pub. Util. Rep. (PUR) 4th 94, 124 (Ind. Util. Regulatory Comm'n 1990); *In re South Carolina Elec. & Gas Co.*, 37 Pub. Util. Rep. (PUR) 4th 441, 463 (S.C. Pub. Serv. Comm'n 1980).

252. *Willsey v. Kansas City Power & Light Co.*, 631 P.2d 268, 278 (Kan. Ct. App. 1981). For a discussion of Kansas's move to the majority view, see *supra* part II.C.4.

253. E.g., *San Diego Gas & Elec. Co. v. Daley*, 253 Cal. Rptr. 144, 151 (Ct. App. 1988) (citing *Willsey*, 631 P.2d at 278).

254. Cf. Bogardus, *supra* note 220, at 1705-06 (noting the significant amount of money power companies are spending on research and education).

diminution in an individual's property value. The intermediate view would probably hold that fear of these activities is unreasonable, and thus noncompensable.<sup>255</sup> The minority view would not allow recovery even if the fear were reasonable.<sup>256</sup>

There is the possibility, however, that even in majority view jurisdictions, courts could make a policy judgment and hold against the landowner. As an analogy, in *Davis v. Dinkins*,<sup>257</sup> homeowners near a privately owned hotel sought to enjoin the hotel from being used as a shelter for homeless families.<sup>258</sup> The homeowners claimed that the presence of the shelter had caused a diminution in their property values.<sup>259</sup> The court declined to issue the injunction on public policy grounds, noting that "the granting of such relief is inappropriate under the circumstances now existing in New York City. The indisputable compelling need to provide temporary housing for homeless families clearly makes it an abuse of discretion to preclude the use of a hotel which is already housing these families."<sup>260</sup> It is apparent that even if the homeowners could have demonstrated that the shelter had caused a diminution in property value, the court still would have denied the injunction because of the important societal interest in providing shelter for the homeless.<sup>261</sup> Another court, facing the same issue, reached a similar conclusion, noting that "a balancing of the equities lies decidedly in favor of defendants' continued operation of this homeless shelter."<sup>262</sup>

If court-made policy is objectionable, the legislature could make a policy judgment that the doctrine of strict liability is inappropriate in a specific instance. The legislature might decide that a particular societal need outweighs the interests of an individual. For example, there may come a time when a property owner attempts to recover for a diminution in property value

---

255. See discussion *supra* part II.B.

256. See discussion *supra* part II.A.

257. 585 N.Y.S.2d 978 (Sup. Ct. 1992), *aff'd* in part and *rev'd* in part, 613 N.Y.S.2d 933 (App. Div. 1994).

258. *Id.* at 981.

259. *Id.* at 982.

260. *Id.*

261. *Id.*; see also *Sunderland Family Treatment Serv. v. City of Pasco*, 903 P.2d 986, 993 (Wash. 1995) (*en banc*) (holding that denial of special use permit for group home crisis center on grounds that fear of home's clientele reduced area property values "would be based on unsubstantiated fears" and "is not competent nor substantial evidence").

262. *Greentree at Murray Hill Condominium v. Good Shepherd Episcopal Church*, 550 N.Y.S.2d 981, 989 (N.Y. Sup. Ct. 1989). But see *Steadham v. Board of Zoning Adjustment*, 629 So. 2d 647 (Ala. 1993) (finding a challenge to a zoning variance permitting the facility for juvenile offenders permissible because there was evidence that the proposed use could result in diminished property value).

when an entity attempts to establish a home for AIDS victims in a residential neighborhood. A property owner might argue that his or her land has been devalued because some potential purchasers might be afraid of contracting this deadly disease.<sup>263</sup> Legislatures may decide that in such situations a property owner will not be permitted to recover for this loss, even if a governmental agency is in charge of the home.<sup>264</sup> The legislature might reason that allowing a damages award in this situation would have the adverse effect of eliminating a great social value, especially if the service did not have either the resources to litigate the claim or the ability to spread the loss. Thus, in this situation, the balance may tip in favor of the AIDS hospice.<sup>265</sup>

Indeed, legislatures have acted to prevent imposition of strict liability when the balance has favored protection of a certain activity. For example, in an effort to promote the health and welfare of the community by protecting the societal value hospitals and blood banks provide, legislatures in most states have decided to shield those institutions from strict liability claims by plaintiffs who contract AIDS from blood transfusions.<sup>266</sup> The legisla-

---

263. Cf. *Association of Relatives & Friends of AIDS Patients (A.F.A.P.S.) v. Regulations & Permits Admin. or Administracion de Reglamentos y Permisos (A.R.P.E.)*, 740 F. Supp. 95, 99 (D.P.R. 1990) (defendant opposed group's efforts to establish AIDS hospice in part because of fear the hospice might devalue surrounding property); *Poff v. Caro*, 549 A.2d 900, 902 (N.J. Super. Ct. Law Div. 1987) (landlord violated anti-discrimination laws by refusing to rent to homosexuals; landlord "feared that they might later acquire AIDS and thereby endanger his family").

264. A court could make this judgment as well. For example, in *Adkins v. Thomas Sd-vent Co.*, 487 N.W.2d 715 (Mich. 1992), the Michigan Supreme Court stated:

In short, we do not agree with the dissent's suggestion that wholly unfounded fears of third parties regarding the conduct of a lawful business satisfy the requirement for a legally cognizable injury as long as property values decline. Indeed, we would think it not only "odd," but anachronistic that a claim of nuisance in fact could be based on unfounded fears regarding persons with AIDS moving into a neighborhood, the establishment of otherwise lawful group homes for the disabled, or unrelated persons living together, merely because the fears experienced by third parties would cause a decline in property values.

*Id.* at 726 (citations omitted).

265. If there is no legislative action, a court also might hold that, on balance, it would not be appropriate to require the hospice to pay for this loss. See *Good Shepherd Episcopal Church*, 550 N.Y.S.2d at 989.

266. See *Roberts v. Suburban Hosp. Ass'n, Inc.*, 532 A.2d 1081, 1086 n.3 (Md. Ct. Spec. App. 1987) (listing 48 jurisdictions with statutes excluding strict liability as basis for holding blood banks and hospitals liable in suits by plaintiffs who contract AIDS from blood transfusions). At the time of the *Roberts* opinion, only New Jersey, the District of Columbia, and Vermont did not have a blood shield statute. *Id.* New Jersey and District of Columbia courts previously had concluded that blood banks were immune from strict liability. See *Brody v. Overlook Hosp.*, 317 A.2d 392, 398 (N.J. Super. Ct. App. Div. 1974), *aff'd*, 332 A.2d 596 (N.J. 1975); *Kozup v. Georgetown Univ.*, 663 F. Supp. 1048, 1060-1061 (D.D.C. 1987), *aff'd in part and vacated in part*, 851 F.2d 437 (D.C. Cir. 1988). Moreover, Vermont has since adopted a blood shield statute. VT. STAT. tit. 9A, § 2-108 (1995). See also Michael J. Miller, *Strict Liability, Negligence and the Standard of Care for Transfu-*

tures apparently fear requiring "providers to serve as insurers of the safety of these materials [because such a requirement] might impose such an overwhelming burden as to discourage the gathering and distribution of blood."<sup>267</sup>

Therefore, while the majority view, supported by strict liability rationales, encourages imposition of losses caused by the public's fear upon the actor most responsible for the fear, it does not preclude courts or legislatures from recognizing that the balance may tip against the landowner where overriding societal interests are at stake.<sup>268</sup>

## V. CONCLUSION

EMF litigation involving market devaluation of property caused by the public's fear is an area of the law fraught with uncertainty. It is unlikely that a single approach will be adopted by every jurisdiction. However, the recent defection of New York and Kansas to the majority view, New Mexico's adoption of the majority view in 1992, and the propensity of jurisdictions to reverse years of precedent by switching to the majority view (as did Florida) may indicate that significant change is on the horizon.<sup>269</sup>

A strict liability approach to compensability for diminished property value caused by the public's fear is preferable to other approaches, such as a negligence-based approach. At its core, the majority view is essentially strict liability. The rationales for strict liability support movement to the majority view and rejection of the intermediate and minority views. Corrective justice requires that the interests of the landowner take precedent. Moreover, not only does the majority view reduce transaction costs, power companies also are the cheapest cost avoider because they have more resources to reduce the risks of EMF. Finally, power companies are better able to internalize costs, including the recovery of EMF litigation costs, by spreading the loss among

---

sion-Transmitted Disease, 36 ARIZ. L. REV. 473, 490 (1994) ("These states did not want to inhibit the exercise of sound medical judgment and restrict the availability of knowledge, skill and material by allowing recovery based on liability without fault.").

267. *Zichichi v. Middlesex Memorial Hosp.*, 528 A.2d 805, 810 (Conn. 1987); see also *Kozup*, 663 F. Supp. at 1059; *Garvey v. St. Elizabeth Hosp.*, 697 P.2d 248, 249 (Wash. 1985) ("The public policy represented by these statutes is not difficult to discern: blood transfusions are essential in the medical area . . .").

268. See, e.g., *Ryan v. Kansas Power & Light Co.*, 815 P.2d 528, 537 (Kan. 1991) ("A condemnation proceeding is a sober inquiry into values, designed to strike a just balance between the economic interests of the public and those of the landowner.").

269. See *Brandon*, supra note 2, at 43 (noting that defection of Florida and New York to majority view "is likely to influence the remaining courts across the country").

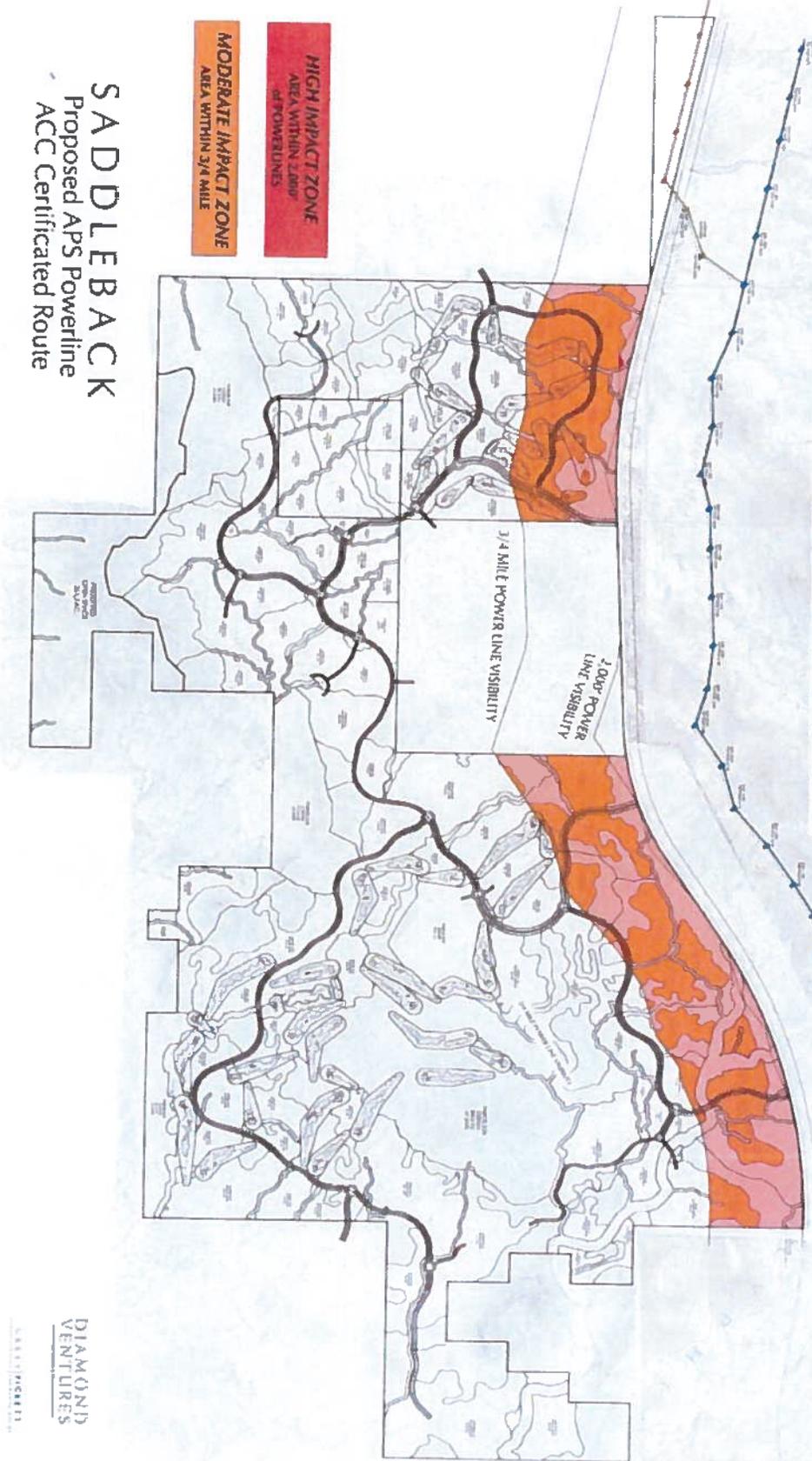
consumers.<sup>270</sup> Therefore, courts should adhere to the majority view and hold that as long as it is established that the public's fear diminishes property value, the loss is compensable. If situations arise where the balance tips against the property owner and in favor of great societal interests, courts or legislatures can create exceptions to the general rule. Thus, strict liability analysis demonstrates that between the innocent property owner and the better-equipped power company, courts should hold the latter responsible for market devaluation of property caused by the public's fear of power lines.

---

270. The majority view is the correct result for another reason. It imposes the loss upon the general public, which not only receives the benefit of electricity from power lines, but also whose fear (unfounded or not) ultimately results in the devaluation of the landowner's property. Cf. *Willsey v. Kansas City Power & Light Co.*, 631 P.2d 268, 277-78 (Kan. Ct. App. 1981) ("[W]e see no reason why the landowner should bear the loss rather than the customers for whose benefit the loss is inflicted.").

ESTIMATED IMPACTS

ACR Certificated Route	Impact Area (1/2-Acre)	Cont. Area (1/2-Acre)	Dev. Potential (1/2-Acre)	Proposed Acres	Acres Impacted (1/2-Acre)	Dev. Potential (1/2-Acre)	Proposed Acres	Acres Impacted (1/2-Acre)
Commercial/Office Zone	1,171,387	0	0	0	0	0	0	0
Residential Zone	4,171,387	19	19	19	19	19	19	19
Other Zone	497,289	428	396	33	1,768	3,211	33	33



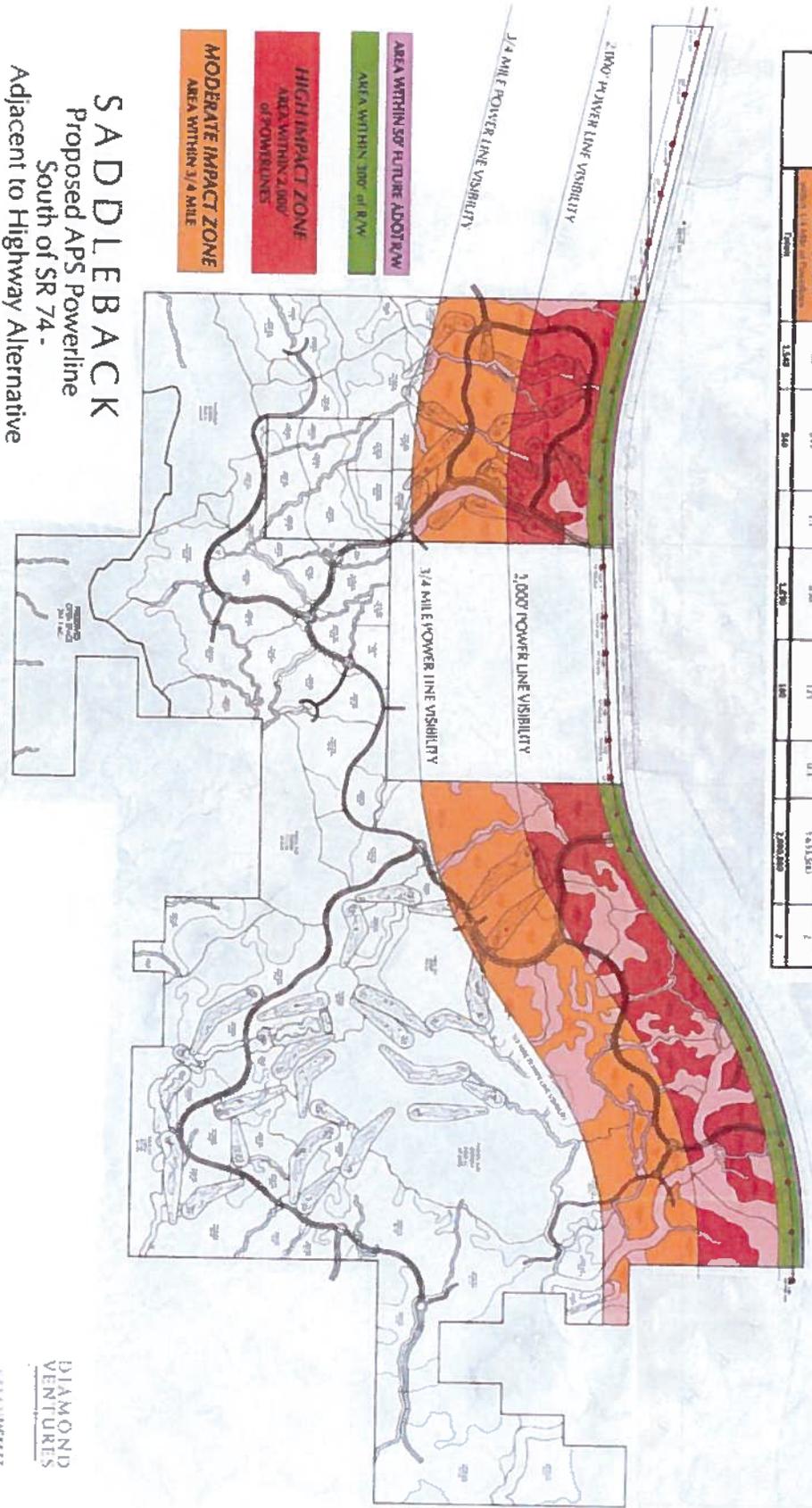
**SADDLEBACK**  
Proposed APS Powerline  
ACC Certificated Route

DIAMOND  
VENTURES  
PICKETT



ESTIMATED IMPACTS

South of SR 74 Adjacent to Highway Alternative	Impact Zone Miles of Project / A.B.	Cont Area (± Acres)	Net Estimated Development Area (± Acres)	Proposed Density	Estimated Loads Impacts	Net Added Land Development Area (± Acres)	Proposed T.A.B.	Commercial/Office Impacts (± Acres)	Other (± Acres) Impacts
High Impact Zone AREA WITHIN 2,000' OF POWERLINES	0.17	817	245	0.5	1,015	15	0.3	417,780	7
Moderate Impact Zone AREA WITHIN 3/4 MILE OF POWERLINES	0.86	768	245	1.1	838	171	0.1	1,855,880	7
Open	0.00	LS&D	540		LS&D	180		2,000,000	7



**SADDLEBACK**  
 Proposed APS Powerline  
 South of SR 74 -  
 Adjacent to Highway Alternative

**ESTIMATED IMPACTS**

South of SR 74 Adjacent to Highway Alternative	Impact Zone	Gross Area (+/- Acres)	Net Residential Development Area (+/- Acres)	Proposed Density	Residential Units Impacted	Net Mixed Use Development Area (+/- Acres)	Proposed F.A.R.	Commercial/Office Impacted Square Feet	Resort (+/- Acres) Impacted
	Within 50' Future ADOT R/W	20							
	Within 100' ADOT R/W	101							
	High Impact Zone within 2,000' of Powerlines	657	295	3.5	1,033	35	0.3	457,380	
	Moderate Impact Zone within 1/4 Mile of Powerlines	788	245	3.5	858	125	0.3	1,633,500	2
	<b>Totals</b>	<b>1,548</b>	<b>540</b>		<b>1,890</b>	<b>150</b>		<b>2,090,880</b>	<b>2</b>

North of SR 74 Adjacent to Highway Alternative	Impact Zone	Gross Area (+/- Acres)	Net Residential Development Area (+/- Acres)	Proposed Density	Residential Units Impacted	Net Mixed Use Development Area (+/- Acres)	Proposed F.A.R.	Commercial/Office Impacted Square Feet	Resort (+/- Acres) Impacted
	High Impact Zone within 2,000' of Powerlines	536	195	3.5	683	31	0.3	405,105	
	Moderate Impact Zone within 1/4 Mile of Powerlines	795	280	3.5	980	95	0.3	1,241,460	0
	<b>Totals</b>	<b>1,331</b>	<b>475</b>		<b>1,663</b>	<b>126</b>		<b>1,646,565</b>	<b>0</b>

ACC Certificated Route	Impact Zone	Gross Area (+/- Acres)	Net Residential Development Area (+/- Acres)	Proposed Density	Residential Units Impacted	Net Mixed Use Development Area (+/- Acres)	Proposed F.A.R.	Commercial/Office Impacted Square Feet	Resort (+/- Acres) Impacted
	High Impact Zone within 2,000' of Powerlines	32	1	3.5	4	0	0.3	0	
	Moderate Impact Zone within 1/4 Mile of Powerlines	793	305	3.5	1,068	35	0.3	457,380	0
	<b>Totals</b>	<b>825</b>	<b>306</b>		<b>1,071</b>	<b>35</b>		<b>457,380</b>	<b>0</b>

**SADDLEBACK**  
Proposed APS Powerline

DIAMOND  
VENTURES  
SADDLEBACK

# BELFIORE

## REAL ESTATE CONSULTING

### North Peoria Submarket Overview February 5, 2013

#### **Introduction**

Housing market conditions have been improving throughout the Metro Phoenix Area for nearly two years now. Supply- both resale and new- is at seven year lows. Demand is rapidly increasing with new job growth (more than 50,000 from December 2011 to December 2012), improving consumer confidence, and 3% mortgage interest rates. On the heels of two consecutive years in which homebuilders constructed fewer homes than they had during any year in more than 40 years, builders found more buyers wanting to purchase than they could build homes for. Permit activity increased 60%, and this year, Belfiore Real Estate Consulting analysts anticipate 63% more permits.

The reality is Metro Phoenix Area homebuilders cannot build new homes fast enough today. They don't have enough land, enough finished homesites, or enough workers. Housing demand is expanding with buyers seeking a fresh start. Home prices increased 10% last year, and demand will push prices up again this year and next. The price increases translate into fewer foreclosures (down 61% in the fourth quarter from peak quarter 1Q 2009 and 26% from 3Q 2012), and fewer potential foreclosures (Notices of Trustee's sales were down 67% from peak quarter 1Q2009 and 28% from 3Q 2012 to 4Q 2012).

North Peoria is one of a handful of Metro Phoenix Area submarkets to remain active with new housing demand throughout the downturn. In the last twelve months, North Peoria has emerged as the most active new home submarket in the West Valley. Like the rest of the Metro Phoenix Area, it's growing and prices are moving upward rapidly. Infrastructure and housing development is expanding northward to accommodate demand. Homebuilders are eyeing land from existing, active new residential developments Vistancia, Tierra Del Oro, and Rock Springs north up to Carefree Highway. North Peoria will be one of the fastest growing Metro Phoenix Area submarkets during the next five years and beyond- provided enough residential land exists to feed housing hungry potential homebuyers.

#### ***The North Peoria Submarket***

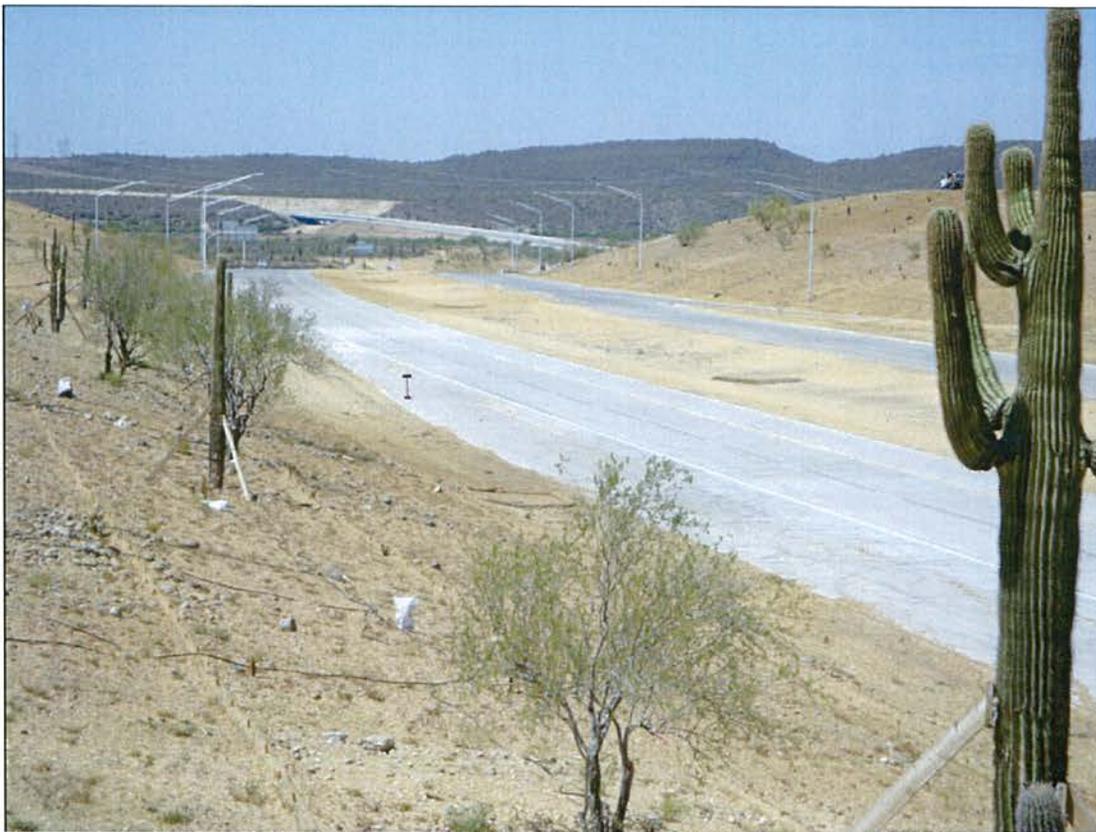
The North Peoria Submarket is a maturing, predominately move-up market area located in northwestern Maricopa County. Much of North Peoria is natural desert preserve area and / or land owned by the State of Arizona. Topography varies but generally the elevation climbs in North Peoria from south to north, with several small mountains and hills springing from the landscape throughout the area. Topography, quality schools, nearby freeway infrastructure, and a location near suburban employment have driven North Peoria growth during the last two decades. See the Submarket Map for a geographic illustration of the Submarket's location relative to major employment centers, freeways, and other major Metro Phoenix Area market areas.

More than 150,000 people (151,800) currently live in the City of Peoria- two-thirds (estimated 99,858 people in 2010, per Nielsen) of which live within the North Peoria Submarket. The City has grown from south to north, as infill Peoria areas filled in the 1970s and 1980s, new freeway infrastructure was built, and North Scottsdale and northern Phoenix areas were built out. The Submarket, therefore, has experienced its greatest growth in the last twenty years, growing by 256% from 1990 to 2000 and 80% from 2000 to 2010, according to Nielsen. Nielsen

projects growth of 16.5% from 2010 to 2015- a figure that BREC believes will be higher based upon the current and expected new housing demand during the next four years.

North Peoria residents work in a number of employment centers- primarily suburban employment centers in the Metro Phoenix Area. Employment lines both sides of Interstate 17, 5 miles east of North Peoria. Several financing services firms maintain large processing facilities 30 minutes from Rancho Cabrillo. USAA insurance employs more than 4,000 people at its regional campus, 10 minutes from North Peoria. PetSmart's corporate headquarters and a large regional hospital, John C. Lincoln hospital, are both less than 10 minutes from North Peoria. Those commuting further drive to and from the following large employment centers: Scottsdale Airpark (20 minutes), Downtown Scottsdale (30 minutes), Cities of Glendale and Peoria (20 minutes), and Luke Air Force Base (20 minutes).

Freeway infrastructure in and near the Submarket is exceptional. Interstate 17, State Loop 101, and the new, State Loop 303 allow numerous opportunities for commuters to quickly access employment and services from North Peoria.



Newest stretch of AZ Loop 303, prior to its opening. Photo by Belfiore Real Estate Consulting, April 2011.

North Peoria schools are among the highest regarded schools in the State of Arizona, regularly receiving top ratings and test scores from the State of Arizona, based on Arizona standardized tests conducted each year. Schools are cited as a reason some family buyers purchase homes in Peoria.

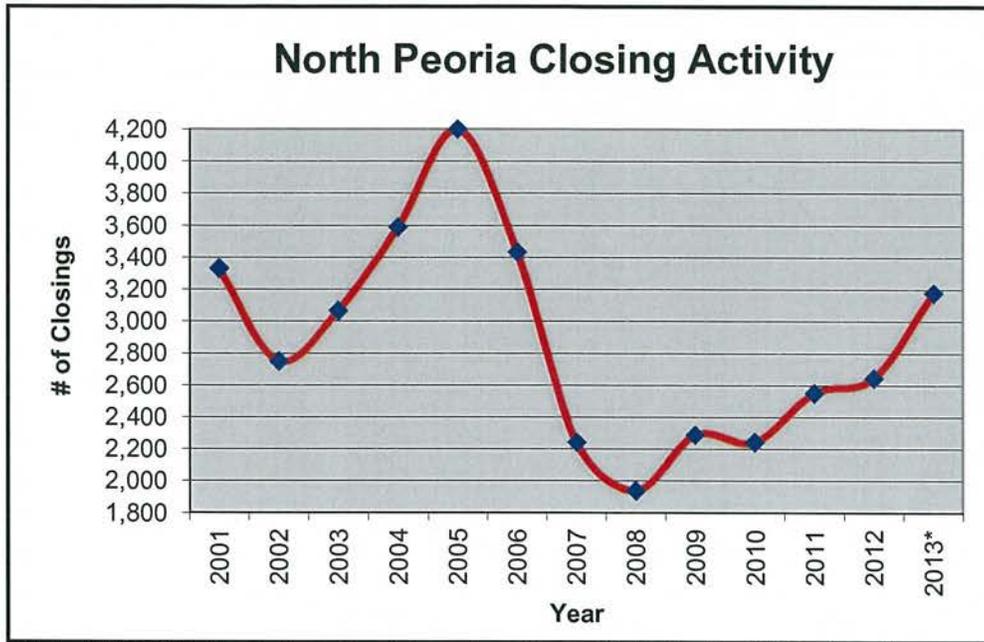
The North Peoria submarket is the most active of all in the West Valley. Builders have flocked to the area as housing demand has increased. In the table below, West Valley submarket new home subdivision activity is compared:

<b>West Valley Subdivision Counts</b>	
<b>Submarket</b>	<b>#</b>
North Peoria	24
South Goodyear	19
South Surprise	18
North Goodyear	12
Litchfield Park	10
North Buckeye	9
South Buckeye	5
Waddell	5
Laveen	4
South Glendale	3
Tolleson	2
El Mirage	1
Far West Phoenix	1
North Glendale	1

Belfiore Real Estate Consulting

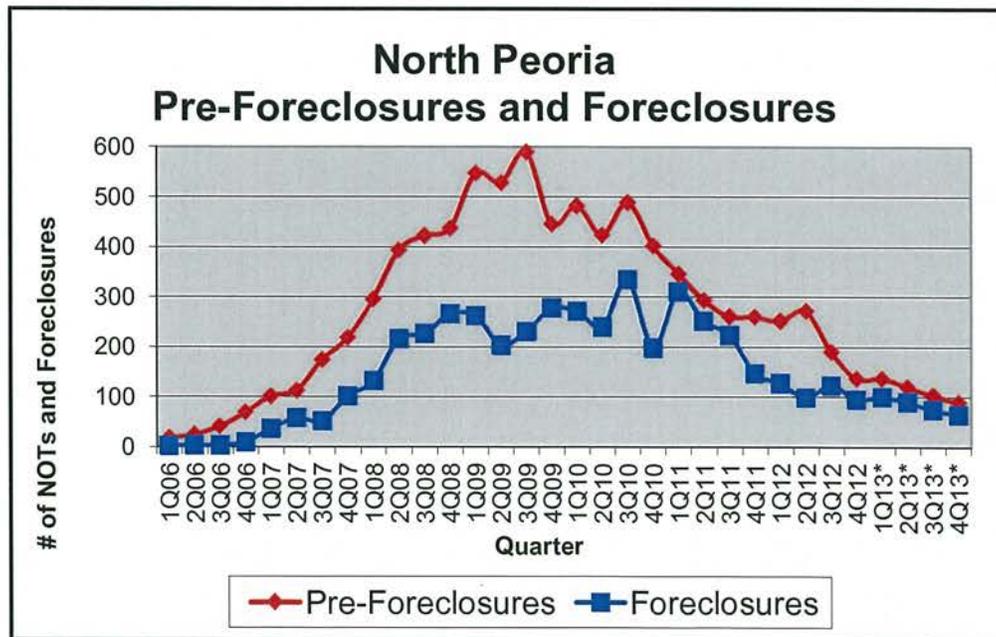
North Peoria residential development is largely limited to development within large, well planned, amenitized masterplanned communities, the result of much of the land in North Peoria being owned by the State of Arizona. The State occasionally auctions large parcels to developers, who entitle the land, develop the land, and sell improved parcels to homebuilders.

From 2002 to 2005 North Peoria closing activity increased 53%, from 2,747 home closings- many of which were new home closings- to 4,197 closings. Demand, though, softened, as Metro Phoenix conditions softened, in late 2005 and early 2006. Demand fell in 2006, 2007, and 2008. In 2008, home sales hit a decade low point at 1,938 (new and existing). Since, demand has increased substantially (36%), and BREC anticipates it increasing further this year and next. Total Submarket sales / closing activity during the last decade and BREC's forecast activity for 2013 is highlighted in the graph on the following page:



Data by MDA DataQuick. Custom submarket, graph, and forecast by Belfiore Real Estate Consulting.

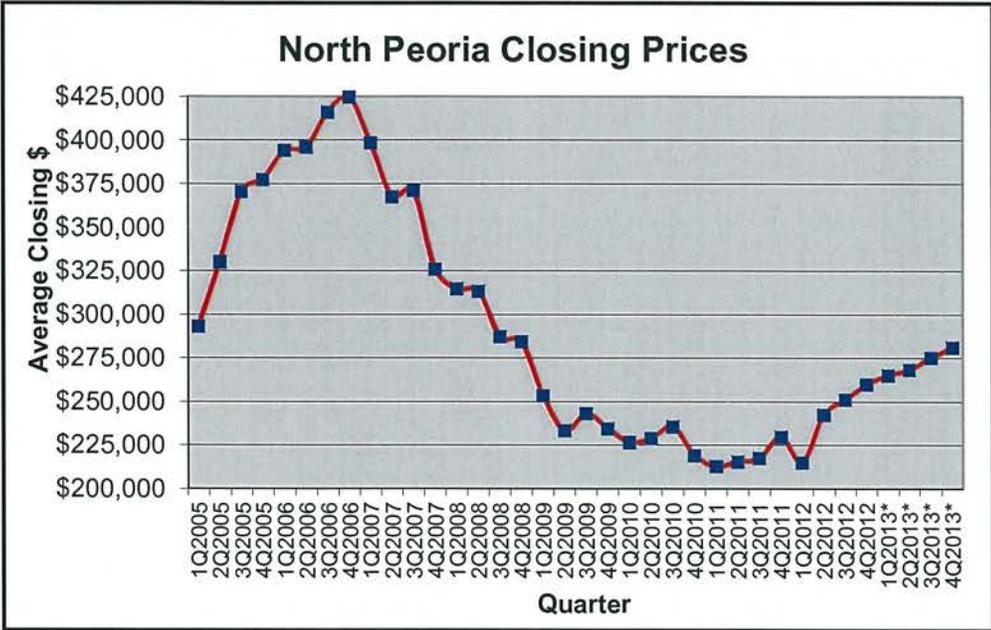
Just one year ago, fifty-four percent of all sales were existing, distressed sales- sales that involved lenders (Cromford Report data). The figure has been falling rapidly over the last twelve months. Last month, thirty-six percent of Submarket sales were distressed. Distressed sales activity will remain higher than “normal” over the next 18 months, but it will continue to fall rapidly, creating a need for more new housing. Historical and expected near-future Submarket foreclosure levels are highlighted in the graph below:



Data by MDA DataQuick. Custom submarket, graph, and forecast by Belfiore Real Estate Consulting.

The number of North Peoria foreclosures has been falling rapidly since the third quarter of 2010. In the fourth quarter 2012, foreclosures were 81% below their peak level. Notices of Trustee's sales, a.k.a. "preforeclosures", were 82% below peak levels.

Less distressed supply equates to higher home prices. Submarket home prices moved upward 21% over the seven quarters ending in the fourth quarter 2012. Average closing prices were \$259,680 in the fourth quarter. In the 2013, BREC anticipates total Submarket appreciation of 8.0%. Closing prices from recent quarters, as well as forecasted 2012 quarterly prices are illustrated in the graph below:



Data by MDA DataQuick. Custom submarket, graph, and forecast prices by Belfiore Real Estate Consulting.

New home prices have begun rising in the Submarket. In 2012, net same-store new build prices rose 8.0%.

Additionally in December:

- Average subdivision traffic levels remained high at 12.3 potential buyers visiting sales offices weekly. An average of 11.1 potential buyer parties had visited on a weekly basis during same month in 2011.
- Builder speculative supply levels were lower than during any period since late 2005 / early 2006. An average of 2.0 unsold homes was under construction or fully constructed and owned by builders in each Submarket subdivision. Of those, 1.3 per subdivision were complete or nearly complete.
- New build incentives were normal; they averaged \$8,555, while speculative incentives averaged \$14,042. Average Submarket incentives have fallen dramatically over the last twelve months.

Developable, residential land is diminishing rapidly in the Submarket and is expected to continue to diminish as homebuyers seek out quality locations near employment, with topography, highly rated schools, and infrastructure. Homebuilders are presently bidding up raw land and lots, in an effort to satisfy this new home demand in 2013 and 2014. With only 1,745 remaining finished lots, and 1,279 partially improved lots, developers and homebuilders are already taking out shovels and moving north.

Additional Metro Phoenix Area housing detail is included in the December 2012 KnowledgeBase report that follows the North Peoria new home submarket and subdivision exhibits.

### **Sources**

BREC utilized a number of sources in compiling its research and completing its report. The sources include:

- Arizona Regional Multiple Listing Service
- Bureau of Labor Statistics
- City of Peoria
- Cromford Report
- Homebuilders Association of Central Arizona
- Maricopa County Assessor's Office
- MDA DataQuick
- Moody's Economy.com
- The Nielsen Company
- U.S. Census Bureau
- Numerous developer / builder personnel from several organizations

### **Disclosures / Disclaimers / Limiting Conditions**

Most information included in this report has been provided by numerous third parties, through data providers, market surveys, and summarized and analyzed by Belfiore Real Estate Consulting. While BREC's goal is to deliver accurate, thorough research and opinions to you, BREC do not warranty the accuracy of the information or provide assurances as to the achievability of opinions or forecasts included in this report. Market conditions change rapidly due to a number of factors over which BREC has no control. BREC encourages you to consider the utilization of other resources, including more in-depth research available through Belfiore Real Estate Consulting, when considering development opportunities.

Belfiore Real Estate Consulting will provide report methodologies and forecast considerations upon request.

The name Belfiore Real Estate Consulting and the Belfiore Real Estate Consulting logo are copyrighted and also may not be reproduced or republished without the express written consent of Belfiore Real Estate Consulting.

# BELFIORE

## REAL ESTATE CONSULTING

### **Disclosures / Disclaimers / Limiting Conditions**

Most information included in this report has been provided by numerous third parties, collected during market surveys, and summarized and analyzed by Belfiore Real Estate Consulting personnel.

Other data has been provided by public agencies. While Belfiore Real Estate Consulting's goal is to deliver timely, accurate, and thorough data to you, Belfiore Real Estate Consulting does not warranty the accuracy of the all information provided herein. Belfiore Real Estate Consulting occasionally must estimate figures; estimated figures are typically noted as such in Subdivision Reports.

Belfiore Real Estate Consulting will provide data collection and reporting methodologies upon request. For further detail on the data included herein, please click on the Database Definitions link located on the top of the Database Query page.

Information attained through the Belfiore Real Estate Consulting New Home Subdivision Database may not be reproduced or republished without the express written permission of Belfiore Real Estate Consulting. The name Belfiore Real Estate Consulting, as well as the Belfiore Real Estate Consulting logo, are copyrighted and may not be reproduced or republished without the express written consent of Belfiore Real Estate Consulting.

Reproduction of any Belfiore Real Estate Consulting reports will result in the immediate cancellation of your New Home Subdivision Database subscription. Belfiore Real Estate Consulting will pursue subscription fees attributed to unauthorized forwarding of BREC reports and / or New Home Subdivision Database access being granted to those outside of your firm. All legal costs associated with Belfiore Real Estate Consulting's pursuit of those subscription fees, as outlined in the New Home Subdivision Database User Agreement, will be pursued by Belfiore Real Estate Consulting.

#### **Selected Options**

Submarkets: North Peoria  
Show Active Communities

Show Active Adult Communities  
Show Inactive Communities

Show Traditional / Non-Active Adult  
Don't Show Recently Sold Out Communities

Inventory Detail					
Number of Subdivisions	24	Subdivision Lot Breakdown			
Median Home Size	2,708	257	30 WIDE	116	36 WIDE
Number of Inventory Homes	51	253	60 WIDE	90	150 WIDE
Number of 60 Day Inventory Homes	34	229	45 WIDE	69	80 WIDE
Total Mos Lot Supply Remaining	0	158	35 WIDE	63	160 WIDE
Total Finished Lots Remaining	1,745	136	50 WIDE	51	115 WIDE

Home Prices & Incentives			
Median Base Home Price:	\$286,700	Base Home Price Range	\$175,990 - \$504,990
Net New Build Median Home Price:	\$287,346	Base Price Per Square Foot Range	\$72.50 - \$167.15
Net 60 Day Inventory Median Home Price:	\$265,743	Net New Build Home Price Range	\$167,740 - \$499,790
Median New Build Incentive Value:	\$7,893	Net New Build Price Per Square Foot Range	\$70.57 - \$161.66
Median 60-Day Inventory Incentive Value:	\$11,172	Net 60-Day Inventory Price Range	\$167,740 - \$407,040

Transaction Activity							
Survey Period:	Last 2 Months		2 to 4 Months Ago		4 to 6 Months Ago		
Net Sales:	82		85		162		
Month:	Oct-2012	Sep-2012	Aug-2012	Jul-2012	Jun-2012	May-2012	Apr-2012
Permits:	72	61	72	96	78	95	38
Closings:	65	49	47	40	47	35	32

**Most Active Subdivisions / Projects**

Net Sales				
Subdivision Name	Builder Name	# Sales Last 2 Mos	Base Price Range	Price Per Square Foot Range
Trilogy At Vistancia	Shea Homes	18	\$240,200 - \$432,800	\$134.97 - \$167.15
Tierra Del Rio 50'	Centex Homes	10	\$180,990 - \$230,990	\$85.77 - \$125.17
Citadel	D. R. Horton	7	\$225,000 - \$273,000	\$85.13 - \$122.42
Tierra Del Rio Canyon Series	Pulte Homes	6	\$221,990 - \$275,990	\$90.13 - \$114.84
Aria At Vistancia	Meritage Homes	6	\$287,900 - \$363,900	\$72.50 - \$101.62

Permits				
Subdivision Name	Builder Name	# Permits Last 1 Mos	Base Price Range	Price Per Square Foot Range
Trilogy At Vistancia	Shea Homes	12	\$240,200 - \$432,800	\$134.97 - \$167.15
Tierra Del Rio 50'	Centex Homes	10	\$180,990 - \$230,990	\$85.77 - \$125.17
Tierra Del Rio Canyon Series	Pulte Homes	9	\$221,990 - \$275,990	\$90.13 - \$114.84
Meritage At Cibola Vista	Meritage Homes	6	\$248,900 - \$298,900	\$80.33 - \$110.23
Cabrillo Point By Lennar	Lennar	5	\$182,990 - \$230,990	\$79.57 - \$136.71

Closings				
Subdivision Name	Builder Name	# Closings Last 1 Mos	Base Price Range	Price Per Square Foot Range
Tierra Del Rio 50'	Centex Homes	15	\$180,990 - \$230,990	\$85.77 - \$125.17
Trilogy At Vistancia	Shea Homes	14	\$240,200 - \$432,800	\$134.97 - \$167.15
Aria At Vistancia	Meritage Homes	6	\$287,900 - \$363,900	\$72.50 - \$101.62
Estates At Blackstone At Vist	K. Hovnanian Homes	4	\$329,990 - \$372,990	\$114.31 - \$119.60
Blackstone By Taylor Morrison	Taylor Morrison	4	\$330,990 - \$407,990	\$106.97 - \$117.75

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:	Aria at Vistancia			Submarket:	North Peoria			
MPC Name:	Vistancia			City:	Peoria			
Builder Name:	Meritage Homes			Zip Code:	85383			
Product Type:	Single-Family Homes			Model Home Address:	13310 W. Jesse Red Rd.			
Total Units:	62			Project Major Cross-Streets:	Lone Mountain Rd. & Vistancia Blvd.			
Units Remaining:	16			GPS Latitude:	33.767148			
HOA Fee:	\$117			GPS Longitude:	-112.350195			
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:	\$800			Total Sales:	46			
Lot Width (feet):	80			Sales Rate Since Inception (monthly):	3.83			
Lot Depth (feet):	140			Sales Rate Current Year (monthly):				
Typical Lot Size (SF):	11,200			2012 Sales Rate:	3.83			
Product Width:	58			2011 Sales Rate:	0.00			
Site Purchase Price:	\$3,970,000			<b>Inventory Information</b>				
Site Purchase Date:	7/29/2011			Total # of Inventory Homes:	0			
Site Purchase Status:	Finished Lots			Total # of 60-day Inventory Homes:	0			
<b>Survey and Startup Dates</b>				Avg Inventory Opt./Upg. Retail Value:				
Survey Date:	12/12/2012							
Sales Start Date:	12/10/2011							
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Cortile	2,833	4 / 2.5 / 1 / 3.0	\$287,900	\$278,192			\$335,778	8/2/2012
Ocotillo	3,039	4 / 2.5 / 1 / 3.0	\$297,900	\$288,192			\$323,890	8/3/2012
Lantana	3,362	4 / 2.5 / 2 / 3.0	\$303,900	\$294,192			\$348,720	6/29/2012
Agave	3,721	5 / 3.5 / 2 / 3.0	\$318,900	\$309,192			\$377,805	8/3/2012
<b>*Sweet Clover</b>	<b>4,303</b>	<b>4 / 2.5 / 2 / 3.0</b>	<b>\$338,900</b>	<b>\$329,192</b>			<b>\$398,129</b>	<b>7/19/2012</b>
Mariposa	4,640	5 / 3.5 / 2 / 3.0	\$353,900	\$344,192			\$414,866	10/26/2012
Arizona Poppy	5,019	6 / 4.5 / 2 / 3.0	\$363,900	\$354,192				
Incentives								
New Build Incentive:	\$9,708			3% closing cost credit				
60-Day Inventory Incentive:	No inventory at this time							
New Build Co-Brokerage Fee:	3%							
Inventory Home Co-Brokerage Fee:								
Lot Premiums								
Premium Lot Range:	\$0 - \$5,000							
Premium Lot Description:	View and oversized lots							
Recent Base Price History								
Survey Date:	12/12/2012	10/18/2012	8/20/2012	6/14/2012	4/9/2012	2/15/2012	12/20/2011	
Cortile	\$287,900	\$282,900	\$274,900	\$271,900	\$262,900	\$259,900	\$254,900	
Ocotillo	\$297,900	\$292,900	\$284,900	\$281,900	\$272,900	\$264,900	\$259,900	
Lantana	\$303,900	\$298,900	\$289,900	\$286,900	\$277,900	\$274,900	\$269,900	
Agave	\$318,900	\$313,900	\$304,900	\$301,900	\$292,900	\$289,900	\$284,900	
Sweet Clover	\$338,900	\$333,900	\$324,900	\$321,900	\$312,900	\$309,900	\$304,900	
Mariposa	\$353,900	\$348,900	\$339,900	\$336,900	\$327,900	\$324,900	\$319,900	
Arizona Poppy	\$363,900	\$358,900	\$349,900	\$346,900	\$337,900	\$334,900	\$329,900	
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012	Apr 2012	Feb 2012	Dec 2011	
New Build Incentive	\$9,708	\$9,558	\$9,297	\$9,207	\$8,937	\$8,826	\$8,676	
60 Day Incentive		\$11,508	\$9,297		\$8,937	\$8,826		
Recent Sales History								
Survey Date:	12/12/2012	10/18/2012	8/20/2012	6/14/2012	4/9/2012	2/15/2012		
Net Sales	6	5	8	8	6	13		
Monthly Transaction History								
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012	
Permits	3	2	4	4	6	8	4	
Closings	6	2	4	2	6	4	1	
Avg Closing Price	\$394,333	\$339,439	\$342,046	\$357,623	\$356,157	\$346,991	\$322,459	
Avg Closing Sq Ftg	4,625	3,566	3,158	3,566	3,759	2,353		
Avg Price per SF	\$85.26	\$95.19	\$108.31	\$100.29	\$94.75	\$147.47		

### General Project Notes / Comments

Sales personnel: Brandy Kotchka (602-885-4518) and Mike Collins (480-415-6895). Legacy Notes: Product widths are 50' to 65'. According to BREW September 16th 2011, Meritage purchased 58 lots from Royal Bank of Canada for \$3.724 million (\$64,206/Lot). Meritage purchased 4 additional lots from KD Development for \$246,000.

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:	Avalon at Travata			Submarket:	North Peoria			
MPC Name:	N/A			City:	Peoria			
Builder Name:	K. Hovnanian Homes			Zip Code:	85382			
Product Type:	Single-Family Homes			Model Home Address:	9123 W. Meadow Dr			
Total Units:	126			Project Major Cross-Streets:	Bell Road and 91st Ave			
Units Remaining:	122			GPS Latitude:	33.642612			
HOA Fee:	\$88			GPS Longitude:	-112.257485			
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:				Total Sales:	4			
Lot Width (feet):	36			Sales Rate Since Inception (monthly):	2.00			
Lot Depth (feet):	70			Sales Rate Current Year (monthly):				
Typical Lot Size (SF):	2,520			2012 Sales Rate:	2.00			
Product Width:	26			<b>Inventory Information</b>				
Site Purchase Price:	\$3,591,000			Total # of Inventory Homes:	6			
Site Purchase Date:	6/12/2012			Total # of 60-day Inventory Homes:	6			
Site Purchase Status:	Finished Lots			Avg Inventory Opt./Upg. Retail Value:	\$35,251			
Survey and Startup Dates								
Survey Date:	12/10/2012							
Sales Start Date:	10/5/2012							
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Anchor 2610	1,597	3 / 2.5 / 2 / 2.0	\$175,990	\$167,740	\$167,740	\$201,551		
Beacon 2615	1,825	3 / 2.5 / 2 / 2.0	\$182,990	\$174,740	\$174,740	\$215,878		
Compass 2620	1,898	3 / 2.5 / 2 / 2.0	\$185,990	\$177,740	\$177,740	\$215,151		
Marina 2625	2,212	4 / 2.5 / 2 / 2.0	\$195,990	\$187,740	\$187,740	\$227,989		
Incentives								
New Build Incentive:			\$8,250	\$5,000 option / upgrade credit + \$5,000 closing cost credit				
60-Day Inventory Incentive:			\$8,250	\$5,000 off price + \$5,000 closing cost credit				
New Build Co-Brokerage Fee:			3%					
Inventory Home Co-Brokerage Fee:			3%					
Lot Premiums								
Premium Lot Range:	\$1,000 - \$4,000							
Premium Lot Description:	Corner lots							
Recent Base Price History								
Survey Date:	12/10/2012	10/16/2012						
Anchor 2610	\$175,990	\$175,990						
Beacon 2615	\$182,990	\$182,990						
Compass 2620	\$185,990	\$185,990						
Marina 2625	\$195,990	\$195,990						
Incentive History								
Survey Date:	Dec 2012	Oct 2012						
New Build Incentive	\$8,250	\$8,250						
60 Day Incentive	\$8,250							
Recent Sales History								
Survey Date:	12/10/2012							
Net Sales	2							
Monthly Transaction History								
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012			
Permits	0	6	1	2				
Closings	0	0	0	0				
Avg Closing Price								
Avg Closing Sq Ftg								
Avg Price per SF								
General Project Notes / Comments								
October 2012: K. Hov Sold lots to a land banking entity (GSO LB1 LLC) and will draw the lots back according to an option agreement. GSO LB1 LLC purchased 117 lots for \$3,417,514 (\$29,210 per finished lot / \$811 per finished FF). Sales personnel: Shana Plauman (602-989-2522) and Glen Husband (602-881-7832), 623-236-9428. Legacy Notes: This community was partially built out by Montalbano Homes. According to public record, K. Hovnanian purchased these 126 finished lots for \$3.591 million (\$28,500 per finished lot / \$792 per finished FF).								

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:	Blackstone by Taylor Morrison			Submarket:	North Peoria			
MPC Name:	Vistancia			City:	Peoria			
Builder Name:	Taylor Morrison			Zip Code:	85383			
Product Type:	Single-Family Homes			Model Home Address:	30654 N. 120th Avenue			
Total Units:	22			Project Major Cross-Streets:	Happy Valley Parkway and Vistancia Boulevard			
Units Remaining:	8			GPS Latitude:	33.762986			
HOA Fee:	\$150			GPS Longitude:	-112.318545			
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:	\$900			Total Sales:	14			
Lot Width (feet):	100			Sales Rate Since Inception (monthly):	1.56			
Lot Depth (feet):	140			Sales Rate Current Year (monthly):				
Typical Lot Size (SF):	14,000			2012 Sales Rate:	1.56			
Product Width:	65			<b>Inventory Information</b>				
Site Purchase Price:				Total # of Inventory Homes:	0			
Site Purchase Date:				Total # of 60-day Inventory Homes:	0			
Site Purchase Status:				Avg Inventory Opt./Upg. Retail Value:				
Survey and Startup Dates								
Survey Date:	12/12/2012							
Sales Start Date:	3/3/2012							
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Tahoe Plan 6001	2,811	3 / 2.5 / 1 / 3.0	\$330,990	\$320,261			\$409,090	10/11/2012
Stowe Plan 6011	3,179	4 / 2.5 / 1 / 3.0	\$360,990	\$350,261			\$510,094	10/17/2012
<b>*Whistler Plan 6031</b>	<b>3,534</b>	<b>4 / 3.5 / 1 / 3.0</b>	<b>\$382,990</b>	<b>\$372,261</b>			<b>\$497,582</b>	<b>10/30/2012</b>
Telluride Plan 7001	3,814	5 / 3.5 / 1 / 4.0	\$407,990	\$397,261				
Incentives								
New Build Incentive:			\$10,729	3% closing cost credit + 20% off select options / upgrades (the options / upgrades discount is not considered an incentive with value herein)				
60-Day Inventory Incentive:				No inventory at this time				
New Build Co-Brokerage Fee:			3%					
Inventory Home Co-Brokerage Fee:								
Lot Premiums								
Premium Lot Range:			\$1,000 - \$15,000					
Premium Lot Description:			Oversized lots and lots backing to open space					
Recent Base Price History								
Survey Date:	12/12/2012	10/18/2012	8/24/2012	6/14/2012	4/9/2012			
Tahoe Plan 6001	\$330,990	\$330,990	\$330,990	\$330,990	\$324,990			
Stowe Plan 6011	\$360,990	\$360,990	\$360,990	\$360,990	\$354,990			
Whistler Plan 6031	\$382,990	\$382,990	\$382,990	\$382,990	\$376,990			
Telluride Plan 7001	\$407,990	\$407,990	\$407,990	\$407,990	\$401,990			
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012	Apr 2012			
New Build Incentive	\$10,729	\$10,729	\$10,729	\$10,000	\$10,000			
60 Day Incentive		\$10,729						
Recent Sales History								
Survey Date:	12/12/2012	10/18/2012	8/24/2012	6/14/2012				
Net Sales	3	0	2	4				
Monthly Transaction History								
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012	
Permits	2	2	0	0	2	4	4	
Closings	4	1	0	0	0	0	0	
Avg Closing Price	\$470,716	\$491,434						
Avg Closing Sq Ftg	3,670	3,533						
Avg Price per SF	\$128.26	\$139.10						
General Project Notes / Comments								
Buyers can purchase an optional 334 sq ft casita with any plan for \$36,110. The casita is a one bed / one bath plan. The sales office contact number is 623-255-3215. Legacy Notes: Product is either 60' wide or 70' wide. This is a partially built-out subdivision that was previously owned by Cachet Homes; it was foreclosed on and acquired by Vistancia South LLC, who then sold it to Taylor Morrison.								

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:	Cabrillo Point by Lennar			Submarket:	North Peoria			
MPC Name:	N/A			City:	Peoria			
Builder Name:	Lennar			Zip Code:	85382			
Product Type:	Single-Family Homes			Model Home Address:	Bell Road and 73rd Avenue			
Total Units:	29			Project Major Cross-Streets:	Bell Road and 73rd Avenue			
Units Remaining:	7			GPS Latitude:	33.6331			
HOA Fee:	\$81.69			GPS Longitude:	-112.2164			
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:				Total Sales:	22			
Lot Width (feet):	50			Sales Rate Since Inception (monthly):	2.75			
Lot Depth (feet):	100			Sales Rate Current Year (monthly):				
Typical Lot Size (SF):	5,000			2012 Sales Rate:	2.75			
Product Width:	35			<b>Inventory Information</b>				
Site Purchase Price:	\$1,131,000			Total # of Inventory Homes:	7			
Site Purchase Date:	12/20/2011			Total # of 60-day Inventory Homes:	7			
Site Purchase Status:				Avg Inventory Opt./Upg. Retail Value:	\$27,571			
Survey and Startup Dates								
Survey Date:	12/20/2012							
Sales Start Date:	4/20/2012							
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Coronado	1,397	3 / 2.0 / 1 / 2.0	\$190,990		\$184,846			
Bloomfield	1,759	3 / 2.0 / 2 / 2.0	\$182,990		\$176,846	\$206,990		
Freedom	2,247	4 / 3.5 / 2 / 2.0	\$202,990		\$196,846	\$230,990		
Cortes	2,567	5 / 3.0 / 2 / 2.0	\$215,990		\$209,846	\$239,900	\$247,190	10/29/2012
Columbus	2,903	3 / 3.0 / 2 / 2.0	\$230,990		\$224,846	\$260,990	\$255,190	10/1/2012
Incentives								
New Build Incentive:	No lots remain							
60-Day Inventory Incentive:	\$6,144			3% closing cost credit				
New Build Co-Brokerage Fee:								
Inventory Home Co-Brokerage Fee:	3%							
Lot Premiums								
Premium Lot Range:	\$0 - \$0							
Premium Lot Description:	No lot premiums							
Recent Base Price History								
Survey Date:	12/20/2012	10/29/2012	8/23/2012	6/27/2012				
Coronado	\$190,990	\$190,990		\$162,990				
Bloomfield	\$182,990	\$182,990	\$182,990					
Freedom	\$202,990	\$202,990	\$205,990	\$199,990				
Cortes	\$215,990	\$215,990	\$215,990	\$209,990				
Columbus	\$230,990	\$230,990	\$230,990	\$224,990				
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012				
New Build Incentive				\$5,985				
60 Day Incentive	\$6,144	\$7,035		\$5,985				
Recent Sales History								
Survey Date:	12/20/2012	10/29/2012	8/23/2012					
Net Sales	2	3	9					
Monthly Transaction History								
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012	
Permits	5	0	4	6	0	6		
Closings	2	4	0	0	0	0		
Avg Closing Price	\$251,190	\$195,090						
Avg Closing Sq Ftg	2,797	1,869						
Avg Price per SF	\$89.81	\$104.38						
General Project Notes / Comments								
<p>These homes are being sold by a 3rd party Realtor- Frank Russo Remax Team, 602-864-1200; as of 8/2012, sales were not onsite- By appt only.                      Legacy Notes: This community was partially built-out by Pulte Homes. According to public record Lennar purchased these finished lots from Pulte homes on 12/20/2011 for \$1.131 Million (\$39k per finished lot / \$780 per finished front foot).</p>								

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:	Caletas at Blackstone			Submarket:	North Peoria			
MPC Name:	Vistancia			City:	Peoria			
Builder Name:	Shea Homes			Zip Code:	85383			
Product Type:	Duplexes			Model Home Address:	12055 W Red Hawk Dr			
Total Units:	51			Project Major Cross-Streets:	Lone Mountain and Blackstone Dr			
Units Remaining:	31			GPS Latitude:	33.757356			
HOA Fee:	\$150			GPS Longitude:	-112.320526			
Sub-Association HOA Fee:	\$100			<b>Sales Information</b>				
CFD / Special Tax Assessments:				Total Sales:	20			
Lot Width (feet):	38			Sales Rate Since Inception (monthly):	1.82			
Lot Depth (feet):	125			Sales Rate Current Year (monthly):				
Typical Lot Size (SF):	4,750			2012 Sales Rate:	1.82			
Product Width:				<b>Inventory Information</b>				
Site Purchase Price:	\$2,000,000			Total # of Inventory Homes:	3			
Site Purchase Date:	3/22/2012			Total # of 60-day Inventory Homes:	3			
Site Purchase Status:				Avg Inventory Opt./Upg. Retail Value:	\$56,977			
Survey and Startup Dates								
Survey Date:	12/12/2012							
Sales Start Date:	1/28/2012							
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Villa I	1,920	2 / 2.0 / 1 / 2.0	\$207,990	\$196,490	\$197,573	\$256,045	\$246,474	8/24/2012
*Villa III	2,230	2 / 2.5 / 1 / 2.0	\$237,990	\$226,490	\$227,573		\$228,778	8/28/2012
Villa II	2,805	2 / 2.5 / 2 / 3.0	\$242,990	\$231,490	\$232,573	\$287,210	\$327,178	8/29/2012
Incentives								
New Build Incentive:			\$11,500	\$5,000 closing cost credit + \$10,000 option / upgrade credit				
60-Day Inventory Incentive:			\$10,417	\$5,000 to \$15,000 off price + \$5,000 closing cost credit				
New Build Co-Brokerage Fee:			3%					
Inventory Home Co-Brokerage Fee:			3%					
Lot Premiums								
Premium Lot Range:			\$2,500 - \$30,000					
Premium Lot Description:			Interior lots have premiums of \$2,500; golf course lot premiums are up to \$30,000					
Recent Base Price History								
Survey Date:	12/12/2012	10/18/2012	8/22/2012	6/14/2012	4/9/2012	2/15/2012		
Villa I	\$207,990	\$207,990	\$207,990	\$199,990	\$194,990	\$204,990		
Villa III	\$237,990	\$227,990	\$227,990	\$209,990	\$204,990	\$229,990		
Villa II	\$242,990	\$242,990	\$242,990	\$234,990	\$229,990	\$254,990		
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012	Apr 2012	Feb 2012		
New Build Incentive	\$11,500	\$3,250	\$6,500	\$7,200	\$6,625	\$6,625		
60 Day Incentive	\$10,417							
Recent Sales History								
Survey Date:	12/12/2012	10/18/2012	8/22/2012	6/14/2012	4/9/2012			
Net Sales	5	2	7	5	1			
Monthly Transaction History								
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012	
Permits	0	1	10	0	0	0	0	
Closings	0	1	3	1	0	0	0	
Avg Closing Price		\$296,078	\$267,477	\$264,803				
Avg Closing Sq Ftg		2,228	2,317	1,920				
Avg Price per SF		\$132.89	\$115.44	\$137.92				
General Project Notes / Comments								
Sales personnel: Kris Mietzner, 623-505-7740. Legacy Notes: The floorplans are being built as both duplex and triplex units. Shea homes is purchasing these 51 lots in a two-phase takedown. Shea's first takedown consisted of 26 lots (closed 10/31/2011) with a second takedown of 25 lots (closed 3/22/2012) which will be on or before April, 2012. Shea paid \$2,000,000 or \$39,215/Lot. This subdivision is a former Cachet Subdivision that the Royal Bank of Canada foreclosed upon.								

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:		Canyons Edge at Sonoran Mountain Ranch		Submarket:		North Peoria		
MPC Name:		Sonoran Mountain Ranch		City:		Peoria		
Builder Name:		Camelot Homes		Zip Code:		85383		
Product Type:		Single-Family Homes		Model Home Address:		67th Avenue and Jomax Road		
Total Units:		26		Project Major Cross-Streets:		67th Avenue and Jomax Road		
Units Remaining:		1		GPS Latitude:		33.742017		
HOA Fee:		\$46.50		GPS Longitude:		-112.204189		
				Sales Information				
Sub-Association HOA Fee:				Total Sales:		25		
CFD / Special Tax Assessments:				Sales Rate Since Inception (monthly):		1.00		
Lot Width (feet):		90		Sales Rate Current Year (monthly):				
Lot Depth (feet):		135		2012 Sales Rate:		1.33		
Typical Lot Size (SF):		12,150		2011 Sales Rate:		0.75		
Product Width:		55		Inventory Information				
Site Purchase Price:				Total # of Inventory Homes:		0		
Site Purchase Date:				Total # of 60-day Inventory Homes:		0		
Site Purchase Status:				Avg Inventory Opt./Upg. Retail Value:				
Survey and Startup Dates								
Survey Date:		12/12/2012						
Sales Start Date:		11/17/2010						
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Plan 55-18	2,882	4 / 2.5 / 1 / 2.0						
Plan 55-15	3,105	3 / 2.5 / 1 / 3.0					\$400,540	6/28/2012
Plan 55-15-2	3,105	3 / 2.5 / 2 / 3.0						
<b>*Plan 55-19</b>	<b>3,106</b>	<b>3 / 2.5 / 1 / 3.0</b>						
Plan 55-13	3,851	4 / 3.5 / 2 / 3.0					\$435,269	6/14/2012
Plan 55-14	3,982	5 / 4.5 / 2 / 3.0					\$468,695	5/22/2012
Plan 65-31	4,838	4 / 3.5 / 2 / 3.0					\$439,759	8/28/2012
Incentives								
New Build Incentive:				No new builds remain				
60-Day Inventory Incentive:				Builder has one lot it will build a home on, but it has yet to start the home, which will sold as a spec				
New Build Co-Brokerage Fee:								
Inventory Home Co-Brokerage Fee:								
Lot Premiums								
Premium Lot Range:								
Premium Lot Description:								
Recent Base Price History								
Survey Date:	12/12/2012	10/18/2012	8/23/2012	6/14/2012	4/9/2012	2/15/2012	12/19/2011	
Plan 55-18			\$344,900	\$344,900	\$329,900	\$329,900	\$329,900	
Plan 55-15			\$377,500	\$377,500	\$362,500	\$362,500	\$362,500	
Plan 55-15-2				\$421,400	\$406,000	\$406,000	\$406,000	
Plan 55-19			\$369,900	\$369,900	\$355,900	\$355,900	\$355,900	
Plan 55-13			\$399,900	\$399,900	\$385,900	\$385,900	\$385,900	
Plan 55-14			\$414,900	\$414,900	\$399,900	\$399,900	\$399,900	
Plan 65-31			\$466,900	\$466,900	\$456,900			
Plan 55-17								
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012	Apr 2012	Feb 2012	Dec 2011	
New Build Incentive			\$10,000	\$10,000	\$10,000	\$10,000	\$6,500	
60 Day Incentive			\$6,500	\$6,500	\$20,619	\$10,000		
Recent Sales History								
Survey Date:	12/12/2012	10/18/2012	8/23/2012	6/14/2012	4/9/2012	2/15/2012	12/19/2011	
Net Sales	3	1	2	7	2	1	1	

## Subdivision Report

Monthly Transaction History							
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012
Permits	2	0	0	4	5	1	1
Closings	0	2	1	0	2	1	0
Avg Closing Price		\$427,346	\$439,759		\$417,905	\$498,695	
Avg Closing Sq Ftg		3,498	3,592		3,536	4,234	
Avg Price per SF		\$122.17	\$122.43		\$118.19	\$117.78	

### General Project Notes / Comments

Builder has one home / lot left, but it will not sell the home until the home is closer to completion in May 2013. Builder is negotiating to purchase additional land / lots "down the street", but may or may not be successful in its bid to purchase. Sales office number is 480-735-4652. Legacy Notes: Builder was previously building on more lots, closed this subdivision in 2007 / 2008 (est) and reopened in November 2010. Herein, BREC has included only lots / sales since the builder reopened. Five lots in the subdivision, which are not included herein, appear to have been foreclosed upon, are owned by lender organization REDUS AZ.

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:	Citadel			Submarket:	North Peoria			
MPC Name:	Camino A Lago			City:	Peoria			
Builder Name:	D. R. Horton			Zip Code:	85382			
Product Type:	Single-Family Homes			Model Home Address:	9539 W. Harmony Lane			
Total Units:	72			Project Major Cross-Streets:	98th Avenue and Lake Pleasant Parkway			
Units Remaining:	25			GPS Latitude:	33.675853			
HOA Fee:	\$62			GPS Longitude:	-112.26635			
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:				Total Sales:	47			
Lot Width (feet):	70			Sales Rate Since Inception (monthly):	0.75			
Lot Depth (feet):	120			Sales Rate Current Year (monthly):				
Typical Lot Size (SF):	8,400			2012 Sales Rate:	2.42			
Product Width:	40			2011 Sales Rate:	0.00			
Site Purchase Price:				<b>Inventory Information</b>				
Site Purchase Date:				Total # of Inventory Homes:	5			
Site Purchase Status:				Total # of 60-day Inventory Homes:	2			
<b>Survey and Startup Dates</b>				Avg Inventory Opt./Upg. Retail Value:	\$33,637			
Survey Date:	12/12/2012							
Sales Start Date:	9/15/2007							
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Sorento Plan 4002	1,838	3 / 2.5 / 1 / 3.0	\$225,000	\$217,596	\$217,596			
Taylor's Plan 1734	2,095	3 / 2.0 / 1 / 2.0	\$241,500	\$234,096	\$234,096			
<b>*Partridge's Plan 1748</b>	<b>2,141</b>	<b>3 / 2.0 / 1 / 2.0</b>	<b>\$238,500</b>	<b>\$231,096</b>	<b>\$231,096</b>	<b>\$260,460</b>		
Prato Plan 4013	2,230	4 / 2.0 / 1 / 2.0	\$234,500	\$227,096	\$227,096	\$254,582		
Huxtable's Plan 1749	2,264	4 / 2.0 / 1 / 2.0	\$237,500	\$230,096	\$230,096			
Venice Plan 4008	2,784	3 / 2.5 / 2 / 2.0	\$253,500	\$246,096	\$246,096	\$298,913		
Cunningham's Plan 1759	2,968	4 / 2.5 / 2 / 3.0	\$271,000	\$263,596	\$263,596	\$317,507		
<b>*Torino Plan 4019</b>	<b>3,207</b>	<b>5 / 2.5 / 2 / 3.0</b>	<b>\$273,000</b>	<b>\$265,596</b>	<b>\$265,596</b>	<b>\$307,222</b>	<b>\$302,456</b>	<b>10/9/2012</b>
Incentives								
New Build Incentive:	\$7,404			3% closing cost credit				
60-Day Inventory Incentive:	\$7,404			3% closing cost credit				
New Build Co-Brokerage Fee:	3%							
Inventory Home Co-Brokerage Fee:	3%							
Lot Premiums								
Premium Lot Range:	\$0 - \$10,000							
Premium Lot Description:	Corner lots and oversized lots							
Recent Base Price History								
Survey Date:	12/12/2012	10/18/2012	8/22/2012	6/14/2012	10/12/2011	6/14/2010	4/20/2010	
Sorento Plan 4002	\$225,000	\$223,000	\$218,500	\$214,000				
Taylor's Plan 1734	\$241,500	\$239,500	\$233,500	\$229,000				
Partridge's Plan 1748	\$238,500	\$236,500	\$231,500	\$227,000				
Prato Plan 4013	\$234,500	\$232,500	\$227,500	\$233,000				
Huxtable's Plan 1749	\$237,500	\$235,500	\$230,500	\$226,000				
Venice Plan 4008	\$253,500	\$251,500	\$244,500	\$240,000				
Cunningham's Plan 1759	\$271,000	\$269,000	\$256,000	\$256,000				
Torino Plan 4019	\$273,000	\$271,000	\$265,500	\$261,000				
Residence 1 Plan 5531								
Residence 2 Plan 5532								
Residence 4 Plan 5541								
Residence 5 Plan 5542								
Residence 6 Plan 5543								
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012	Oct 2011	Jun 2010	Apr 2010	
New Build Incentive	\$7,404	\$8,644	\$8,470	\$8,335				
60 Day Incentive	\$7,404	\$8,644	\$7,170					
Recent Sales History								
Survey Date:	12/12/2012	10/18/2012	8/22/2012	6/14/2012	10/12/2011	6/14/2010	4/20/2010	
Net Sales	7	5	11	6	0	2	1	

## Subdivision Report

Monthly Transaction History							
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012
Permits	3	14	11	6	4	6	2
Closings	1	2	0	0	0	0	0
Avg Closing Price	\$302,456	\$275,016					
Avg Closing Sq Ftg	3,208	2,718					
Avg Price per SF	\$94.28	\$101.18					
General Project Notes / Comments							
Legacy Notes: Builder discontinued sales of this product from October 2011 through May 25, 2012. Sales contacts are Colleen Caruso and Jim Giannopoulos, 480-905-2231.							

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:		Cresleigh at Sonoran Mountain Ranch		Submarket:		North Peoria		
MPC Name:		Sonoran Mountain Ranch		City:		Peoria		
Builder Name:		Cresleigh Homes		Zip Code:		85383		
Product Type:		Single-Family Homes		Model Home Address:		7042 W. Miner Trail		
Total Units:		160		Project Major Cross-Streets:		67th Avenue and Jomax Road		
Units Remaining:		53		GPS Latitude:		33.749331		
HOA Fee:		\$45		GPS Longitude:		-112.212376		
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:				Total Sales:		107		
Lot Width (feet):		60		Sales Rate Since Inception (monthly):		1.22		
Lot Depth (feet):		120		Sales Rate Current Year (monthly):				
Typical Lot Size (SF):		7,200		2012 Sales Rate:		1.83		
Product Width:		47		2011 Sales Rate:		0.92		
Site Purchase Price:				<b>Inventory Information</b>				
Site Purchase Date:				Total # of Inventory Homes:		1		
Site Purchase Status:				Total # of 60-day Inventory Homes:		0		
				Avg Inventory Opt./Upg. Retail Value:		\$3,133		
Survey and Startup Dates								
Survey Date:		12/12/2012						
Sales Start Date:		8/15/2005						
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Solano Plan 750	1,819	3 / 2.0 / 1 / 2.0	\$268,500	\$268,500			\$225,000	2/22/2011
*Palacio Plan 752	2,167	4 / 3.0 / 1 / 3.0	\$279,500	\$279,500			\$265,414	10/5/2012
Madrid Plan 753	2,312	4 / 3.0 / 1 / 3.0	\$286,500	\$286,500		\$289,633	\$307,349	10/29/2012
Sevilla Plan 754	2,708	4 / 2.5 / 2 / 3.0	\$304,500	\$304,500			\$309,721	8/30/2012
Milano Plan 755	3,027	4 / 3.0 / 2 / 3.0	\$325,500	\$325,500				
Saragossa Plan 75	4,053	5 / 3.5 / 2 / 3.0	\$365,500	\$365,500			\$385,886	1/17/2012
Incentives								
New Build Incentive:			\$0	No incentive				
60-Day Inventory Incentive:			No inventory within 60 days of completion					
New Build Co-Brokerage Fee:			3%					
Inventory Home Co-Brokerage Fee:			3%					
Lot Premiums								
Premium Lot Range:			\$6,000 - \$10,000					
Premium Lot Description:			Corner lots and lots backing to wash					
Recent Base Price History								
Survey Date:	12/12/2012	10/19/2012	8/23/2012	6/14/2012	4/9/2012	2/15/2012	12/19/2011	
Solano Plan 750	\$268,500	\$260,500	\$252,500	\$252,500	\$240,500	\$239,500	\$239,500	
Palacio Plan 752	\$279,500	\$274,500	\$265,500	\$265,500	\$255,500	\$252,500	\$252,500	
Madrid Plan 753	\$286,500	\$280,500	\$274,500	\$274,500	\$262,500	\$260,500	\$260,500	
Sevilla Plan 754	\$304,500	\$298,500	\$295,500	\$295,500	\$287,500	\$285,500	\$285,500	
Milano Plan 755	\$325,500	\$318,500	\$315,500	\$315,500	\$305,500	\$302,500	\$302,500	
Saragossa Plan 756	\$365,500	\$358,500	\$355,500	\$355,500	\$347,500	\$345,500	\$345,500	
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012	Apr 2012	Feb 2012	Dec 2011	
New Build Incentive	\$0	\$0	\$0	\$0	\$0	\$0	\$5,620	
60 Day Incentive				\$0	\$0	\$0		
Recent Sales History								
Survey Date:	12/12/2012	10/19/2012	8/23/2012	6/14/2012	4/9/2012	2/15/2012	12/19/2011	
Net Sales	1	3	3	10	5	0	4	
Monthly Transaction History								
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012	
Permits	0	1	7	2	0	5	0	
Closings	2	1	2	4	0	0	0	
Avg Closing Price	\$286,382	\$272,653	\$293,040	\$273,341				
Avg Closing Sq Ftg	2,244	2,172	2,558	2,208				
Avg Price per SF	\$127.62	\$125.53	\$114.56	\$123.80				
General Project Notes / Comments								
Brian Burgmeier is the onsite sales associate, 623-537-2282.								

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:	Enclave at Rock Springs			Submarket:	North Peoria			
MPC Name:	Rock Springs			City:	Peoria			
Builder Name:	Courtland Homes			Zip Code:	85383			
Product Type:	Single-Family Homes			Model Home Address:	7642 W. Spur Drive			
Total Units:	66			Project Major Cross-Streets:	75th Avenue and Jomax Road			
Units Remaining:	5			GPS Latitude:	33.72657			
HOA Fee:	\$60			GPS Longitude:	-112.22256			
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:				Total Sales:	61			
Lot Width (feet):	50			Sales Rate Since Inception (monthly):	0.73			
Lot Depth (feet):	120			Sales Rate Current Year (monthly):				
Typical Lot Size (SF):	6,000			2012 Sales Rate:	1.25			
Product Width:	36			2011 Sales Rate:	0.42			
Site Purchase Price:				<b>Inventory Information</b>				
Site Purchase Date:				Total # of Inventory Homes:	0			
Site Purchase Status:				Total # of 60-day Inventory Homes:	0			
<b>Survey and Startup Dates</b>				Avg Inventory Opt./Upg. Retail Value:				
Survey Date:	12/12/2012							
Sales Start Date:	1/1/2006							
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Chaparral	1,463	4 / 2.0 / 1 / 2.0	\$217,990	\$207,290			\$199,362	10/3/2012
Tucson	3,212	4 / 2.5 / 2 / 2.0	\$247,990	\$237,290			\$228,774	8/28/2012
Incentives								
New Build Incentive:			\$10,700	Grand Opening "Bonus Features", some that appear to simply be standard features rather than incentives; incentives valued by BREC herein included: Granite Kitchen Countertops, Stainless Steel Microwave, and 2.5% towards rate buydown or closing costs + buyers receive choice of: Kitchen package with 42" staggered uppers and Stainless Steel Fridge or Interior package with wood blinds or option package which provides for \$2,500 option / upgrade credit				
60-Day Inventory Incentive:				No inventory at this time				
New Build Co-Brokerage Fee:			3%					
Inventory Home Co-Brokerage Fee:								
Lot Premiums								
Premium Lot Range:			\$0 - \$0					
Premium Lot Description:			No lot premiums on remaining					
Recent Base Price History								
Survey Date:	12/12/2012	10/18/2012	8/23/2012	6/14/2012	4/10/2012	2/15/2012	12/19/2011	
Chaparral	\$217,990	\$217,990	\$201,990	\$201,990	\$189,990	\$189,990	\$189,990	
Tucson	\$247,990	\$247,990	\$230,990	\$230,990	\$214,990	\$214,990	\$214,990	
Juniper						\$205,490	\$205,490	
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012	Apr 2012	Feb 2012	Dec 2011	
New Build Incentive	\$10,700	\$9,075	\$10,287	\$10,287	\$9,937	\$9,962	\$9,962	
60 Day Incentive			\$10,287	\$10,287				
Recent Sales History								
Survey Date:	12/12/2012	10/18/2012	8/23/2012	6/14/2012	4/10/2012	2/15/2012	12/19/2011	
Net Sales	1	5	1	3	3	2	3	
Monthly Transaction History								
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012	
Permits	3	1	1	1	0	2	0	
Closings	1	1	5	0	0	2	0	
Avg Closing Price	\$199,362	\$255,681	\$250,402			\$217,653		
Avg Closing Sq Ftg	2,055	3,207	2,606					
Avg Price per SF	\$97.01	\$79.73	\$96.09					
General Project Notes / Comments								
January 2011: Project re-opened. Previous notes: Builder reported it has sold spec homes and is now putting community "on hold" until beginning of 2011. Legacy Notes: Product is 35' to 37' wide. This community opened in January 2006. Builder closed in late 2007 because of poor market conditions. Builder reopened in March 2010, offering just speculative homes.								

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:	Encore at Sunset Ranch			Submarket:	North Peoria			
MPC Name:	Sunset Ranch			City:	Peoria			
Builder Name:	Woodside Homes			Zip Code:	85383			
Product Type:	Single-Family Homes			Model Home Address:	9977 W. Wizazrd Lane			
Total Units:	101			Project Major Cross-Streets:	Lake Pleasant Parkway and Pinnacle Peak Rd.			
Units Remaining:	11			GPS Latitude:	33.689904			
HOA Fee:	\$58			GPS Longitude:	-112.273489			
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:				Total Sales:	90			
Lot Width (feet):	70			Sales Rate Since Inception (monthly):	3.60			
Lot Depth (feet):	120			Sales Rate Current Year (monthly):				
Typical Lot Size (SF):	8,400			2012 Sales Rate:	3.42			
Product Width:	53			2011 Sales Rate:	4.08			
Site Purchase Price:				<b>Inventory Information</b>				
Site Purchase Date:				Total # of Inventory Homes:	1			
Site Purchase Status:				Total # of 60-day Inventory Homes:	0			
<b>Survey and Startup Dates</b>				Avg Inventory Opt./Upg. Retail Value:	\$43,010			
Survey Date:	12/14/2012							
Sales Start Date:	11/29/2010							
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Sunrise (Plan 5100)	1,852	3 / 2.0 / 1 / 3.0	\$243,990	\$239,990			\$209,354	7/29/2011
*Ashurst (Plan 5110)	2,127	3 / 2.0 / 1 / 3.0	\$257,990	\$253,990			\$238,703	6/15/2012
Patagonia (Plan 5120)	2,238	3 / 2.0 / 1 / 3.0	\$261,990	\$257,990			\$249,546	7/26/2012
Saguaro (Plan 5230)	2,416	3 / 2.5 / 1 / 3.0	\$271,990	\$267,990		\$315,000	\$312,422	6/28/2012
Roosevelt (Plan 5240)	2,547	4 / 2.0 / 1 / 3.0	\$276,990	\$272,990			\$262,266	6/29/2012
Powell Plan 5550	2,643	3 / 2.5 / 1 / 3.0	\$286,990	\$282,990				
Incentives								
New Build Incentive:			\$4,000	\$4,000 closing cost credit				
60-Day Inventory Incentive:	No inventory within 60 days of completion							
New Build Co-Brokerage Fee:	3%							
Inventory Home Co-Brokerage Fee:	3%							
Lot Premiums								
Premium Lot Range:	\$0 - \$5,000							
Premium Lot Description:	Corner lots							
Recent Base Price History								
Survey Date:	12/14/2012	10/18/2012	8/31/2012	6/14/2012	4/9/2012	2/15/2012	12/19/2011	
Sunrise (Plan 5100)	\$243,990	\$237,990	\$237,990	\$228,990	\$207,990	\$202,990	\$199,990	
Ashurst (Plan 5110)	\$257,990	\$251,990	\$251,990	\$242,990	\$221,990	\$216,990	\$212,990	
Patagonia (Plan 5120)	\$261,990	\$255,990	\$255,990	\$246,990	\$225,990	\$220,990	\$216,990	
Saguaro (Plan 5230)	\$271,990	\$265,990	\$265,990	\$256,990	\$235,990	\$230,990	\$226,990	
Roosevelt (Plan 5240)	\$276,990	\$266,990	\$266,990	\$261,990	\$240,990	\$235,990	\$231,990	
Powell Plan 5550	\$286,990	\$286,990						
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012	Apr 2012	Feb 2012	Dec 2011	
New Build Incentive	\$4,000	\$4,000	\$0	\$4,000	\$4,000	\$4,000	\$4,000	
60 Day Incentive								
Recent Sales History								
Survey Date:	12/14/2012	10/18/2012	8/31/2012	6/14/2012	4/9/2012	2/15/2012	12/19/2011	
Net Sales	6	4	7	13	3	8	14	
Monthly Transaction History								
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012	
Permits	2	1	4	8	2	1	2	
Closings	3	1	0	1	5	3	8	
Avg Closing Price	\$271,282	\$252,429		\$249,546	\$267,827	\$245,561	\$258,506	
Avg Closing Sq Ftg		1,852		2,233	2,411	2,278	2,142	
Avg Price per SF		\$136.30		\$111.75	\$111.09	\$107.80	\$120.68	

**General Project Notes / Comments**

Jan 2013: Builder has phased project. The 101 lots have been divided into phases as follows: Parcel A - 34 lots / Parcel B - 29 Lots / Parcel C - 16 Lots / Parcel D - 5 Lots / Parcel E - 3 Lots / Parcel F - 14 Lots. October 2012: Builder added additional fourteen lots to site. Builder is 6/2012: Builder is now limiting sales to four per month. Sales personnel: Fred Fowles and Brian Simmons, 623-474-3552. Legacy Notes: Product widths range from 51' to 55'. Woodside owns several additional residential parcels surrounding the subject property- plans additional projects in future; these sites are currently undeveloped, but sales staff reports that 87 total units are planned for this product line (only 63 are finished at this time, lot count increased in October 2011 when Phase 2 lots came online). A 286 square foot guest suite can be added to the Saguaro plan- price not disclosed. Parcel adjacent and west of this project shares the same name but is not formally part of Encore at Sunset Ranch.

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:		Estates at Blackstone at Vist		Submarket:		North Peoria		
MPC Name:		Vistancia		City:		Peoria		
Builder Name:		K. Hovnanian Homes		Zip Code:		85383		
Product Type:		Single-Family Homes		Model Home Address:		31336 N. 127th Drive		
Total Units:		67		Project Major Cross-Streets:		Happy Valley Parkway and Vistancia Boulevard		
Units Remaining:		22		GPS Latitude:		33.772995		
HOA Fee:		\$150		GPS Longitude:		-112.335502		
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:		\$1,250		Total Sales:		45		
Lot Width (feet):		90		Sales Rate Since Inception (monthly):		1.45		
Lot Depth (feet):		140		Sales Rate Current Year (monthly):				
Typical Lot Size (SF):		12,600		2012 Sales Rate:		1.83		
Product Width:		60		2011 Sales Rate:		1.50		
Site Purchase Price:				<b>Inventory Information</b>				
Site Purchase Date:				Total # of Inventory Homes:		2		
Site Purchase Status:				Total # of 60-day Inventory Homes:		1		
				Avg Inventory Opt./Upg. Retail Value:		\$53,032		
Survey and Startup Dates								
Survey Date:		12/12/2012						
Sales Start Date:		5/27/2010						
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
*Cobblestone	2,759	4 / 3.0 / 1 / 3.0	\$329,990	\$305,490	\$305,490	\$349,091	\$379,210	10/29/2012
Blackridge	2,809	3 / 2.5 / 1 / 3.0	\$330,990	\$306,490	\$306,490		\$349,388	7/25/2012
Hearthstone	2,936	4 / 2.5 / 1 / 3.0	\$339,990	\$315,490	\$315,490			
Rockwood	3,067	4 / 3.0 / 1 / 3.0	\$352,990	\$328,490	\$328,490			
*Rockledge	3,263	3 / 2.5 / 1 / 4.0	\$372,990	\$348,490	\$348,490		\$395,000	10/12/2012
Incentives								
New Build Incentive:			\$24,500	\$30,000 options / upgrades credit + \$5,000 closing cost credit				
60-Day Inventory Incentive:			\$24,500	\$30,000 off price + \$5,000 closing cost credit				
New Build Co-Brokerage Fee:			3%					
Inventory Home Co-Brokerage Fee:			3%					
Lot Premiums								
Premium Lot Range:			\$0 - \$15,000					
Premium Lot Description:			Lot size determining factor in lot premium					
Recent Base Price History								
Survey Date:	12/12/2012	10/18/2012	8/22/2012	6/14/2012	4/9/2012	2/15/2012	12/19/2011	
Cobblestone	\$329,990	\$326,990	\$322,990	\$316,990	\$313,990	\$310,990	\$309,990	
Blackridge	\$330,990	\$329,990	\$325,990	\$319,990	\$318,990	\$318,990	\$317,990	
Hearthstone	\$339,990	\$338,990	\$334,990	\$328,990	\$327,990	\$327,990	\$326,990	
Rockwood	\$352,990	\$351,990	\$347,990	\$341,990	\$340,990	\$340,990	\$339,990	
Rockledge	\$372,990	\$371,990	\$367,990	\$361,990	\$360,990	\$360,990	\$359,990	
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012	Apr 2012	Feb 2012	Dec 2011	
New Build Incentive	\$24,500	\$24,500	\$24,500	\$24,500	\$24,500	\$24,500	\$24,500	\$24,500
60 Day Incentive	\$24,500	\$24,500	\$31,000	\$24,500	\$24,500	\$24,500	\$24,500	\$24,500
Recent Sales History								
Survey Date:	12/12/2012	10/18/2012	8/22/2012	6/14/2012	4/9/2012	2/15/2012	12/19/2011	
Net Sales	0	4	6	7	5	0	6	
Monthly Transaction History								
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012	
Permits	2	1	2	3	3	5	0	
Closings	4	1	0	1	3	1	2	
Avg Closing Price	\$393,789	\$380,401		\$349,388	\$357,640	\$354,747	\$348,732	
Avg Closing Sq Ftg	3,038	2,787		2,850	2,787			
Avg Price per SF	\$129.62	\$136.49		\$122.59	\$128.32			
General Project Notes / Comments								
Onsite sales personnel: Linda Yeatts, 602-989-3938, and Scot Daine, 602-509-4458, or the office number is 928-252-2904. Legacy Notes: CFD Estimated.								

Project Information				Location Information				
Subdivision / Project Name:	Ironwood Ridge Expedition			Submarket:	North Peoria			
MPC Name:	Vistancia			City:	Peoria			
Builder Name:	Taylor Morrison			Zip Code:	85383			
Product Type:	Single-Family Homes			Model Home Address:	31686 N 131st Dr			
Total Units:	74			Project Major Cross-Streets:	Lone Mountain Pkwy and Vistancia Blvd			
Units Remaining:	66			GPS Latitude:	33.770489			
HOA Fee:	\$86			GPS Longitude:	-112.342779			
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:	\$500			Total Sales:	8			
Lot Width (feet):	60			Sales Rate Since Inception (monthly):	2.67			
Lot Depth (feet):	120			Sales Rate Current Year (monthly):				
Typical Lot Size (SF):	7,200			2012 Sales Rate:	2.67			
Product Width:	48			<b>Inventory Information</b>				
Site Purchase Price:	\$2,772,000			Total # of Inventory Homes:	1			
Site Purchase Date:	3/30/2012			Total # of 60-day Inventory Homes:	1			
Site Purchase Status:	Record for 42 of the lots, partially improved upon			Avg Inventory Opt./Upg. Retail Value:	\$36,591			
Survey and Startup Dates								
Survey Date:	12/17/2012							
Sales Start Date:	9/29/2012							
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Carlsbad Plan 4513	1,779	3 / 2.0 / 1 / 3.0	\$224,990	\$215,982	\$215,982			
Albany Plan 4547	2,198	4 / 3.0 / 1 / 3.0	\$239,990	\$230,982	\$230,982			
Hillary Plan 4591	2,298	3 / 2.5 / 1 / 3.0	\$244,990	\$235,982	\$235,982	\$281,581		
Adelaide Plan 5079	2,478	4 / 3.0 / 1 / 3.0	\$249,990	\$240,982	\$240,982			
Lowell Plan 4510	2,745	3 / 2.5 / 2 / 3.0	\$261,990	\$252,982	\$252,982			
Revere Plan 4510	3,188	4 / 3.5 / 2 / 3.0	\$288,990	\$279,982	\$279,982			
Kingston Plan 4530	3,659	5 / 3.5 / 2 / 3.0	\$302,990	\$293,982	\$293,982			
Powell Plan 5092	3,958	5 / 3.5 / 2 / 3.0	\$312,990	\$303,982	\$303,982			
Incentives								
New Build Incentive:			\$9,008	3% closing cost credit + 1 Year HOA fees prepaid by builder				
60-Day Inventory Incentive:			\$9,008	3% closing cost credit + 1 Year HOA fees prepaid by builder				
New Build Co-Brokerage Fee:			3%					
Inventory Home Co-Brokerage Fee:			3%					
Lot Premiums								
Premium Lot Range:	\$1,000 - \$7,000							
Premium Lot Description:	Views							
Recent Base Price History								
Survey Date:	12/17/2012	10/18/2012						
Carlsbad Plan 4513	\$224,990	\$224,990						
Albany Plan 4547	\$239,990	\$239,990						
Hillary Plan 4591	\$244,990	\$244,990						
Adelaide Plan 5079	\$249,990	\$249,990						
Lowell Plan 4510	\$261,990	\$261,990						
Revere Plan 4510	\$288,990	\$288,990						
Kingston Plan 4530	\$302,990	\$302,990						
Powell Plan 5092	\$312,990	\$312,990						
Incentive History								
Survey Date:	Dec 2012	Oct 2012						
New Build Incentive	\$9,008	\$7,976						
60 Day Incentive	\$9,008							
Recent Sales History								
Survey Date:	12/17/2012							
Net Sales	3							

## Subdivision Report

Monthly Transaction History							
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012			
Permits	1	4	1				
Closings	0	0	0				
Avg Closing Price							
Avg Closing Sq Ftg							
Avg Price per SF							
General Project Notes / Comments							
Legacy Notes: Product widths are 45' and 50' (see plan number). Sales personnel are Jeff Nasternak and Melinda Childress, 623-255-3392. According to public record, TM closed on 42 of these lots, partially developed lots for \$2.772 million (\$66k per lot / \$1,100 per FF). CFD is annual, estimated by BREC.							

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:		Melton Ranch by K. Hov		Submarket:		North Peoria		
MPC Name:		N/A		City:		Peoria		
Builder Name:		K. Hovnanian Homes		Zip Code:		85383		
Product Type:		Single-Family Homes		Model Home Address:				
Total Units:		8		Project Major Cross-Streets:		Jomax Road and 75th Avenue		
Units Remaining:		6		GPS Latitude:		33.7051		
HOA Fee:		\$126		GPS Longitude:		-112.2699		
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:				Total Sales:		2		
Lot Width (feet):		145		Sales Rate Since Inception (monthly):		0.29		
Lot Depth (feet):		240		Sales Rate Current Year (monthly):				
Typical Lot Size (SF):		34,800		2012 Sales Rate:		0.29		
Product Width:		70		<b>Inventory Information</b>				
Site Purchase Price:				Total # of Inventory Homes:		0		
Site Purchase Date:				Total # of 60-day Inventory Homes:		0		
Site Purchase Status:				Avg Inventory Opt./Upg. Retail Value:				
Survey and Startup Dates								
Survey Date:		12/12/2012						
Sales Start Date:		5/25/2012						
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Bluestone	3,478	4 / 4.0 / 1 / 3.0	\$459,990	\$451,740				
Northstone	3,935	3 / 4.5 / 1 / 3.0	\$489,990	\$481,740				
*Sunridge	4,024	4 / 4.5 / 1 / 3.0	\$464,990	\$456,740				
Incentives								
New Build Incentive:			\$8,250	\$5,000 option / upgrade credit + \$5,000 closing cost credit				
60-Day Inventory Incentive:				No inventory at this time				
New Build Co-Brokerage Fee:			3%					
Inventory Home Co-Brokerage Fee:								
Lot Premiums								
Premium Lot Range:			\$25,000 - \$40,000					
Premium Lot Description:			View lots and oversized lots					
Recent Base Price History								
Survey Date:	12/12/2012	10/18/2012	8/23/2012	6/15/2012				
Bluestone	\$459,990	\$429,990	\$429,990	\$409,990				
Northstone	\$489,990	\$459,990	\$459,990	\$431,990				
Sunridge	\$464,990	\$434,990	\$434,990	\$438,990				
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012				
New Build Incentive	\$8,250	\$8,250	\$8,250	\$8,250				
60 Day Incentive								
Recent Sales History								
Survey Date:	12/12/2012	10/18/2012	8/23/2012					
Net Sales	1	0	1					
Monthly Transaction History								
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012	
Permits	1	0	0	0	0	0	0	0
Closings	0	0	0	0	0	0	0	0
Avg Closing Price								
Avg Closing Sq Ftg								
Avg Price per SF								
General Project Notes / Comments								
Legacy Notes: These lots are located within a custom home community. The builder is marketing the lots from Colina del Sur, another K. Hovnanian community.								

**Subdivision Report**

Project Information				Location Information				
Subdivision / Project Name:	Meritage at Cibola Vista			Submarket:	North Peoria			
MPC Name:	Cibola Vista			City:	Peoria			
Builder Name:	Meritage Homes			Zip Code:	85383			
Product Type:	Single-Family Homes			Model Home Address:	9288 W. Buckhorn Trail			
Total Units:	73			Project Major Cross-Streets:	Lake Pleasant Road and Jomax Road			
Units Remaining:	6			GPS Latitude:	33.73145			
HOA Fee:	\$70			GPS Longitude:	-112.25719			
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:				Total Sales:	67			
Lot Width (feet):	70			Sales Rate Since Inception (monthly):	2.39			
Lot Depth (feet):	120			Sales Rate Current Year (monthly):				
Typical Lot Size (SF):	8,400			2012 Sales Rate:	1.50			
Product Width:	55			2011 Sales Rate:	2.08			
Site Purchase Price:				<b>Inventory Information</b>				
Site Purchase Date:				Total # of Inventory Homes:	4			
Site Purchase Status:				Total # of 60-day Inventory Homes:	3			
<b>Survey and Startup Dates</b>				Avg Inventory Opt./Upg. Retail Value: \$58,029				
Survey Date:	12/12/2012							
Sales Start Date:	8/7/2010							
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Cassia	2,258	3 / 2.0 / 1 / 2.0	\$248,900		\$237,390	\$275,660	\$268,000	4/6/2012
Sage	2,580	4 / 2.0 / 1 / 3.0	\$261,900		\$250,390	\$320,339	\$285,322	8/31/2012
Marigold	2,744	4 / 2.5 / 2 / 3.0	\$266,900		\$255,390		\$285,000	2/24/2012
*Ocotillo	3,039	4 / 2.5 / 1 / 3.0	\$281,900		\$270,390		\$327,887	10/23/2012
Primrose	3,174	4 / 2.5 / 2 / 3.0	\$281,900		\$270,390		\$348,899	3/8/2012
Lantana	3,362	4 / 2.5 / 2 / 3.0	\$286,900		\$275,390	\$354,959	\$285,398	9/26/2011
*Avage	3,721	5 / 3.5 / 2 / 3.0	\$298,900		\$287,390		\$336,626	10/1/2012
Incentives								
New Build Incentive:	No lots remain							
60-Day Inventory Incentive:	\$11,510		\$5,000 off price + 3% closing cost credit					
New Build Co-Brokerage Fee:								
Inventory Home Co-Brokerage Fee:	3%							
Lot Premiums								
Premium Lot Range:	\$0 - \$2,000							
Premium Lot Description:	Corner and view lots							
Recent Base Price History								
Survey Date:	12/12/2012	10/18/2012	8/22/2012	6/14/2012	4/9/2012	2/15/2012	12/19/2011	
Cassia	\$248,900	\$248,900	\$245,900	\$242,900	\$249,900	\$246,900	\$246,900	
Sage	\$261,900	\$261,900	\$258,900	\$255,900	\$262,900	\$259,900	\$259,900	
Marigold	\$266,900	\$266,900	\$263,900	\$260,900	\$267,900	\$264,900	\$264,900	
Ocotillo	\$281,900	\$281,900	\$278,900	\$275,900	\$282,900	\$274,900	\$274,900	
Primrose	\$281,900	\$281,900	\$278,900	\$275,900	\$282,900	\$279,900	\$279,900	
Lantana	\$286,900	\$286,900	\$283,900	\$280,900	\$287,900	\$284,900	\$284,900	
Avage	\$298,900	\$298,900	\$295,900	\$292,900	\$299,900	\$296,900	\$296,900	
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012	Apr 2012	Feb 2012	Dec 2011	
New Build Incentive		\$11,510	\$8,170	\$11,330	\$11,540	\$11,428	\$11,428	
60 Day Incentive	\$11,510	\$13,460	\$13,370	\$11,330	\$11,540		\$14,747	
Recent Sales History								
Survey Date:	12/12/2012	10/18/2012	8/22/2012	6/14/2012	4/9/2012	2/15/2012	12/19/2011	
Net Sales	-2	6	3	7	-1	5	2	
Monthly Transaction History								
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012	
Permits	6	0	1	0	3	5	2	
Closings	3	0	1	1	4	0	1	
Avg Closing Price	\$335,102		\$285,322	\$343,841	\$316,219		\$268,000	
Avg Closing Sq Ftg	3,381		2,580	3,721	2,980		2,258	
Avg Price per SF	\$99.11		\$110.59	\$92.41	\$106.11		\$118.69	

### General Project Notes / Comments

Inventory homes and two models are all that remains to be sold. 6/12: Previous base pricing included solar panels as standards. Current pricing does not include solar panels. Buyers can purchase solar panels installed on home for an additional \$10K. Onsite sales personnel are Bill Snyder, 623-218-6530. Legacy Notes: 51 of these lots were purchased from APEXCapital. The remainder were purchased from Raintree.

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:	Mountain Gate	Submarket:	North Peoria	MPC Name:	Vistancia	City:	Peoria	
Builder Name:	Rosewood Homes	Zip Code:	85383	Product Type:	Single-Family Homes	Model Home Address:	31305 N. 137th Avenue	
Total Units:	62	Project Major Cross-Streets:	Happy Valley Parkway and Vistancia Boulevard	Units Remaining:	3	GPS Latitude:	33.767533	
HOA Fee:	\$82	GPS Longitude:	-112.355367	Sub-Association HOA Fee:		<b>Sales Information</b>		
CFD / Special Tax Assessments:	\$536	Total Sales:	59	Lot Width (feet):	48	Sales Rate Since Inception (monthly):	0.97	
Lot Depth (feet):	120	Sales Rate Current Year (monthly):		Typical Lot Size (SF):	5,760	2012 Sales Rate:	1.25	
Product Width:	40	2011 Sales Rate:	0.75	Site Purchase Price:		<b>Inventory Information</b>		
Site Purchase Date:		Total # of Inventory Homes:	3	Site Purchase Status:		Total # of 60-day Inventory Homes:	3	
<b>Survey and Startup Dates</b>				<b>Current Plans and Prices</b>				
Survey Date:	12/14/2012	Avg Inventory Opt./Upg. Retail Value:		\$39,143				
Sales Start Date:	11/5/2007							
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Residence One	1,876	3 / 2.0 / 1 / 2.0					\$233,823	9/29/2010
<b>*Residence Four</b>	<b>2,091</b>	<b>4 / 2.0 / 1 / 2.0</b>				<b>\$249,940</b>	<b>\$240,331</b>	<b>6/28/2012</b>
Residence Two	2,799	3 / 2.5 / 2 / 3.0					\$308,880	10/24/2012
Residence Three	3,080	4 / 3.5 / 2 / 3.0				\$327,134	\$298,040	5/23/2012
Incentives								
New Build Incentive:				No new build lots remain				
60-Day Inventory Incentive:			\$15,400	\$11,000 to \$31,422 off price + \$3,500 closing cost credit				
New Build Co-Brokerage Fee:								
Inventory Home Co-Brokerage Fee:			3%					
Lot Premiums								
Premium Lot Range:			\$0 - \$7,500					
Premium Lot Description:								
Recent Base Price History								
Survey Date:	12/14/2012	10/18/2012	8/20/2012	6/14/2012	4/9/2012	2/15/2012	12/19/2011	
Residence One								
Residence Four		\$223,990	\$223,990	\$223,990	\$214,990	\$214,990	\$214,990	\$214,990
Residence Two			\$260,990	\$260,990	\$251,990	\$251,990	\$251,990	\$251,990
Residence Three			\$275,990	\$275,990	\$266,990	\$266,990	\$266,990	\$266,990
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012	Apr 2012	Feb 2012	Dec 2011	
New Build Incentive		\$3,500	\$4,475	\$14,728	\$14,728	\$14,728	\$14,728	\$14,728
60 Day Incentive	\$15,400	\$3,500	\$12,258	\$21,974	\$18,869	\$18,869	\$17,264	
Recent Sales History								
Survey Date:	12/14/2012	10/18/2012	8/20/2012	6/14/2012	4/9/2012	2/15/2012	12/19/2011	
Net Sales	1	3	0	8	0	3	4	
Monthly Transaction History								
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012	
Permits	0	0	0	1	1	4	2	
Closings	1	2	0	0	2	5	1	
Avg Closing Price	\$308,880	\$260,296			\$241,240	\$269,773	\$235,304	
Avg Closing Sq Ftg	2,900	2,114			2,104	1,722	2,055	
Avg Price per SF	\$106.51	\$123.13			\$114.66	\$156.66	\$114.50	
General Project Notes / Comments								
Sales personnel: Jackie McArdle, 623-487-7900. Legacy Notes: CFD estimated- actual based on selling price of home. Fee is annual.								

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:		Regency at Cibola Vista		Submarket:		North Peoria		
MPC Name:		Cibola Vista		City:		Peoria		
Builder Name:		K. Hovnanian Homes		Zip Code:		85383		
Product Type:		Single-Family Homes		Model Home Address:				
Total Units:		5		Project Major Cross-Streets:		Lake Pleasant Road and Jomax Road		
Units Remaining:		1		GPS Latitude:		33.725482		
HOA Fee:		\$71		GPS Longitude:		-112.260043		
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:				Total Sales:		4		
Lot Width (feet):		217		Sales Rate Since Inception (monthly):		0.80		
Lot Depth (feet):		200		Sales Rate Current Year (monthly):				
Typical Lot Size (SF):		43,400		2012 Sales Rate:		0.80		
Product Width:		70		<b>Inventory Information</b>				
Site Purchase Price:				Total # of Inventory Homes:		0		
Site Purchase Date:				Total # of 60-day Inventory Homes:		0		
Site Purchase Status:				Avg Inventory Opt./Upg. Retail Value:				
Survey and Startup Dates								
Survey Date:		12/12/2012						
Sales Start Date:		7/9/2012						
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Bluestone	2,941	4 / 3.0 / 1 / 3.0	\$436,990	\$428,740				
Northstone	3,398	3 / 3.0 / 1 / 3.0	\$466,990	\$458,740				
Stonecrest	3,596	4 / 3.0 / 1 / 3.0	\$436,990	\$428,740				
<b>*Sunridge</b>	<b>4,024</b>	<b>4 / 4.0 / 1 / 3.0</b>	<b>\$451,990</b>	<b>\$443,740</b>			<b>\$568,425</b>	<b>7/12/2012</b>
Incentives								
New Build Incentive:			\$8,250	\$5,000 option / upgrade credit + \$5,000 closing cost credit				
60-Day Inventory Incentive:				No inventory at this time				
New Build Co-Brokerage Fee:			3%					
Inventory Home Co-Brokerage Fee:								
Lot Premiums								
Premium Lot Range:			\$30,000 - \$30,000					
Premium Lot Description:			Lot size					
Recent Base Price History								
Survey Date:	12/12/2012	10/18/2012	8/23/2012					
Bluestone	\$436,990	\$432,990	\$429,990					
Northstone	\$466,990	\$462,990	\$459,990					
Stonecrest	\$436,990	\$432,990	\$429,990					
Sunridge	\$451,990	\$447,990	\$444,990					
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012					
New Build Incentive	\$8,250	\$8,250	\$8,250					
60 Day Incentive								
Recent Sales History								
Survey Date:	12/12/2012	10/18/2012						
Net Sales	2	0						
Monthly Transaction History								
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012			
Permits	1	1	0	0				
Closings	0	0	0	0				
Avg Closing Price								
Avg Closing Sq Ftg								
Avg Price per SF								
General Project Notes / Comments								
Sales are from Colina Del Sur.								

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:	Regency at Colina Del Sur			Submarket:	North Peoria			
MPC Name:	N/A			City:	Peoria			
Builder Name:	K. Hovnanian Homes			Zip Code:	85383			
Product Type:	Single-Family Homes			Model Home Address:	7193 W. Rowel Road			
Total Units:	21			Project Major Cross-Streets:	Jomax and 67th Avenue			
Units Remaining:	2			GPS Latitude:	33.724462			
HOA Fee:	\$145			GPS Longitude:	-112.214148			
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:				Total Sales:	19			
Lot Width (feet):	90			Sales Rate Since Inception (monthly):	1.36			
Lot Depth (feet):	130			Sales Rate Current Year (monthly):				
Typical Lot Size (SF):	11,700			2012 Sales Rate:	1.33			
Product Width:	70			2011 Sales Rate:	1.50			
Site Purchase Price:				<b>Inventory Information</b>				
Site Purchase Date:				Total # of Inventory Homes:	1			
Site Purchase Status:				Total # of 60-day Inventory Homes:	1			
<b>Survey and Startup Dates</b>				Avg Inventory Opt./Upg. Retail Value: \$91,846				
Survey Date:	12/12/2012							
Sales Start Date:	10/9/2011							
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Blackridge	2,809	3 / 2.5 / 1 / 3.0	\$361,990	\$350,490	\$342,040			
Bluestone	2,941	4 / 3.0 / 1 / 3.0	\$371,990	\$360,490	\$352,040	\$449,836		
Eastridge	3,205	4 / 3.0 / 1 / 3.0	\$386,990	\$375,490	\$367,040			
Northstone	3,398	3 / 3.0 / 1 / 3.0	\$396,990	\$385,490	\$377,040		\$438,000	4/26/2012
Stonecrest	3,596	4 / 3.0 / 1 / 3.0	\$406,990	\$395,490	\$387,040		\$410,644	10/31/2012
*Sunridge	4,024	4 / 4.0 / 1 / 3.0	\$426,990	\$415,490	\$407,040		\$511,731	10/25/2012
Incentives								
New Build Incentive:	\$11,500		\$10,000 option / upgrade credit + \$5,000 closing cost credit					
60-Day Inventory Incentive:	\$19,950		\$23,000 off price + \$5,000 closing cost credit					
New Build Co-Brokerage Fee:	3%							
Inventory Home Co-Brokerage Fee:	3%							
Lot Premiums								
Premium Lot Range:	\$9,000 - \$10,000							
Premium Lot Description:	View lots and oversized lots							
Recent Base Price History								
Survey Date:	12/12/2012	10/18/2012	8/23/2012	6/14/2012	4/6/2012	2/15/2012	12/15/2011	
Blackridge	\$361,990	\$356,990	\$351,990	\$347,990	\$340,990	\$335,990	\$334,990	
Bluestone	\$371,990	\$366,990	\$361,990	\$357,990	\$350,990	\$350,990	\$349,990	
Eastridge	\$386,990	\$381,990	\$376,990	\$372,990	\$365,990	\$365,990	\$364,990	
Northstone	\$396,990	\$391,990	\$386,990	\$382,990	\$375,990	\$375,990	\$374,990	
Stonecrest	\$406,990	\$401,990	\$396,990	\$392,990	\$385,990	\$385,990	\$384,990	
Sunridge	\$426,990	\$421,990	\$416,990	\$412,990	\$405,990	\$405,990	\$404,990	
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012	Apr 2012	Feb 2012	Dec 2011	
New Build Incentive	\$11,500	\$11,500	\$11,500	\$11,500	\$8,250	\$8,250	\$8,250	
60 Day Incentive	\$19,950		\$24,187	\$24,187	\$8,250	\$8,250		
Recent Sales History								
Survey Date:	12/12/2012	10/18/2012	8/23/2012	6/14/2012	4/6/2012	2/15/2012	12/15/2011	
Net Sales	1	2	3	5	2	3	3	
Monthly Transaction History								
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012	
Permits	2	1	1	1	4	2	0	
Closings	3	3	1	1	2	1	2	
Avg Closing Price	\$458,321	\$467,746	\$504,329	\$568,425	\$455,952	\$467,648	\$436,512	
Avg Closing Sq Ftg	3,812	3,798	3,854	4,042	3,699	4,042	3,398	
Avg Price per SF	\$120.23	\$123.16	\$130.86	\$140.63	\$123.26	\$115.70	\$128.46	
General Project Notes / Comments								
Sales office contact: 623-234-4727. Sales personnel: Cristy McElroy (602-920-5695), Deborah Trullinger (602-803-5603), and Susan Starbuck (602-828-6063). Legacy Notes: This community is gated.								

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:		Reserve at Rock Springs		Submarket:		North Peoria		
MPC Name:		Rock Springs		City:		Peoria		
Builder Name:		Courtland Homes		Zip Code:		85383		
Product Type:		Single-Family Homes		Model Home Address:				
Total Units:		21		Project Major Cross-Streets:		Jomax Rd & 83rd Ave		
Units Remaining:		6		GPS Latitude:		33.726942		
HOA Fee:		\$60		GPS Longitude:		-112.228202		
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:				Total Sales:		15		
Lot Width (feet):		67		Sales Rate Since Inception (monthly):		1.15		
Lot Depth (feet):		120		Sales Rate Current Year (monthly):				
Typical Lot Size (SF):		8,040		2012 Sales Rate:		1.25		
Product Width:		45		2011 Sales Rate:		0.00		
Site Purchase Price:				<b>Inventory Information</b>				
Site Purchase Date:				Total # of Inventory Homes:		1		
Site Purchase Status:				Total # of 60-day Inventory Homes:		1		
				Avg Inventory Opt./Upg. Retail Value:		\$33,262		
Survey and Startup Dates								
Survey Date:		12/12/2012						
Sales Start Date:		11/4/2011						
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Sedona Plan 2128	2,128	3 / 2.5 / 1 / 1.0	\$272,490	\$260,390	\$260,390		\$267,261	10/12/2012
Monaco Plan 2472	2,472	3 / 2.5 / 2 / 1.0	\$277,990	\$265,890	\$265,890			
Tucson Plan 3213	3,212	4 / 2.5 / 2 / 2.0	\$316,490	\$304,390	\$304,390	\$335,252	\$324,975	10/18/2012
Incentives								
New Build Incentive:		\$12,100		Granite in kitchen, Stainless steel microwave, and 2.5% closing cost credit + choice of cabinet and fridge package or blinds or upgraded bathtub / shower in master				
60-Day Inventory Incentive:		\$12,100		Granite in kitchen, Stainless steel microwave, and 2.5% closing cost credit + choice of cabinet and fridge package or blinds or upgraded bathtub / shower in master				
New Build Co-Brokerage Fee:		3%						
Inventory Home Co-Brokerage Fee:		3%						
Lot Premiums								
Premium Lot Range:		\$0 - \$0						
Premium Lot Description:		No lot premiums on remaining						
Recent Base Price History								
Survey Date:	12/12/2012	10/18/2012	8/23/2012	6/14/2012	4/10/2012	2/15/2012	11/4/2011	
Sedona Plan 2128	\$272,490	\$272,490	\$257,490	\$257,490	\$249,990	\$249,990	\$249,990	
Monaco Plan 2472	\$277,990	\$277,990	\$261,490	\$261,490	\$251,990	\$251,990	\$251,990	
Tucson Plan 3213	\$316,490	\$316,490	\$299,990	\$299,990	\$292,490	\$289,990	\$289,990	
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012	Apr 2012	Feb 2012	Nov 2011	
New Build Incentive	\$12,100	\$12,100	\$11,700	\$11,700	\$11,496	\$11,475	\$11,475	
60 Day Incentive	\$12,100	\$12,100	\$11,700	\$11,700	\$11,496			
Recent Sales History								
Survey Date:	12/12/2012	10/18/2012	8/23/2012	6/14/2012	4/10/2012	2/15/2012		
Net Sales	1	1	2	3	7	1		
Monthly Transaction History								
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012	
Permits	2	0	1	1	2	2	7	
Closings	2	3	0	1	1	0	0	
Avg Closing Price	\$296,118	\$301,016		\$317,945	\$333,405			
Avg Closing Sq Ftg	2,663	2,716		3,207	3,207			
Avg Price per SF	\$111.20	\$110.83		\$99.14	\$103.96			
General Project Notes / Comments								
The three plans currently offered come standard with a "Supergarage" which ranges in size from 16'6" in width to 19'6" in width x 39'0" to 45'x4" in length. Legacy Notes: This community was previously active, although the last survey completed by BREC was in 2007. Previously, a limited number of sales may have occurred. The lots and sales herein are the remainder of lots upon reopening in late 2011 and sales since reopening.								

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:	Sunrise at Camino			Submarket:	North Peoria			
MPC Name:	Camino A Lago			City:	Peoria			
Builder Name:	D. R. Horton			Zip Code:	85382			
Product Type:	Single-Family Homes			Model Home Address:	9867 W. Harmony Lane			
Total Units:	154			Project Major Cross-Streets:	98th Avenue and Lake Pleasant Parkway			
Units Remaining:	1			GPS Latitude:	33.677797			
HOA Fee:	\$65			GPS Longitude:	-112.265824			
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:				Total Sales:	153			
Lot Width (feet):	55			Sales Rate Since Inception (monthly):	2.43			
Lot Depth (feet):	115			Sales Rate Current Year (monthly):				
Typical Lot Size (SF):	6,325			2012 Sales Rate:	5.08			
Product Width:	40			2011 Sales Rate:	2.50			
Site Purchase Price:				<b>Inventory Information</b>				
Site Purchase Date:				Total # of Inventory Homes:	1			
Site Purchase Status:				Total # of 60-day Inventory Homes:	1			
<b>Survey and Startup Dates</b>				Avg Inventory Opt./Upg. Retail Value:	\$24,451			
Survey Date:	12/12/2012							
Sales Start Date:	9/15/2007							
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Sorento Plan 4002	1,838	3 / 2.0 / 1 / 2.0					\$207,286	7/26/2012
Taylor's Plan 1734	2,095	3 / 2.0 / 1 / 2.0					\$234,088	7/26/2012
Partridge's Plan 1748	2,141	4 / 2.0 / 1 / 3.0					\$233,869	7/27/2012
Ranier	2,228	3 / 2.5 / 1 / 2.0				\$239,991		
<b>*Prato Plan 4013</b>	<b>2,230</b>	<b>3 / 2.5 / 1 / 2.0</b>					<b>\$259,915</b>	<b>8/6/2012</b>
<b>*Huxtable's Plan 1749</b>	<b>2,264</b>	<b>4 / 2.0 / 1 / 2.0</b>					<b>\$236,985</b>	<b>8/31/2012</b>
Flagstaff Plan 1047	2,503	3 / 2.5 / 2 / 2.0					\$252,708	8/30/2012
Venice Plan 4008	2,784	3 / 2.5 / 2 / 2.0					\$251,073	8/29/2012
Cunningham's Plan 1759	2,968	4 / 2.5 / 2 / 3.0					\$286,388	6/8/2012
Torino Plan 4019	3,207	5 / 3.0 / 2 / 3.0					\$260,928	6/19/2012
Incentives								
New Build Incentive:				No inventory remains				
60-Day Inventory Incentive:				\$7,200	3% closing cost credit			
New Build Co-Brokerage Fee:								
Inventory Home Co-Brokerage Fee:				3%				
Lot Premiums								
Premium Lot Range:				\$0 - \$0				
Premium Lot Description:								
Recent Base Price History								
Survey Date:	12/12/2012	10/18/2012	8/22/2012	6/14/2012	4/10/2012	2/16/2012	12/19/2011	
Sorento Plan 4002				\$201,400	\$201,400	\$198,900	\$197,900	
Taylor's Plan 1734				\$215,400	\$215,400	\$212,900	\$211,900	
Partridge's Plan 1748				\$215,400	\$215,400	\$212,750	\$211,750	
Ranier								
Prato Plan 4013				\$209,400	\$209,400	\$206,900	\$205,900	
Huxtable's Plan 1749				\$214,400	\$214,400	\$211,900	\$210,900	
Flagstaff Plan 1047				\$228,400	\$228,400	\$225,900	\$224,900	
Venice Plan 4008				\$224,400	\$224,400	\$221,900	\$220,900	
Cunningham's Plan 1759				\$244,400	\$244,400	\$241,900	\$240,900	
Torino Plan 4019				\$247,300	\$247,300	\$244,800	\$243,800	
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012	Apr 2012	Feb 2012	Dec 2011	
New Build Incentive				\$6,585	\$6,668	\$6,593	\$4,376	
60 Day Incentive	\$7,200	\$8,700	\$7,586	\$6,585	\$6,897	\$6,999	\$13,088	
Recent Sales History								
Survey Date:	12/12/2012	10/18/2012	8/22/2012	6/14/2012	4/10/2012	2/16/2012	12/19/2011	
Net Sales	2	-1	25	14	12	9	4	

## Subdivision Report

Monthly Transaction History							
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012
Permits	0	0	1	4	1	0	1
Closings	2	1	5	9	5	2	3
Avg Closing Price	\$243,483	\$232,980	\$251,622	\$229,586	\$260,928	\$247,659	\$241,275
Avg Closing Sq Ftg	2,365	2,092	2,450	2,124	2,568	2,650	2,513
Avg Price per SF	\$102.95	\$111.37	\$102.70	\$108.09	\$101.61	\$93.46	\$96.01

**General Project Notes / Comments**

Opt / Upg from previous survey. The remaining inventory home is an old model / discontinued floorplan. Feb 2012: Total lots increased by 26 lots due to D.R. Horton combining the former Roosevelt series with the Sunrise Series. Legacy Notes: The total number of sales in 2009 and total number of lots in this product line increased significantly as a result of Enclave lots being combined with Sunrise lots. The Enclave product line is being discontinued (some floorplans herein are Enclave- specs only being offered). Sales are out of Alamo, by Jan Citko and Colleen Caruso, 480-365-1002.

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:	T.W. Lewis at Blackstone			Submarket:	North Peoria			
MPC Name:	Vistancia			City:	Peoria			
Builder Name:	TW Lewis by David Weekley Homes			Zip Code:	85383			
Product Type:	Single-Family Homes			Model Home Address:	12784 W. Oyer Lane			
Total Units:	102			Project Major Cross-Streets:	Happy Valley Parkway and Vistancia Boulevard			
Units Remaining:	57			GPS Latitude:	33.768234			
HOA Fee:	\$150			GPS Longitude:	-112.337415			
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:	\$1,250			Total Sales:	45			
Lot Width (feet):	80			Sales Rate Since Inception (monthly):	0.56			
Lot Depth (feet):	135			Sales Rate Current Year (monthly):				
Typical Lot Size (SF):	10,800			2012 Sales Rate:	1.00			
Product Width:	65			2011 Sales Rate:	0.50			
Site Purchase Price:				<b>Inventory Information</b>				
Site Purchase Date:				Total # of Inventory Homes:	4			
Site Purchase Status:				Total # of 60-day Inventory Homes:	2			
<b>Survey and Startup Dates</b>				Avg Inventory Opt./Upg. Retail Value: \$70,663				
Survey Date:	12/12/2012							
Sales Start Date:	4/1/2006							
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Plan 210 Ladera	2,757	4 / 2.5 / 1 / 4.0	\$349,900	\$342,833	\$339,067			
Plan 220 Encina	2,868	4 / 2.5 / 1 / 4.0	\$362,900	\$355,833	\$352,067		\$371,900	8/13/2012
Plan 1140 Tenita	3,119	3 / 2.5 / 1 / 3.0						
Plan 230 Del Mar	3,216	4 / 3.0 / 1 / 4.0	\$379,900	\$372,833	\$369,067	\$449,900		
Plan 310 Aria	3,323	4 / 2.5 / 1 / 3.0	\$386,900	\$379,833	\$376,067		\$398,110	5/10/2012
*Plan 320 Catalina	3,555	4 / 3.5 / 1 / 3.0	\$404,900	\$397,833	\$394,067	\$454,186	\$454,900	8/7/2012
Plan 330 Larraga	3,601	4 / 3.5 / 1 / 3.0	\$405,900	\$398,833	\$395,067			
Incentives								
New Build Incentive:			\$7,067	\$5,000 option / upgrade credit + 1% closing cost credit				
60-Day Inventory Incentive:			\$10,833	\$10,000 to \$11,589 off price + 1% closing cost credit				
New Build Co-Brokerage Fee:			3%					
Inventory Home Co-Brokerage Fee:			3%					
Lot Premiums								
Premium Lot Range:	\$0 - \$70,000							
Premium Lot Description:	View lots, lots backing to washes, and oversized lots							
Recent Base Price History								
Survey Date:	12/12/2012	10/18/2012	8/22/2012	6/14/2012	4/13/2012	2/15/2012	12/19/2011	
Plan 210 Ladera	\$349,900	\$349,900	\$339,900	\$339,900	\$362,900	\$362,900	\$362,900	
Plan 220 Encina	\$362,900	\$362,900	\$347,900	\$344,900	\$364,900	\$364,900	\$364,900	
Plan 1140 Tenita		\$389,900	\$377,900					
Plan 230 Del Mar	\$379,900	\$379,900	\$369,900	\$366,900	\$374,900	\$374,900	\$374,900	
Plan 310 Aria	\$386,900	\$386,900	\$370,900	\$370,900	\$379,900	\$379,900	\$379,900	
Plan 320 Catalina	\$404,900	\$404,900	\$389,900	\$386,900	\$389,900	\$389,900	\$389,900	
Plan 330 Larraga	\$405,900	\$405,900	\$392,900	\$389,900	\$399,900	\$399,900	\$399,900	
Plan 1130 Milena								
Plan 3120 Leonardo								
Plan 2130 Cassina								
Plan 2160 Triana								
Plan 3180 Cordoba								
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012	Apr 2012	Feb 2012	Dec 2011	
New Build Incentive	\$7,067	\$7,079	\$8,250	\$18,000	\$18,000	\$18,000	\$30,000	
60 Day Incentive	\$10,833	\$17,862	\$13,641	\$25,968	\$23,126	\$21,029	\$24,851	
Recent Sales History								
Survey Date:	12/12/2012	10/18/2012	8/22/2012	6/14/2012	4/13/2012	2/15/2012	12/19/2011	
Net Sales	0	2	4	5	1	0	4	

## Subdivision Report

Monthly Transaction History							
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012
Permits	3	2	3	5	0	0	0
Closings	0	0	2	1	1	1	0
Avg Closing Price			\$413,400	\$422,153	\$390,000	\$398,110	
Avg Closing Sq Ftg			3,233	3,555	3,555	3,355	
Avg Price per SF			\$127.87	\$118.75	\$109.70	\$118.66	

**General Project Notes / Comments**

On site sales personnel: Lisa Glynn and Michelle Lilly, 480-768-4994. September 2011: Builder announced it is closing doors- selling remaining lots to David Weekley Homes. Early 2011: Project previously reported as closed with some lots being sold and some lots being mothballed. Builder is now open, reporting it never closed. Legacy Notes: CFD estimated- actual based on selling price of home. Fee is annual.

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:		Tierra Del Rio 50'		Submarket:		North Peoria		
MPC Name:		Tierra Del Rio		City:		Peoria		
Builder Name:		Centex Homes		Zip Code:		85383		
Product Type:		Single-Family Homes		Model Home Address:		25787 N 107th Drive		
Total Units:		240		Project Major Cross-Streets:		Happy Valley Parkway and 107th Avenue		
Units Remaining:		40		GPS Latitude:		33.71526		
HOA Fee:		\$53		GPS Longitude:		-112.28965		
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:				Total Sales:		200		
Lot Width (feet):		50		Sales Rate Since Inception (monthly):		6.90		
Lot Depth (feet):		115		Sales Rate Current Year (monthly):				
Typical Lot Size (SF):		5,750		2012 Sales Rate:		10.92		
Product Width:		40		2011 Sales Rate:		4.83		
Site Purchase Price:				<b>Inventory Information</b>				
Site Purchase Date:				Total # of Inventory Homes:		3		
Site Purchase Status:				Total # of 60-day Inventory Homes:		0		
				Avg Inventory Opt./Upg. Retail Value:		\$23,760		
Survey and Startup Dates								
Survey Date:		12/12/2012						
Sales Start Date:		7/10/2010						
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Ocotillo Plan 3561	1,446	3 / 2.0 / 1 / 2.0	\$180,990	\$174,878			\$171,406	8/29/2012
Senita 4017-9	1,756	3 / 2.0 / 1 / 2.0	\$192,990	\$186,878		\$225,000		
Ironwood 3517-2	1,780	3 / 2.0 / 1 / 2.0	\$191,990	\$185,878		\$225,000	\$179,864	8/30/2012
<b>*Creosote 4018-1</b>	<b>1,897</b>	<b>3 / 2.0 / 1 / 2.5</b>	<b>\$197,990</b>	<b>\$191,878</b>			<b>\$191,595</b>	<b>6/5/2012</b>
Manzanita 4019-4	1,978	3 / 2.0 / 1 / 2.5	\$201,990	\$195,878			\$209,968	8/31/2012
Acacia Plan 3565	2,391	4 / 2.5 / 2 / 2.0	\$209,990	\$203,878			\$215,914	8/23/2012
Sumac 4025-9	2,504	3 / 2.5 / 2 / 3.0	\$222,990	\$216,878		\$253,000		
Agave 4026-2	2,693	4 / 3.5 / 2 / 2.5	\$230,990	\$224,878			\$244,045	7/24/2012
Incentives								
New Build Incentive:			\$6,112	3% closing cost credit				
60-Day Inventory Incentive:				No inventory within 60 days of completion				
New Build Co-Brokerage Fee:			3%					
Inventory Home Co-Brokerage Fee:			3%					
Lot Premiums								
Premium Lot Range:			\$0 - \$13,500					
Premium Lot Description:			Adjacent to park, views					
Recent Base Price History								
Survey Date:	12/12/2012	10/18/2012	8/20/2012	6/14/2012	4/10/2012	2/15/2012	12/19/2011	
Ocotillo Plan 3561	\$180,990	\$178,990	\$174,990	\$163,990	\$149,990	\$148,990	\$144,990	
Senita 4017-9	\$192,990	\$190,990	\$186,990	\$175,990	\$166,990			
Ironwood 3517-2	\$191,990	\$189,990	\$183,990	\$172,990	\$160,990	\$158,990	\$156,990	
Creosote 4018-1	\$197,990	\$195,990	\$191,990	\$180,990	\$171,990	\$169,990	\$167,990	
Manzanita 4019-4	\$201,990	\$199,990	\$195,990	\$184,990	\$175,990	\$173,990	\$171,990	
Acacia Plan 3565	\$209,990	\$207,990	\$203,990	\$192,990	\$183,990	\$181,990	\$179,990	
Sumac 4025-9	\$222,990	\$220,990	\$216,990	\$205,990	\$196,990			
Agave 4026-2	\$230,990	\$228,990	\$224,990	\$213,990	\$202,990	\$202,990	\$200,990	
Avage Plan 3564								
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012	Apr 2012	Feb 2012	Dec 2011	
New Build Incentive	\$6,112	\$6,052	\$5,925	\$8,845	\$8,125	\$8,435	\$8,365	
60 Day Incentive					\$9,527	\$9,735	\$9,665	
Recent Sales History								
Survey Date:	12/12/2012	10/18/2012	8/20/2012	6/14/2012	4/10/2012	2/15/2012	12/19/2011	
Net Sales	10	10	13	46	43	9	15	

## Subdivision Report

Monthly Transaction History							
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012
Permits	10	6	13	17	18	19	2
Closings	15	8	9	5	7	9	3
Avg Closing Price	\$195,894	\$207,893	\$195,072	\$193,269	\$202,463	\$200,919	\$199,458
Avg Closing Sq Ftg	1,961	1,952	1,833	1,892	2,142	2,087	1,955
Avg Price per SF	\$99.89	\$106.50	\$106.42	\$102.15	\$94.52	\$96.27	\$102.02

### General Project Notes / Comments

Dec 2012: Builder increased lot count by nine- will build this product line on nine lots previously designated Canyon Series lots; the lots are too small to accommodate Canyon product. August 2012: Builder is now limiting sales to eight homes per month. 6/14/12: On the most recent lot releases, Pulte took bids and awarded contracts to the highest and best bidders. The sales office number is 623-362-4033. The builder is now marketing the project as a Pulte community rather than a Centex community. For continuity, BREC has maintained the original builder brand. Plans have not changed. The Agave plan herein appears to now be marketed as the Yucca plan. The plan number is the same, as are the floorplan details (square footage, bed, bath, garage, etc). BREC has maintained the plan name as Agave for historical pricing continuation purposes. Nearly all product is 40' wide, but three plans are 35' wide.

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:		Tierra Del Rio Canyon Series		Submarket:		North Peoria		
MPC Name:		Tierra Del Rio		City:		Peoria		
Builder Name:		Pulte Homes		Zip Code:		85353		
Product Type:		Single-Family Homes		Model Home Address:		25660 N 106th Drive		
Total Units:		65		Project Major Cross-Streets:		Happy Valley Parkway and 107th Avenue		
Units Remaining:		20		GPS Latitude:		33.715687		
HOA Fee:		\$53		GPS Longitude:		-112.283078		
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:				Total Sales:		45		
Lot Width (feet):		60		Sales Rate Since Inception (monthly):		6.43		
Lot Depth (feet):		120		Sales Rate Current Year (monthly):				
Typical Lot Size (SF):		7,200		2012 Sales Rate:		6.43		
Product Width:		50		<b>Inventory Information</b>				
Site Purchase Price:				Total # of Inventory Homes:		0		
Site Purchase Date:				Total # of 60-day Inventory Homes:		0		
Site Purchase Status:				Avg Inventory Opt./Upg. Retail Value:				
Survey and Startup Dates								
Survey Date:		12/12/2012						
Sales Start Date:		5/4/2012						
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Arroyo 5019-1	1,933	3 / 2.0 / 1 / 2.0	\$221,990	\$214,535				
Cliff 5021-1	2,174	3 / 2.0 / 1 / 2.0	\$231,990	\$224,535				
Plateau 5023-1	2,403	4 / 2.0 / 1 / 2.0	\$240,990	\$233,535				
<b>*Butte 5025-1</b>	<b>2,569</b>	<b>4 / 2.0 / 1 / 2.0</b>	<b>\$252,990</b>	<b>\$245,535</b>				
Mesa 5029-1	2,921	4 / 2.0 / 2 / 3.0	\$266,990	\$259,535				
<b>*Ravine 5030-2</b>	<b>3,062</b>	<b>4 / 3.0 / 2 / 4.0</b>	<b>\$275,990</b>	<b>\$268,535</b>				
Incentives								
New Build Incentive:			\$7,455	3% closing cost credit				
60-Day Inventory Incentive:				No inventory at this time				
New Build Co-Brokerage Fee:			3%					
Inventory Home Co-Brokerage Fee:								
Lot Premiums								
Premium Lot Range:			\$5,000 - \$12,000					
Premium Lot Description:			Oversized lots and lots backing to open space					
Recent Base Price History								
Survey Date:	12/12/2012	10/18/2012	8/20/2012	6/14/2012				
Arroyo 5019-1	\$221,990	\$218,990	\$210,990	\$199,990				
Cliff 5021-1	\$231,990	\$228,990	\$220,990	\$209,990				
Plateau 5023-1	\$240,990	\$237,990	\$229,990	\$218,990				
Butte 5025-1	\$252,990	\$249,990	\$241,990	\$230,990				
Mesa 5029-1	\$266,990	\$263,990	\$255,990	\$244,990				
Ravine 5030-2	\$275,990	\$272,990	\$264,990	\$253,990				
Incentive History								
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012				
New Build Incentive	\$7,455	\$7,365	\$7,125	\$10,045				
60 Day Incentive		\$11,265	\$7,125					
Recent Sales History								
Survey Date:	12/12/2012	10/18/2012	8/20/2012					
Net Sales	6	7	22					
Monthly Transaction History								
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012	
Permits	9	7	3	1	2	2	2	2
Closings	2	0	0	0	0	0	0	0
Avg Closing Price	\$258,813							
Avg Closing Sq Ftg	2,402							
Avg Price per SF	\$107.75							

### General Project Notes / Comments

Dec 2012: Lot count decreased by nine. These lots were previously designated Canyon Series lots but the lots cannot accommodate Canyon product.  
August 2012: Builder is limiting sales to six homes per month. Sales associates include: Janet Allred (602-348-5298) and Isabel Wescott (602-460-9405). The sales office number is 623-572-2780.

## Subdivision Report

Project Information				Location Information				
Subdivision / Project Name:	Trilogy at Vistancia			Submarket:	North Peoria			
MPC Name:	Trilogy at Vistancia			City:	Peoria			
Builder Name:	Shea Homes			Zip Code:	85383			
Product Type:	Single-Family Homes			Model Home Address:	27980 N. Trilogy Boulevard East #101			
Total Units:	2,308			Project Major Cross-Streets:	Happy Valley Parkway and Vistancia Boulevard			
Units Remaining:	118			GPS Latitude:	33.73652			
HOA Fee:	\$177			GPS Longitude:	-112.33453			
Sub-Association HOA Fee:				<b>Sales Information</b>				
CFD / Special Tax Assessments:	\$900			Total Sales:	2,190			
Lot Width (feet):	60			Sales Rate Since Inception (monthly):	20.86			
Lot Depth (feet):	115			Sales Rate Current Year (monthly):				
Typical Lot Size (SF):	6,900			2012 Sales Rate:	11.67			
Product Width:	50			2011 Sales Rate:	22.04			
Site Purchase Price:				<b>Inventory Information</b>				
Site Purchase Date:				Total # of Inventory Homes:	7			
Site Purchase Status:				Total # of 60-day Inventory Homes:	3			
<b>Survey and Startup Dates</b>				Avg Inventory Opt./Upg. Retail Value:	\$87,727			
Survey Date:	12/13/2012							
Sales Start Date:	3/15/2004							
Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Malta 3593 (Natura, VS)	1,218	2 / 2.0 / 1 / 2.0						
St. Tropez 4091 (Natura)	1,437	2 / 2.0 / 1 / 2.0						
<b>*St. Tropez 4038 (Natura)</b>	<b>1,437</b>	<b>2 / 2.0 / 1 / 2.0</b>	<b>\$240,200</b>	<b>\$232,307</b>	<b>\$208,142</b>		<b>\$312,551</b>	<b>4/16/2012</b>
4051 Monaco (Natura)	1,583	2 / 2.0 / 1 / 2.0	\$247,500	\$239,607	\$215,442		\$257,313	7/31/2012
4055 Sidus (Natura)	1,774	2 / 2.0 / 1 / 2.0	\$251,200	\$243,307	\$219,142		\$261,497	8/24/2012
5000 Libertas (Veritas)	1,867	2 / 2.0 / 1 / 2.0	\$291,500	\$283,607	\$259,442		\$250,484	8/13/2012
4079 Nice (Natura)	1,928	2 / 2.0 / 1 / 2.0	\$276,600	\$268,707	\$244,542	\$345,848	\$504,388	8/31/2012
4097 Nice (Natura)	1,928	2 / 2.0 / 1 / 2.0					\$268,187	6/13/2012
5000 Libertas with Casita (Veritas)	2,103	3 / 3.0 / 1 / 2.0	\$338,500	\$330,607	\$306,442		\$383,105	5/29/2012
5010 Suscito (Veritas)	2,115	2 / 2.0 / 1 / 2.0	\$317,200	\$309,307	\$285,142	\$341,001	\$373,058	5/13/2011
<b>*4541 Positano (Veritas)</b>	<b>2,121</b>	<b>2 / 2.5 / 1 / 2.0</b>	<b>\$321,200</b>	<b>\$313,307</b>	<b>\$289,142</b>		<b>\$353,098</b>	<b>2/7/2012</b>
4591 Positano (Veritas)	2,121	2 / 2.5 / 1 / 2.0					\$314,996	8/10/2012
5520 Cadiz (Vita)	2,164	2 / 2.0 / 1 / 3.0	\$347,400	\$339,507	\$315,342	\$376,943	\$411,421	8/31/2012
5591 Cadiz (Vita, VS)	2,164	2 / 2.0 / 1 / 3.0					\$462,000	4/20/2012
4595 Genova (Veritas, VS)	2,180	2 / 2.5 / 1 / 2.3					\$308,452	7/6/2012
<b>*4560 Genova (Veritas)</b>	<b>2,180</b>	<b>2 / 2.5 / 1 / 2.3</b>	<b>\$322,300</b>	<b>\$314,407</b>	<b>\$290,242</b>	<b>\$355,308</b>	<b>\$358,051</b>	<b>12/30/2011</b>
5021 Civitas (Veritas)	2,193	2 / 2.0 / 1 / 2.0	\$325,700	\$317,807	\$293,642		\$313,405	3/4/2011
4096 Sorrento (Natura)	2,259	2 / 2.5 / 1 / 2.0	\$304,900	\$297,007	\$272,842			
5595 Tarragona (Vita, VS)	2,382	2 / 2.5 / 1 / 3.0					\$448,357	6/28/2012
<b>*5545 Tarragona (Vita)</b>	<b>2,382</b>	<b>2 / 2.5 / 1 / 3.0</b>	<b>\$363,500</b>	<b>\$355,607</b>	<b>\$331,442</b>	<b>\$427,145</b>	<b>\$380,336</b>	<b>7/30/2012</b>
<b>*5550 Cartegena (Vita)</b>	<b>2,554</b>	<b>2 / 2.5 / 1 / 3.0</b>	<b>\$375,100</b>	<b>\$367,207</b>	<b>\$343,042</b>		<b>\$547,076</b>	<b>8/31/2012</b>
6060 Stellare (Vita)	3,096	3 / 3.5 / 1 / 3.0	\$432,800	\$424,907	\$400,742		\$330,000	5/11/2012
Incentives								
New Build Incentive:			\$7,893	\$10,000 to \$15,000 option / upgrade credit				
60-Day Inventory Incentive:			\$32,058	\$12,000 to \$149,921 off price				
New Build Co-Brokerage Fee:			3%					
Inventory Home Co-Brokerage Fee:			4%					
Lot Premiums								
Premium Lot Range:	\$20,000 - \$110,000							
Premium Lot Description:	Golf views, view lots, lots backing to open space							

**Subdivision Report**

Recent Base Price History							
Survey Date:	12/13/2012	10/19/2012	8/23/2012	6/15/2012	4/10/2012	2/16/2012	12/20/2011
Malta 3593 (Natura, VS)			\$179,900	\$177,900	\$174,900	\$173,900	
St. Tropez 4091 (Natura,			\$200,900	\$197,900	\$194,900	\$193,900	
St. Tropez 4038 (Natura)	\$240,200	\$226,200	\$220,900	\$217,900	\$212,900	\$211,900	\$198,900
4051 Monaco (Natura)	\$247,500	\$233,200	\$226,900	\$223,900	\$218,900	\$217,900	\$204,900
4055 Sidus (Natura)	\$251,200	\$242,300	\$234,900	\$231,900	\$226,900	\$225,900	\$212,900
5000 Libertas (Veritas)	\$291,500	\$274,600	\$266,900	\$262,900	\$255,900	\$253,900	\$239,900
4097 Nice (Natura, VS)			\$230,900	\$227,900	\$224,900	\$223,900	
4079 Nice (Natura)	\$276,600	\$260,500	\$252,900	\$249,900	\$244,900	\$243,900	\$230,900
5000 Libertas with Casita (Veritas)	\$338,500	\$318,900	\$307,900	\$303,900	\$296,900	\$294,900	\$280,900
5010 Suscito (Veritas)	\$317,200	\$298,900	\$289,900	\$285,900	\$278,900	\$276,900	\$262,900
4591 Positano (Verita, VSs)		\$271,600	\$263,900	\$259,900	\$254,900	\$252,900	
4541 Positano (Veritas)	\$321,200	\$302,900	\$294,900	\$289,900	\$282,900	\$280,900	\$266,400
5591 Cadiz (Vita, VS)		\$296,900	\$287,900	\$282,900	\$276,900	\$273,900	
5520 Cadiz (Vita)	\$347,400	\$327,100	\$317,900	\$312,900	\$304,900	\$301,900	\$286,900
4560 Genova (Veritas)	\$322,300	\$303,900	\$294,900	\$290,900	\$283,900	\$281,900	\$267,900
4595 Genova (Veritas, VS)		\$272,600	\$264,900	\$260,900	\$255,900	\$253,900	
5021 Civitas (Veritas)	\$325,700	\$306,900	\$297,900	\$293,900	\$286,900	\$284,900	\$270,900
4096 Sorrento (Natura)	\$304,900						
5595 Tarragona (Vita, VS)		\$306,900	\$297,900	\$292,900	\$286,900	\$283,900	
5545 Tarragona (Vita)	\$363,500	\$342,300	\$331,900	\$326,900	\$318,900	\$315,900	\$300,900
5550 Cartagena (Vita)	\$375,100	\$353,400	\$342,900	\$337,900	\$329,900	\$326,900	\$311,900
6060 Stellare (Vita)	\$432,800	\$407,900	\$395,900	\$390,900	\$382,900	\$379,900	\$364,900
5006 Serenitas with Casita (Veritas)							
6020 Aurora (Vita)							
Incentive History							
Survey Date:	Dec 2012	Oct 2012	Aug 2012	Jun 2012	Apr 2012	Feb 2012	Dec 2011
New Build Incentive	\$7,893	\$10,075	\$13,000	\$13,000	\$13,325	\$13,325	\$16,825
60 Day Incentive	\$32,058	\$39,200	\$31,187	\$14,690	\$17,997	\$17,333	\$17,530
Recent Sales History							
Survey Date:	12/13/2012	10/19/2012	8/23/2012	6/15/2012	4/10/2012	2/16/2012	12/20/2011
Net Sales	18	12	15	36	39	20	11
Monthly Transaction History							
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012
Permits	12	7	3	26	24	23	9
Closings	14	16	14	13	9	6	11
Avg Closing Price	\$358,600	\$346,476		\$322,739	\$369,423	\$327,537	\$361,633
Avg Closing Sq Ftg	1,942	1,897		2,041	2,169	2,199	2,263
Avg Price per SF	\$184.65	\$182.64		\$158.13	\$170.32	\$148.95	\$159.80
General Project Notes / Comments							
<p>Jan. 2013: Total lot number is actually 2,369 total units and Shea has had an additional 61 sales not reflected in the total sales number herein. August 2011: Project was previously tracked as three individual subdivisions- now covered as one. Early 2011: 2010 sales data recently amended; builder provided detailed sales data by product line. Legacy Notes: Product widths vary greatly, ranging from 40' wide to 60' wide. Natura plans are constructed on 50'x115' lots, Veritas on 60'x115' lots, and Vita plans on 70'x115' plans. CFD estimated- actual based on selling price of home. Fee is annual.</p>							

## Subdivision Report

Project Information		Location Information	
Subdivision / Project Name:	Vista Montana	Submarket:	North Peoria
MPC Name:	N/A	City:	Peoria
Builder Name:	Shea Homes	Zip Code:	85383
Product Type:	Single-Family Homes	Model Home Address:	8709 W Villa Lindo Dr
Total Units:	49	Project Major Cross-Streets:	Happy Valley and 91st Ave
Units Remaining:	26	GPS Latitude:	33.705457
HOA Fee:	\$165	GPS Longitude:	-112.247287
Sub-Association HOA Fee:		<b>Sales Information</b>	
CFD / Special Tax Assessments:		Total Sales:	23
Lot Width (feet):	160	Sales Rate Since Inception (monthly):	2.88
Lot Depth (feet):	220	Sales Rate Current Year (monthly):	
Typical Lot Size (SF):	35,200	2012 Sales Rate:	2.88
Product Width:	74	<b>Inventory Information</b>	
Site Purchase Price:	\$2,981,500	Total # of Inventory Homes:	1
Site Purchase Date:	10/28/2011	Total # of 60-day Inventory Homes:	0
Site Purchase Status:		Avg Inventory Opt./Upg. Retail Value:	\$122,563
<b>Survey and Startup Dates</b>			
Survey Date:	12/12/2012		
Sales Start Date:	4/29/2012		

Current Plans and Prices								
Floorplan Name:	Floorplan Square Footage:	Bed/Bath/Floors/Garages:	Base Price:	Net New Build Price:	Net 60-Day Inventory Price:	Lowest Priced Inventory Home Price:	Last Closing Price	Closing Date
Duke (5901)	3,091	4 / 2.5 / 1 / 3.0	\$404,990	\$399,790				
Amherst (7401)	3,530	4 / 3.5 / 1 / 3.0	\$424,990	\$419,790				
Vanderbilt (7402)	3,614	4 / 3.5 / 1 / 4.0	\$429,990	\$424,790				
<b>*Dartmouth (7403)</b>	<b>3,973</b>	<b>4 / 3.5 / 1 / 4.0</b>	<b>\$444,990</b>	<b>\$439,790</b>				
Syracuse (2713)	4,177	6 / 3.5 / 1 / 4.0	\$489,990	\$484,790		\$612,553		
Northwestern (5911)	4,413	5 / 3.5 / 1 / 3.0	\$504,990	\$499,790				

Incentives	
New Build Incentive:	\$5,200 \$8,000 towards closing costs and / or options / upgrades
60-Day Inventory Incentive:	No inventory
New Build Co-Brokerage Fee:	3%
Inventory Home Co-Brokerage Fee:	3%

Lot Premiums	
Premium Lot Range:	\$0 - \$20,000
Premium Lot Description:	Oversized or corner lots

Recent Base Price History			
Survey Date:	12/12/2012	10/18/2012	8/27/2012
Duke (5901)	\$404,990	\$404,990	\$404,990
Amherst (7401)	\$424,990	\$424,990	\$424,990
Vanderbilt (7402)	\$429,990	\$429,990	\$429,990
Dartmouth (7403)	\$444,990	\$444,990	\$444,990
Syracuse (2713)	\$489,990	\$489,990	\$489,990
Northwestern (5911)	\$504,990	\$504,990	\$504,990

Incentive History			
Survey Date:	Dec 2012	Oct 2012	Aug 2012
New Build Incentive	\$5,200	\$8,000	\$8,000
60 Day Incentive			

Recent Sales History			
Survey Date:	12/12/2012	10/18/2012	
Net Sales	3	4	

Monthly Transaction History							
Survey Date:	Oct 2012	Sep 2012	Aug 2012	Jul 2012	Jun 2012	May 2012	Apr 2012
Permits	3	4	1	4	1	0	0
Closings	0	0	0	0	0	0	0
Avg Closing Price							
Avg Closing Sq Ftg							
Avg Price per SF							

**General Project Notes / Comments**  
Legacy Notes: Product widths are either 59' or 74' (see plan number). According to BREW (10-28-11), Shea purchased a total of 49 lots from 3 separate entities. The combined purchase price was \$2.9815 million (\$60,847 per lot / \$380 per front foot).

## GREATER PHOENIX REGIONAL CONCENTRATIONS

### CONCENTRATIONS

The region's industrial concentrations are 51 industries. These industries account for 430,900 jobs, or 30% of total jobs. Only 20, out of 51, concentrated industries are in tradable sectors, which are export-oriented.

### TRADABLE – EXPORT ORIENTED – CONCENTRATIONS

Arizona exports totaled \$10.9 billion in 2011 - 37% growth since 2009

Total export-oriented industries account for 147,000 jobs, or 10% of total jobs

1 Service export-oriented industries grew 6% (CAGR) and has exceeded industries exporting real goods

The top two regional exports are Computer Electronics (19.6%) and Transportation Equipment (13.8%). The combined value of exports is \$5.53 billion.

### GOOD MANUFACTURING

The outputs produced by 19 of the region's good manufacturing industries are forecasted to grow at a pace equal or faster than the nation (indicated in color). These include industries in the supply chain of the region's three manufacturing drivers:

- 2
  - Semiconductor and Other Electronics Manufacturing (LQ: 4.15),
  - Aerospace Products and Parts Manufacturing (LQ: 2.18)
  - Navigational, Measuring, Electro medical, and Control Instruments Manufacturing (LQ: 2.05)

The median output growth across these 19 industries is forecasted to be 44.8%. Computer and Peripheral Equipment Manufacturing, and Communications Equipment Manufacturing are expected to grow by 38.4% and 20.8% in output, respectively.

Output in Semiconductor and other Electronics is forecasted to grow by 29.3%

Employment is projected to grow in 13 of the 19 manufacturing industries.

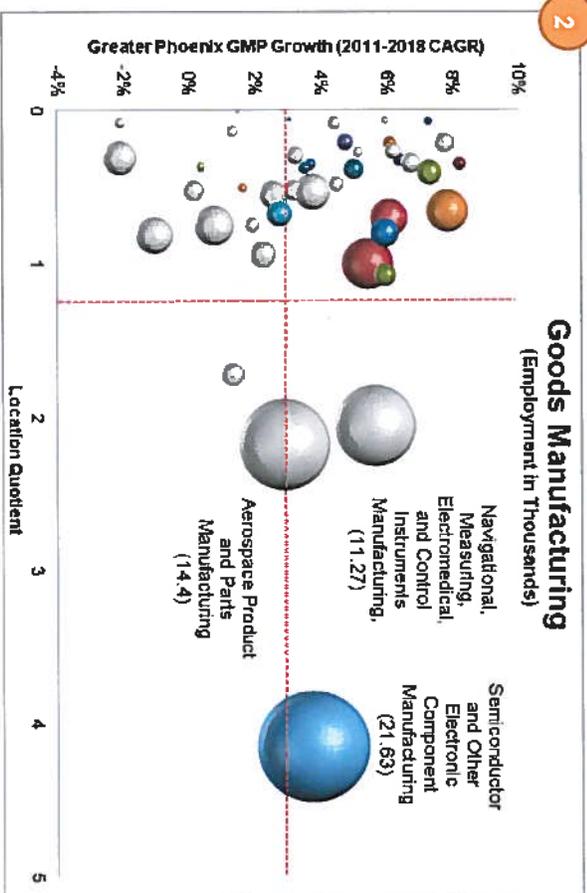
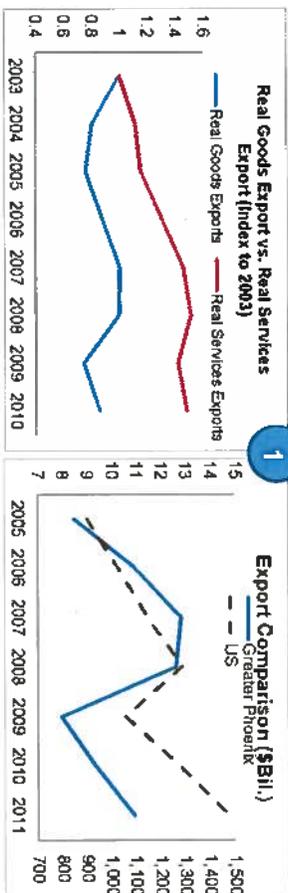
Employment in the electronics supply chain is expected to decline:

- Manufacturing and Reproducing Magnetic and Optical Media (-25%)
- Computer and Peripheral Equipment Manufacturing (-20.0%)
- Communications Equipment Manufacturing (-7.6%)

Jobs in Semiconductor and Other Electronics industry have declined nationally by 41%

since 2001 and by 74.5% or 16,000 jobs in the region.

Jobs in Aerospace Products and Parts Manufacturing industry have declined nationally by 5% and by 12.4% or 1,790 jobs in the region.



## GOOD MANUFACTURING (Cont.,)

### Aerospace & Defense Industry

Industrial composition: guided missiles and subsystems, space systems, rotary and fixed wing aircraft parts manufacturing, and other engineering and technical services.

There are about 891 aerospace related companies in the region. They account for 42,687 direct jobs. The average annual wage in the industry is about \$83,673. The industry account for \$15 billion in economic activity in 2010, 5.9 percent of the state's GDP.

Military UAV market: \$86.5 billion revenue over 2013-2018, with a CAGR of 12%. Large potential for commercial uses

### 2 Semiconductor Industry

Employment declined, but output of the industry grew 87% - from \$2.8 billion in 2001 to \$5.3 billion in 2011.

Intel's Arizona site - with about 11,000 employees - is the company's second largest site in the U.S. Intel has invested more than \$20 billion to build high-tech manufacturing capacity in Chandler. Each year, the company also spends more than \$450 million in research and development in the state. Intel's average annual economic impact in Arizona tops \$2.4 billion, including more than 20,000 non-Intel jobs resulting from the company's supply chain in the state.

## INFORMATION TECHNOLOGY

The output from most of these industries is forecasted to grow a pace equal or faster than the nation. (Indicated in color). The median GDP growth is 53.2% for this industry. The median job growth is 21%, with the exception of Wired Telecommunications Carriers and Other Telecommunication, which are projected to decline 2.3% and 17.2%, respectively.

### 3 High level of concentrations are in Wireless (L.Q.: 1.55) and Satellite Telecommunication (L.Q.:2.29). Combined they employ 3,780 workers.

Three of the 10 largest employers - GoDaddy, Avnet and JDA Software - are headquartered in the region.

Software and IT services are projected to grow 44% and 23%, respectively (2010-20)

Regional specialization and growth forecasts in education, healthcare, defense, and cleantech represent market opportunities.

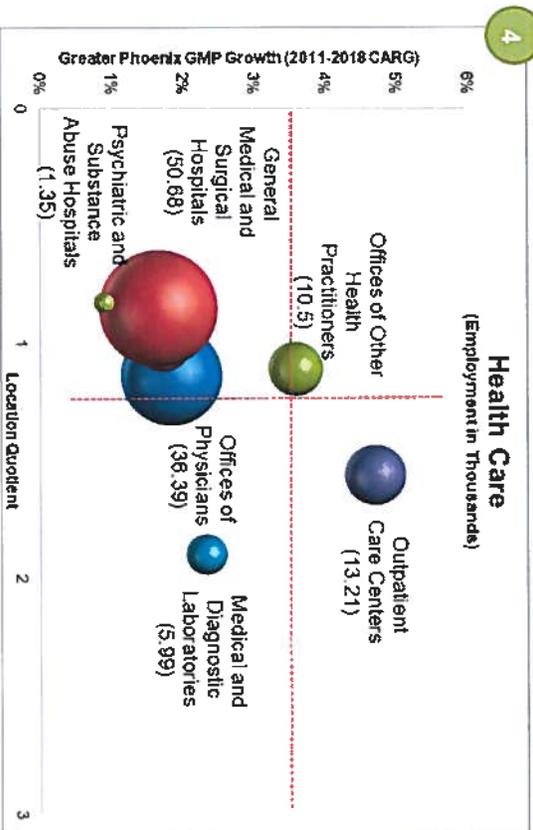
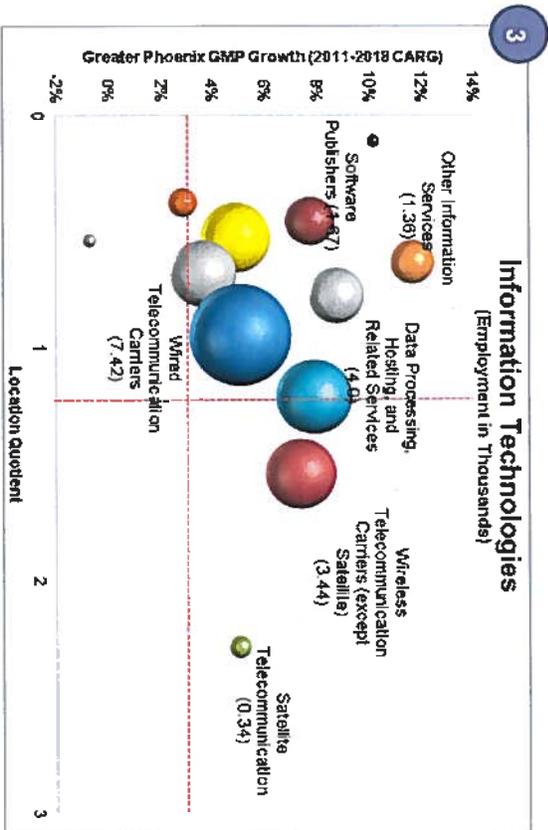
## HEALTH CARE – Cancer Research and Personalized Medicine

Healthcare is the largest industry, employing over 171,000 in 7,968 establishments in the region.

Much of this employment is attributed to service delivery.

### 4 However, there are emerging biomedical research assets.

The industry accounts for over \$9 billion in payroll.



The average wage in healthcare is more than \$57,000 and the wages are significantly higher in research and specialized fields.

This industry has added almost 80,000 jobs since 2001 and accounts for nearly 14 percent of total local employment. It is the only sector that expanded during the recession. There are centers of excellence embedded in hospitals (Barrow's Neurological Center) and universities (ASU BioDesign, UA Cancer Center) as well as publicly supported research centers (TTGen).

Between 2005 and 2016, 2.6 million square feet of new biomedical research infrastructure worth 1.3 billion have been finished or planned. The City of Phoenix invested nearly \$250 million plus a 13.4-acre parcel to create a downtown Phoenix biomedical and educational cluster to house Translational Genomics Research (TTGen), VisionGate and others.

NIH funding in 2011 reached more than \$183 million. However, Arizona saw decrease in NIH funding by 36% between 2002 and 2011, a disproportionate share when compared to 18% decline in NIH funding overall. In 2011, ASU received \$48 million and UA received \$103 million. Banner, St. Joseph's, Phoenix Children, and Mayo Clinic received a total of \$16.1 million.

TTGen currently employs 737 - more than tripled from 220 employees in 2006. It is expected to reach 3,700 employees by 2025.

#### Personalized Medicine Growth Forecast

Healthcare is projected to grow 11% annually, nearly doubling in size by 2015 to over \$450 billion.

The core diagnostic and therapeutic segment of the market—comprised primarily of pharmaceutical, medical device and diagnostics companies—is estimated at \$24 billion, and is expected to grow by 10% annually, reaching \$42 billion by 2015.

The personalized medical care portion of the market—including telemedicine, health information technology, and disease management services—is estimated at \$4-12 billion and it could grow tenfold to over \$100 billion by 2015.

## RENEWABLE ENERGY

### Solar Renewable Energy

Industry leaders: SunTech, FirstSolar, Kyocera, Abengoa.

Direct solar jobs: 9,128 direct. Economic impact of \$2 billion per year.

The industry is consolidating due to the rapid expansion, falling panels and cells prices and competition from cheap natural gas.

The annual growth rate for global PV cell production was 111% from 2009 to 2010, with 88% growth in the U.S. Global revenue from global cell and module production over this period increased by 85% from \$15.8 billion in 2009 to \$31.1 billion.

U.S. revenue from PV cells and modules reached \$1.876 billion in 2010, up 99% from \$94.1 million in 2009. From 2005 to 2010, global cell and module revenues increased by a CAGR of 45%. Federal renewable energy grants and tax credits that provide price stability and a lower cost of capital are expiring or in danger of being eliminated.

Arizona has one of the highest solar thermal capacities in the country. Arizona total installation of 3,386 MW (1587MW in Greater Phoenix) trails only California.

Research is conducted at ASU's Engineering Research Center and Photovoltaic Testing Lab, the latter in partnership with TÜV Rheinland.

### Algae Biomass

The U.S. Department of Energy recently selected Arizona State University for a \$15M award to lead the Algae Testbed Public-Private Partnership (ATP3). The DOE's investment from its Biomass Program in ATP3 means companies and research institutes will now have access to facilities and data from long-term algal cultivation trials to use in establishing a realistic and coherent state of technology for algal biofuels.

Sources: GPEC analysis of Moody's Analytics Employment and Gross Domestic Product data, International Trade Administration Export from U.S Metropolitan Areas, Book of Lists 2012, The Arizona Manufacturing Extension Partnership (Arizona MEP) and Arizona State University in 2011, National Institute of Health, USAspending.gov, Elliot Pollack Renewable Energy Study, US Department of Energy Solar Technologies Report (2010), PricewaterCooper, The New Science of Personalized Medicine (2010), Arizona University Press Release, Sept. 12, 2012.

significant effect. The third study, a master's thesis referred to as Thompson 1982 found sales prices lower for properties crossed by HVTLs but only where the land has potential for irrigation.(pgs. 56-57)<sup>105</sup>

---

This paper copyrighted by Appraisal Group One, Inc. Any copying, publication, broadcast or distribution of this paper without the written consent of Appraisal Group One is prohibited. You may contact Appraisal Group One by phone at: (920)-233-9836, e-mail at: [reprof@forensic-appraisal.com](mailto:reprof@forensic-appraisal.com), or by mail at: 2401 Omro Road, Oshkosh, Wisconsin, 54904.

---

<sup>105</sup> Ibid.

## Arizona Wind and Solar Development Status Report



Date:

February 2012

By:

Karin Wadsack, Kevin Ordean, Cara Corbinmeyer

Northern Arizona University

Landward Institute / Institute for Sustainable Energy Solutions



NORTHERN  
ARIZONA  
UNIVERSITY

## Introduction

Until recently, wind and solar development in Arizona lagged behind neighboring states. In the last few years, utility-scale development of both technologies has expanded in Arizona in response to a number of factors: aggressive state Renewable Portfolio Standards in the region; the potential shutdown of older coal-fired power plants; and the availability of federal and state incentives for utility-scale renewable energy development. In 2009, Northern Arizona University released a Wind Development Status Report. The present report is an update to that document, and has been expanded to include utility-scale solar energy development.

Historically, developers in Arizona have been slow to embrace utility-scale wind, and to a lesser degree solar, for several reasons: the perception that Arizona has relatively poor wind resources compared to its neighbors; the fact that inexpensive coal power makes Arizona wind and solar energy less competitive; the burden placed on developers by the differences in local, state, and national guidelines regarding permitting, zoning, and pre-construction environmental monitoring; the checkerboard nature of Arizona land and the fact that much of the wind resource falls on tribal lands, which are governed by entirely different authorities; and lack of access to large available quantities of transmission.<sup>1</sup>

Nevertheless, wind and solar energy are emerging in Arizona as viable, stably-priced and local renewable electricity sources. The Dry Lake wind plant, located near Snowflake, Arizona was the first utility-scale project to be built in the state of Arizona. The 125-megawatt (MW) plant provides electricity to the Salt River Project (SRP). The Kingman wind and solar energy project (10 MW wind, 0.5 MW solar) was commissioned in 2011 and is providing electricity to Tucson Electric Power/Unisource (TEP/UES). The Perrin Ranches 99.2-MW wind plant was completed in 2011 and provides electricity to Arizona Public Service Company (APS).

As of the end of 2011, there were a handful of solar photovoltaic (PV) and concentrating solar power (CSP) projects already built, several under construction, and dozens of others at various stages of development. Springerville Generating Station, a 4.6-MW PV system owned by TEP, has been generating electricity for five years. The 1-MW Saguaro Solar CSP Plant in Red Rock, owned by APS, has been running since 2005, and the final phases of APS' 3-MW PV Prescott Solar Power Plant were completed in 2006. The 1.5 MW Tessera/Stirling Maricopa Dish-Engine project came online in early 2010 and provides electricity to SRP. Abengoa is constructing the 280-MW Solana Generating Station CSP plant outside Gila Bend, which will be completed in 2013 and deliver electricity to APS. NRG and FirstSolar are building a 290-MW PV plant west of Phoenix called Agua Caliente, which will deliver electricity to Pacific Gas and Electric Company in California (PG&E). Sempra Energy is developing the Mesquite Solar I PV plant near Yuma, which is anticipated to be 150 MW and should break ground in 2012. This first phase of a potential 700 MW PV development will also provide electricity to PG&E.

This report provides an overview of active wind and solar power development projects in Arizona and describes the status of each. Information in this report was obtained from communications with project

---

<sup>1</sup> These reasons were articulated in our 2009 report by representatives of the following wind developers: BP Wind Energy, Iberdrola, Sempra Energy, Verde Resources, NZ Legacy, and the Hualapai Tribal Planning and Energy office

developers and government representatives, and from public records. It is not intended to be a comprehensive report, but rather a snapshot of the wind and solar industries' activities in Arizona at this time. Some entities that might have been able to provide additional information could not be reached.

In Appendix A, this report provides a list of County, State, and Federal permitting requirements and development guidelines for utility-scale renewable energy, with current links where applicable. This report also provides, in Appendix B, an economic impact analysis for wind and solar development projects, performed using tools developed by and for the National Renewable Energy Laboratory. Resource maps of wind and solar potential in Arizona are shown below.

## Wind and Solar Resources in the United States and Arizona

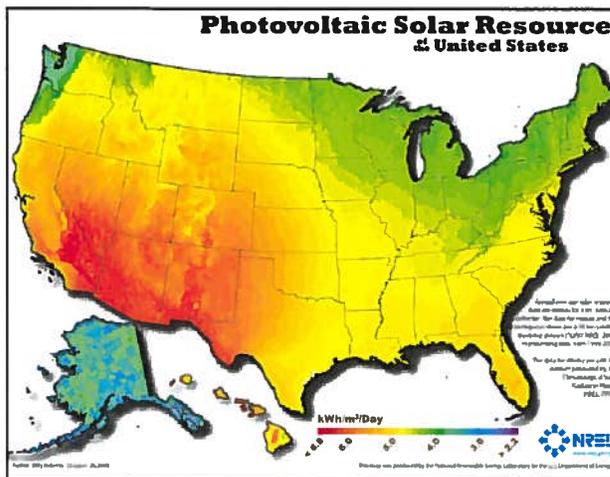


Figure 1. National map of photovoltaic resources. Source: National Renewable Energy Laboratory

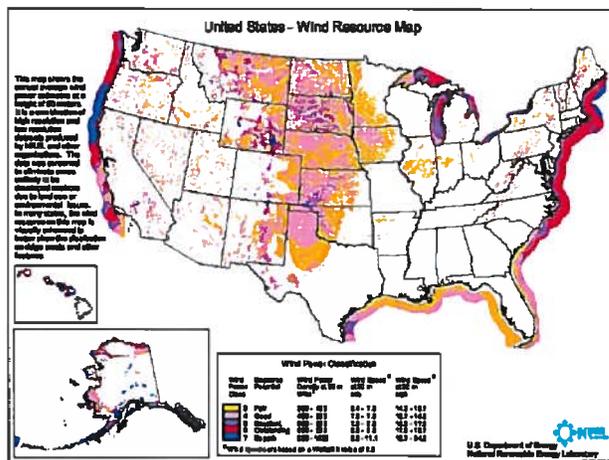


Figure 2. National map of wind resources. Source: National Renewable Energy Laboratory

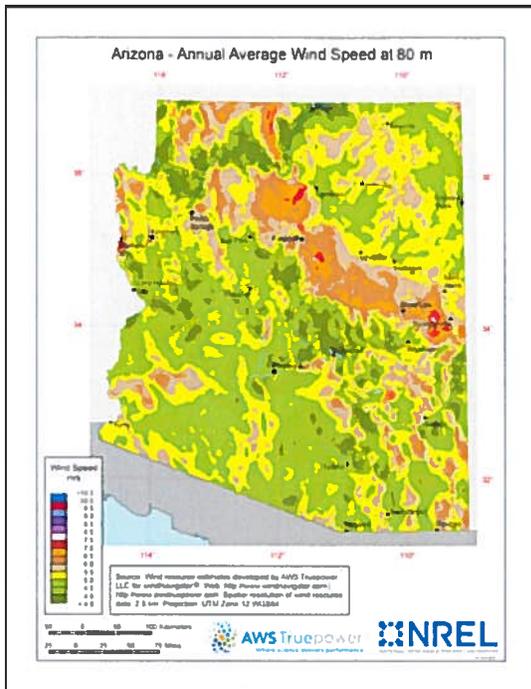


Figure 3. Arizona wind resources at 80m hub height. Source: National Renewable Energy Laboratory

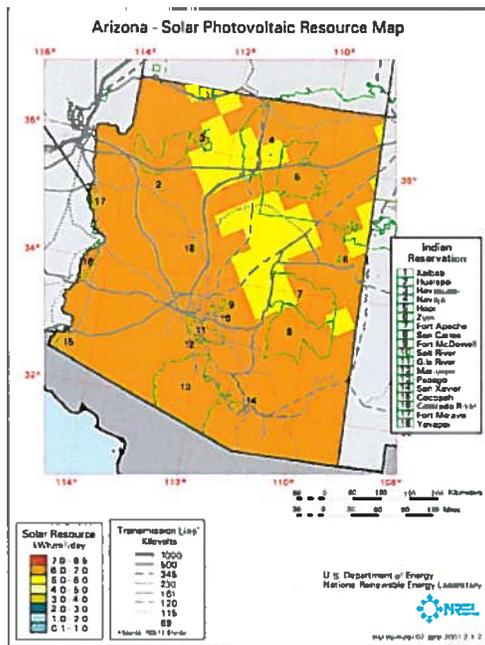


Figure 4. Arizona solar resource map. Source: National Renewable Energy Laboratory

## Wind and Solar Development Status Report

The status of wind and solar power development in the state of Arizona is presented from multiple perspectives in the following pages. First, each county is profiled, showing the available information on wind and solar project development obtained from county staff, state officials, and developers. The second table summarizes development activities separated by tribal jurisdiction.

Each of these profiles and tables refers to a variety of permitting and regulatory processes, which define the steps in a wind or solar development's progress toward completion. There are multiple layers of permitting processes and regulatory or guidance documents that govern, or influence, wind and solar development in Arizona. Descriptions of several of these, including links for related documents, are found in Appendix A.

### Status by County

Each county in the state is profiled below. According to data from the Arizona Game and Fish Department (which is in communication with most utility-scale renewable energy project developers), there are wind or solar generation projects in some phase of development in 11 of Arizona's 15 counties – all but Gila, Graham, Greenlee, and Santa Cruz.

County	Status
<b>Apache</b> Population - 71,518 Median household income - \$28,956 Land area – 11,197.52 sq mi	There are 6 wind projects and 1 wind and solar project proposed with AzGFD on land totaling over 171,000 acres.
<b>Cochise</b> Population – 131,346 Median household income - \$43,786 Land area – 6,165.69 sq mi	<ul style="list-style-type: none"> <li>• Rainbow Solar Energy has obtained a permit to develop 20 MW of Solar PV on the Rainbows End Ranch.</li> <li>• Clipper Wind has one met tower on Mule Mountain and has not proceeded with project development.</li> <li>• The Fort Huachuca military installation has a 1 MW wind turbine installed and operating.</li> <li>• There are two solar photovoltaic projects by Sustainability Development that have been approved by the County for development                             <ul style="list-style-type: none"> <li>○ The Kansas project for 200 MW</li> <li>○ The Bouy project for 200 MW</li> </ul> </li> </ul>
<b>Coconino</b> Population – 134,421 Median household	There are 3 wind projects proposed with AzGFD on land totaling over 111,000 acres.  The county has one solar photovoltaic project in process, the APS Community Power Project at a total of 1.5 MW. The project is located in Doney Park and is divided into several hundred rooftop arrays, a

<p>income - \$49,777 Land area – 18,618.89 sq mi</p>	<p>~500kW array on one site, and ~500kW at Cromer School. The county permitted the 99-MW Perrin Ranches Wind Plant owned by NextEra Energy Resources in 2011. The project is under construction and expected to be completed by the end of 2011. The county has issued permits to Foresight Wind for several projects:</p> <ul style="list-style-type: none"> <li>• Sunshine Wind Park, near Hwy 40 east of Flagstaff, managed by Foresight Wind, has all of the permits in place for construction. The project does not have a power purchase agreement.</li> <li>• Foresight Wind has permits for five met towers at Aubrey Cliffs, on the Navajo-owned Big Boquillas ranch.</li> <li>• The Grapevine Canyon Project, southeast of Flagstaff, has been monitoring the wind resource with met towers for several years, and is in the public scoping phase of the NEPA process required for construction of the transmission access across national forest.</li> </ul>
<p>La Paz Population – 20,489 Median household income - \$30,939 Land area – 4,499.63 sq mi</p>	<p>NAU has been monitoring wind power since 2005 at several locations: five met towers at Aubrey Cliffs and one at Aubrey Valley; two met towers on Babbitt Ranches; one met tower at Mesa Butte; and two met towers at Grey Mountain. Several of these are on Navajo Nation land and not subject to County permitting rules. The county received the following additional permit applications for met towers, although most of them have not been put to use:</p> <ul style="list-style-type: none"> <li>• four permits issued to Tower Associates</li> <li>• two permits issued to Torch Renewable Energy (permits finalized)</li> <li>• five permits applied for by Pacific Southwest Windpower, a subsidiary of Horizon Wind Energy, for the Chevelon Butte area</li> <li>• two permits issued to Babbitt Ranches/Sempra Generation</li> <li>• two permits issued to Babbitt Ranches/CO Bar</li> </ul> <p>There are three solar projects in the permitting process in La Paz County:</p> <ul style="list-style-type: none"> <li>• Harqua Gila LLC is proposing a 20-38 MW solar photovoltaic facility but has been put on hold until a power purchase agreement with APS can be worked out</li> <li>• Solar Reserve is proposing a 150 MW solar facility with a 500 foot tower and heliostat mirrors. They are working on their PPA. Once the PPA is signed they will obtain financing and are looking to break ground in the 2nd quarter of 2012 and have a 30 month build out. Solar Reserve has released their Environmental Impact Study through the Yuma field office of BLM. They are working with WAPA (Western Area Power Association) and will be sending power to Southern California. They're pushing the start date back to the 4th quarter of this year.</li> <li>• Enviromissions LLC is proposing a 200 MW facility. They plan to build a 2,000 foot tall tower and use convection to turn the</li> </ul>

---

turbines inside the tower. Enviromission is working with WAPA for a PPA and have also pushed their start date back to first or second quarter of 2013 with a 36 month build out.

La Paz county has had six other facilities make proposals along the Vicksburg corridor but none have been successful due to lack of available transmission or demand at APS.

**Maricopa**  
**Population –**  
**3,817,117**  
**Median household**  
**income - \$53,284**  
**Land area – 9,200.14**  
**sq mi**

There are a total of twenty-six projects in various states of permitting and development with a total of 34,065 acres. There are two projects that have received comprehensive plan amendment, special use permit, and building permit approval. The building permits were issued to:

- The Solana Generating Station is a 250-megawatt (MW) concentrating solar power plant to be built 70 miles southwest of Phoenix. The plant will be built by Abengoa Solar Inc., and is scheduled to provide renewable energy beginning in 2013. 3,107 acres approved with a land use changed from Rural Development to Industrial. A special use permit was approved for concentrating solar electrical generating station.
- Sempra Generation is developing the 4,000 -acre Mesquite Solar complex, 40 miles west of Phoenix, generating up to 400 megawatts (MW). Mesquite Solar will be North America's largest photovoltaic solar power installation when complete. Construction on the 150-MW first phase of the solar complex—called Mesquite Solar 1—began in mid-2011. When completed in 2013, the solar plant will generate enough clean electricity for about 56,000 homes. Land Use change from Dedicated Open Space and Rural Residential to Industrial. 2,480 acres approved. A special use permit was approved for the PV Solar electrical generating station.

There are seven projects that have received comprehensive plan amendment approval and special use permits approval but have not applied for or received building permits.

- Arlington Valley Solar Energy Project (AVSE) has three projects at 80 acres each where the Land Use was changed from Rural to Industrial. Their special use permit is for Solar Energy Generation.
- Arlington Valley Solar Energy Project II (AVSE II) has three projects with varied acreage (40, 70, 80) where the Land Use was changed from Rural to Industrial. Their special use permit is for Solar Energy Generation.

There are fifteen projects that have applied, and received approval, for their comprehensive plan amendments. These range in acreage from 160 acres to 3,200 acres. Of the thirteen, four have applied for a special use permit.

On Nov 8, Iberdrola commissioned their first utility-scale solar in AZ,

---

the 20 MW “Copper Crossing” project located near Florence, AZ. The Sonoran Solar Energy Project, proposed by a subsidiary of NextEra Energy Resources, was approved for construction on BLM lands in the Sonoran Desert National Monument. The PV solar project will produce 300 MW.

**Mohave**  
**Population – 200,186**  
**Median household**  
**income - \$39,863**  
**Land area – 13,311.08**  
**sq mi**

Several projects are under various stages of permitting/development:

- Western Wind Energy has completed construction of a 10.5 MW project (10 wind, 0.5 solar) in the Kingman area, and will sell the power to Unisource. A second phase is anticipated to be permitted next year.
- Solon, Inc has permitted a 15 MW single-axis solar PV project on the I-40 corridor and has a PPA with Unisource. The project is expected to be online in summer 2012.
- Unisource Energy Services has permitted a 1-MW single-axis solar PV project at a school district, which is built and anticipated to be online in October 2011. Unisource is also the off-taker.
- Mohave Solar proposed a 340 MW CSP trough project in the Red Lake area, and obtained a county resolution but has not proceeded with building permits. The project is on hold pending a PPA.
- Silver Ranch Corp proposed a 200 MW CSP trough project near Big Sandy Valley, and obtained a county and P&Z resolution but has not obtained building permits. The project is apparently moving ahead using CPV technology instead of CSP.
- Greenstone Renewables, LLC has proposed a 60 MW fixed solar PV plant in Mohave Valley, and the proposal will be heard by the P&Z Commission in October 2011.
- Havasu Solar Electric has proposed a 7 MW fixed solar PV plant in the Yucca area but requires additional review before permitting.
- Arizona Acreage LLC has proposed a solar project in the Dolan Springs area. It has obtained a general plan resolution but has not submitted site plans or project details.
- Needle Mountain Power LLC has proposed a 1200 MW Sterling Dish development in the Topock area. The project had obtained most of the required permits from multiple areas but is on hold seeking new solar technology in place of the Sterling dishes from Tessera.
- BP Energy is pursuing development of 500 MW of wind on BLM land in the White Hills northwest of Kingman. The first draft of the required EIS is expected to be released in fall 2011. They have eight MET towers operational.
- Five Star Energy has obtained permits for met towers in 2011 in the Red Lake and Fort Rock areas.
- Oak Creek Energy Systems has applied for permits for met towers in the Mohave Valley area. They are in the EA review

---

stage.

- Gamesa obtained permits for met towers in the Arizona Strip area in 2008 but has not sought any permits related to project development.
- NAU obtained permits for met towers in the Mohave Valley in 2005, but has not sought additional permits related to project development.

**Navajo**  
Population – 107,449  
Median household  
income - \$34,855  
Land area – 9,950.42  
sq mi

Several companies have received permits or are in process with Navajo County:

- Iberdrola Renewables has completed construction of Phase I & 2 of the Dry Lake wind plant and the plant is operational. Their generation capacity is approximately 130-135 MW.
- Pacific Wind Development (a subsidiary of Iberdrola Renewables) has received a permit for one met tower north of the Dry Lake wind farms
- Aurora Solar (a subsidiary of Iberdrola Renewables) has received approval to develop a 50 MW photovoltaic solar facility within the Dry Lake II wind farm
- Apache Wind District (a subsidiary of Juwi Wind, LLC) has applied for approval to construct one met tower southwest of Holbrook
- Disgen has received approval for a 390 MW wind farm north of Holbrook
- RES Americas has received approval for 4 MET towers and has installed one of them.

**Pima**  
Population – 980,263  
Median household  
income - \$43,243  
Land area – 9,187.04

There are no wind projects planned, underway or constructed in the county. Pima County has a 1 MW solar plant that was commissioned in 2010, as well as a 1.1 MW solar plant that was completed in July, 2011. Both projects are located at the Pima County Wastewater Reclamation Facility.

The Pima County Board of Supervisors approved Conditional Use Permits in 2011 for two 25 MW solar plants in the Avra Valley area for NRG Energy and Fotowatio Renewable Energy; however, construction has not commenced on either one to date. Recurrent Energy constructed a solar farm in the Ajo area with an approximate size of 6 MWs. There is also a Solar Zone at the University of Arizona Tech Park. Aurora Solar has a project in the entitlement process.

**Pinal**  
Population – 375,770  
Median household  
income - \$49,088  
Land area – 5,365.61  
sq mi

Iberdrola Renewables is in the permitting process for a 45-50 MW project, and the permitting could be done by March 2012. Permits were obtained, by Rose Law group, for a 40 MW solar PV project off Picacho Peak but it was never built.

**Yavapai**  
Population – 211,033  
Median household  
income - \$40,837

The county issued a Use Permit to NextEra Energy Resources for a wind and solar project with 99 MW of wind and up to 30 MW of solar, located about 15 miles southeast of Seligman. The project is seeking approvals required by the Prescott National Forest, and has a PPA with

---

Land area – 8,123.50 sq mi	Salt River Project. Recurrent Energy received a permit in December 2010 for a 15 MW PV solar plant north of Bagdad, which is under construction. Sun Edison received a permit in January 2011 for a 10 MW PV solar plant north of Prescott airport, which is also under construction.
Yuma Population – 195,751 Median household income - \$38,251 Land area – 5,513.99 sq mi	The county has two ongoing projects: <ul style="list-style-type: none"> <li>• First Solar and NRG - Solar PV 1 is being built and permits have been issued for 10 months. 291MW approved (may get close to 350MW with more blocks potentially being added into design).</li> </ul> <p>APS owned 2nd one - pursuing permits for flood control and grading. 17MW +/-</p> <p>In addition to those listed above, Yuma county has six solar projects that have to meet special use permit requirements and be approved. One Special Use permit has been denied on a 36MW project, and there are pre development meetings for two other solar projects that are over 100MW each.</p>
Arizona Population – 6,392,017 Median household income - \$48,711 Land area – 113,594.08 sq mi	<a href="http://quickfacts.census.gov/qfd/states/04000.html">http://quickfacts.census.gov/qfd/states/04000.html</a> Population data – 2010 Median Household Income data – 2009 Land Area data – 2010

*The following counties had no utility scale wind or solar development to report: Gila County, Graham, Greenlee, and Santa Cruz.*

## Status by County

Each of the tribes in Arizona was contacted for this report. The information obtained is summarized in the table below.

Tribal Nation	Status
Colorado River Tribes Population – 7,466 Land area (AZ) – 353 sq mi	Since the Tribe is located on the Colorado River, it is fortunate to have its electrical power needs met with renewable energy from the hydroelectric dam located here. The resulting low cost of electricity has made investment in solar and wind not very cost effective for the Tribe. The tribe is not pursuing renewable energy development as an export.
Fort Mohave Population – 773	The Fort Mohave tribe conducted a renewable energy development feasibility study several years ago, and had wind monitoring

<b>Land area (AZ) – 37 sq mi</b>	equipment erected at that time. The study concluded that the wind resource was marginal, so the tribe is pursuing solar power development instead.
<b>Hopi</b> <b>Population – 6,946</b> <b>Land area – 2,438.6 sq mi</b>	<p>The Hopi tribe has been collecting wind data for several years on the reservation lands. The Hopi Tribe completed a new wind study in collaboration with the United States Department of Energy in December 2010. They collected a year’s worth of wind data with two 50-meter met towers on the Clear Creek ranch lands south of Winslow. They submitted this data and final reports to DOE and are waiting for DOE replies. In the meantime, the Tribal Council and Hopi tribal energy utility office are considering both wind and solar development and are evaluating the resources and the options for development, both in conjunction with USDOE and with private partners. The Hopi Tribe’s Renewable Energy Office staff also designed, executed and completed an avian impacts research project with the met towers on the ranch lands.</p> <p>The Hopi Tribe worked in partnership with Foresight Wind on the development of part of the Sunshine Wind project on Hopi land. The project is pending the approval of a power purchase agreement.</p> <p>The Tribe also has one 50-meter met tower on the west side of Hotevilla which has been monitoring wind speeds for about five years. There are also apparently some 30-meter towers near Moenkopi and Tuba City.</p>
<b>Hualapai</b> <b>Population – 1,353</b> <b>Land area – 1,550.2 sq mi</b>	<p>The Hualapai Renewable Energy Development Project has been assessing renewable energy resources on the Hualapai Reservation for the past five years. During that time, the Tribe has identified developable wind and solar energy resource areas on the Hualapai Reservation as well as on fee land owned by the Tribe and on public lands adjacent to the Hualapai Reservation.</p> <p><b>Area Designation/Technology/Capacity (MW)– Tribal Trust</b> Nelson / Wind / 50 Peach Springs / Solar / 50 Grand Canyon West / Wind / 50 Clay Springs / Wind / 50</p> <p><b>Area Designation/Technology/Capacity (MW)– Tribal Fee</b> Clay Springs / Solar / 50</p> <p><b>Area Designation/Technology/Capacity (MW)– BLM</b> Lost Creek / Wind / 50 Clay Springs / Wind / 50</p> <p><b>Additional</b> Collector power line and service roads / 50 – miles Gen-tie Power line and service roads / 10-20 – miles</p> <p>According to information presented by Terry Battiest of NTUA at the Arizona Wind Working Group meeting in September 2011, the Navajo Nation is moving forward with the development of the Big Boquillas wind energy project, in partnership with Edison Mission Energy out of California. The project would be a utility-scale wind</p>
<b>Navajo Nation</b> <b>Population – 104,565</b> <b>Median Household Income - \$21,136</b> <b>Land area – 18,119.2 sq</b>	

mi	project located on Navajo-owned ranch lands north of Seligman, Arizona, with development potentially taking place in phases. The Navajo Nation has significant wind development potential on Gray Mountain as well, but does not have development plans or an agreement with an outside developer at the time of this writing. The Navajo Nation also has solar energy development potential. The Navajo Nation is also developing an updated Energy Policy to replace its 1980s policies.
Population / Land area (2000 census)	<a href="http://edrp.arid.arizona.edu/tribes.html">http://edrp.arid.arizona.edu/tribes.html</a>
Navajo (median income)	<a href="http://censtats.census.gov/cgi-bin/pct/pctProfile.pl">http://censtats.census.gov/cgi-bin/pct/pctProfile.pl</a>

*The following tribes have no utility scale wind or solar: Ak-Chin Indian Community, Fort McDowell–Yavapai Nation, Havasupai, Pueblo of Zuni, San Carlos Apache, Tonto Apache Tribe. The following tribes were not able to be reached for comment: Cocopah, Fort Mojave, Gila River Indian Community, Hualapai, Kaibab Paiute, Pascua Yaqui, Quechan*

## Contact information for this report:

### County Contact Information

Apache County - Michelle Johnson / (928) 337-7526 / [mjohnson@co.apache.az.us](mailto:mjohnson@co.apache.az.us)

Cochise County - Keith Dennis / (520)432-9240 / [kdennis@cochise.az.gov](mailto:kdennis@cochise.az.gov)

Coconino County - Melinda Rockhold / 928.679.8850

Gila County - Angela Parker / 928-425-3231 Ext. 4224

Graham County - Karen Ulibarri / (928)-428-0410 / [KUlibarri@graham.az.gov](mailto:KUlibarri@graham.az.gov)

Greenlee County - Philip Ronnerud / (928) 865-4762 / [pronnerud@co.greenlee.az.us](mailto:pronnerud@co.greenlee.az.us)

La Paz County - Mike Baker/ 928-669-6138 / [mbaker@co.la-paz.az.us](mailto:mbaker@co.la-paz.az.us)

Maricopa County - Robert Kuhfuss / 602-506-6533 / [robertkuhfuss@mail.maricopa.gov](mailto:robertkuhfuss@mail.maricopa.gov)

Additional information: <http://www.aps.com/main/green/Solana/About.html> / <http://www.semprageneration.com/energy-solutions/solar-mesquite-solar.html>

Mohave County - Susie Parel-Duranceau / 928-753-0723 Ext 4780

Navajo County - Greg Loper / (928) 524-4100

Pima County - Betty Stamper / 520-740-6463

Pinal County - Tim Kanavel / 520-866-6664 / [econdev@pinalcountyaz.gov](mailto:econdev@pinalcountyaz.gov)

Santa Cruz County - Sylvia Jontow / 520 375 7880 / [Sjontow@co.santa-cruz.az.us](mailto:Sjontow@co.santa-cruz.az.us)

Yavapai County – Nicole Russell / (928) 771-3214 / [nicole.russell@co.yavapai.az.us](mailto:nicole.russell@co.yavapai.az.us)

Yuma County - Pat Heddington / 928 817 5068

Tribal Contact Information

Ak-Chin Indian Community - Jerry Owen / (520) 568-1070

Colorado River Indian Tribes - Rick Ench / (928) 669-1301 / [rickench@msn.com](mailto:rickench@msn.com)

Fort McDowell Yavapai Nation - Erika McCalvin / 480.789.7741 / [emccalvin@ftmcdowell.org](mailto:emccalvin@ftmcdowell.org)

Havasupai Tribe - Tribal Office / 928-448-2731

Hopi Tribe - Ken Lomayestewa / 928- 734-7147 / [klomay@hopi.nsn.us](mailto:klomay@hopi.nsn.us)

Pueblo of Zuni - Andrew Athole / 505-782-3054

Federal Contact Information

BLM - Arizona Strip Field Office - Laurie Ford / 435.688.3200

BLM - Renewable Energy Coordination Office - Eddie Aureola / 602.417.9505 / [earreola@blm.gov](mailto:earreola@blm.gov)

BLM - Kingman Field Office - Andy Whitefield / 928.718.3700

BLM – Safford - Roberta Lopez / 928.348.4400

Game and Fish - Mark Ogonowski / 928.774.5045 / [mogonowski@azgfd.gov](mailto:mogonowski@azgfd.gov)

Game and Fish - Ginger Ritter / 623.236.7606

## Appendix A: guidance and permitting document resources

Utility-scale wind and solar developments must consider the following:

- **Conditional/Special use permit:** Issued by the County, this permit is used separately for the installation of resource assessment equipment such as meteorological towers with anemometers, and for the project development phase and construction of a wind or solar power plant. In some cases, one permit can be used both for the installation of resource assessment equipment and for the construction of the power plant.
- **County ordinances on utility-scale wind and solar development:** Some of Arizona's counties have approved ordinances governing utility-scale wind and/or solar energy development. These ordinances generally establish guidelines for developers in terms of what documents must be submitted to the County in order to approve a project, and what limits the County has established in terms of setbacks to property lines, noise levels, visibility of the project, water use, lighting, etc.
- **County Comprehensive or Area Plan guidance on renewable energy development:** Several counties have an Energy Element as a component of their Comprehensive Plan, and this may also provide guidance on utility-scale wind and solar development and permitting. In addition, Area Plans typically provide detailed information on the approved uses of land within the area.
- **A right-of-way permit for land access:** Issued by the County, state Land Department, U.S. Forest Service, or the BLM, this permit allows the developer of a wind/solar power plant access to the land to be used for the plant. In the case of Counties, the right-of-way is generally to allow travel and transport of materials across county land to the plant site. The Arizona State Land Department requires a right-of-way for access to and use of state lands for wind power development, but does not require a commercial lease of the land as it can be co-used for wind power development and other purposes. (<http://www.land.state.az.us/programs/realestate/sections/row.htm>) For solar development, the State Land Department does execute a commercial lease. (<http://www.land.state.az.us/programs/realestate/pdfs/LeasingFlyer.pdf>)  
In the case of the BLM, Instruction Memorandum (IM) 2011-061 provides updated guidance on the review of right-of-way applications for solar and wind energy development projects on public lands administered by the Bureau of Land Management (BLM):
  - [http://www.blm.gov/wo/st/en/info/regulations/Instruction\\_Memos\\_and\\_Bulletins/national\\_instruction/2011/IM\\_2011-061.html](http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2011/IM_2011-061.html)
- **Environmental (wildlife) consideration requirements of the Federal government (for wind).** The US Fish & Wildlife Service provides guidelines on wind development for the protection of wildlife.
  - <http://www.fws.gov/windenergy/>
- **Environmental monitoring requirements of the State of Arizona:** The Arizona Game and Fish Department (AGFD) works with wind and solar energy developers to plan monitoring of environmental impacts before and after construction of a plant. Per an interagency Memorandum

of Understanding, the Arizona State Land Department is required to consult with AGFD regarding the wind developer's environmental monitoring plans as part of the right-of-way permitting process. The Arizona State Land Department also has released guidelines for wind and solar development.

- <http://www.azgfd.gov/hgis/documents/FinalSolarGuidelines03122010.pdf>
- <http://www.azgfd.gov/hgis/pdfs/WindEnergyGuidelines.pdf>
- National Environmental Policy Act (NEPA) process, Environmental Impact Statement (EIS), Environmental Assessment (EA), and biological and cultural assessments: Any development on federal land, using federal funding, or interconnecting into a federally managed portion of the electricity grid is required to perform an analysis of potential environmental and cultural impacts. This process involves public participation, and results in the writing of EIS, EA, and/or other required reports. All projects are required to abide by federal regulations protecting wildlife (including the Endangered Species Act, Bald and Golden Eagle Protection Act, and others) and cultural artifacts (including the Native American Graves Protection and Repatriation Act).
- Permitting documents and environmental, archaeological, and cultural impacts surveys required by Tribal governments.
- 

Other documents that may govern developments on federal land include:

- The BLM Solar Programmatic EIS (draft):
  - <http://solareis.anl.gov/documents/dpeis/index.cfm>
- The BLM Wind Programmatic EIS (final):
  - <http://windeis.anl.gov/documents/fpeis/index.cfm>

## Appendix B - Economic Impacts of Wind and Solar Development

The following sections detail the economic impacts of utility-scale wind, solar photovoltaic, and concentrating solar thermal (parabolic trough) development. For each section, information is presented in 2011 dollar and job impacts, and for both the construction and operation phases. The information presented is for 100 megawatts of development of each technology type, which can be roughly extrapolated up or down for projects of different sizes. The information was obtained using the National Renewable Energy Laboratory's Jobs and Economic Development Impacts (JEDI) models, available for download at: <http://www.nrel.gov/analysis/jedi/download.html>. The model is an input-output model, which uses nationally available data about product and service availability in Arizona to calculate the state-wide direct, indirect, and induced impacts of a certain quantity of investment in the given development (in this case, 100 MW project sizes). Additional assumptions for each case are given below.

### Wind Development

The following tables and graphs show the impacts of 100 MW of wind development in Arizona. The construction costs were assumed to be \$2155/kW of capacity, based on the costs reported in the 2010 Wind Technologies Market Report.<sup>2</sup> The operation costs were assumed to be \$20/kW of capacity, based on the default values of the JEDI model.

Table B 1. Jobs and economic impacts of 100 MW Wind Development in Arizona

	Jobs	Earnings*	Output*
<b>During construction period</b>			
<b>Project Development and Onsite Labor Impacts</b>	68	\$3.96	\$4.57
<i>Construction and Interconnection Labor</i>	60	\$3.37	
<i>Construction Related Services</i>	8	\$0.59	
<b>Turbine and Supply Chain Impacts</b>	315	\$17.01	\$44.60
<b>Induced Impacts</b>	111	\$4.83	\$8.53
<b>Total Impacts</b>	494	\$25.79	\$57.70
<b>During operating years (annual)</b>			
<b>Onsite Labor Impacts</b>	6	\$0.37	\$0.37
<b>Local Revenue and Supply Chain Impacts</b>	7	\$0.35	\$1.67
<b>Induced Impacts</b>	6	\$0.26	\$0.51
<b>Total Impacts</b>	19	\$0.97	\$2.56

\* \$Million 2011

<sup>2</sup> <http://eetd.lbl.gov/ea/emp/reports/lbni-4820e.pdf>

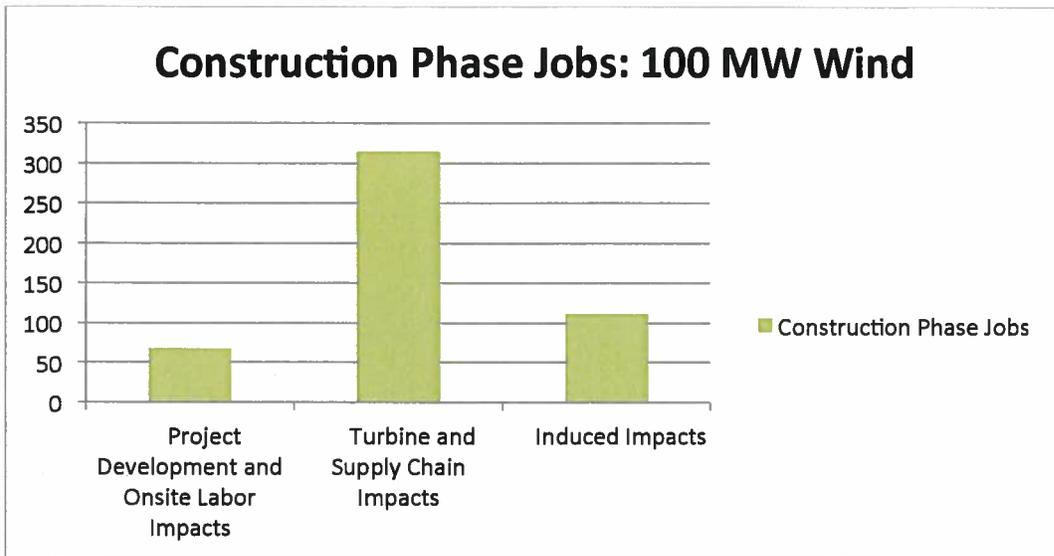


Figure B 1. Full-time jobs during the construction phase of 100 MW wind plant in Arizona

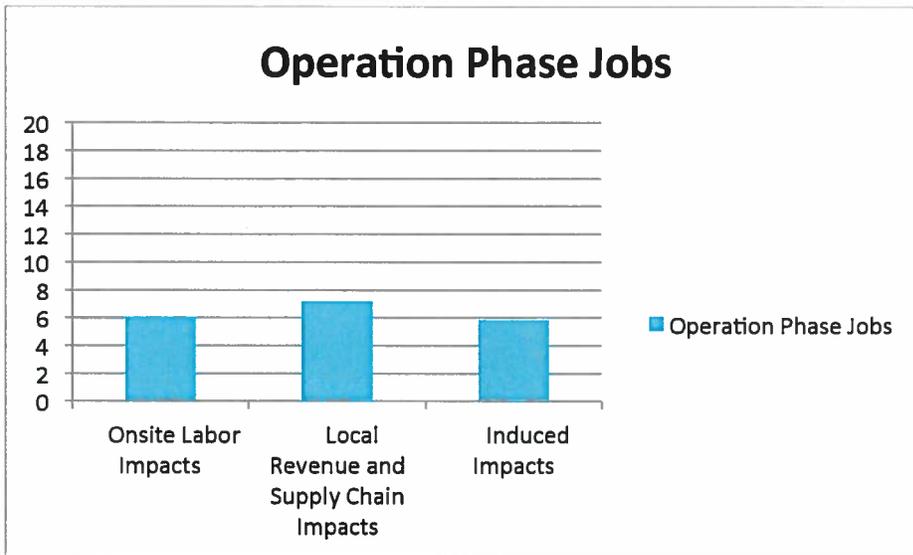


Figure B 2. Full-time jobs during the operation of 100 MW wind plant in Arizona

### Solar Photovoltaic (PV) Development

The following tables and graphs show the impacts of 100 MW of solar PV development in Arizona, using the JEDI Model's default utility-scale calculations, and default construction cost of \$4869/kW and operation and maintenance costs of \$19.93/kW of capacity.

Table B 2. Jobs and economic impacts of 100 MW Solar PV Development in Arizona

	Jobs	Earnings*	Output*
<b>During construction and installation period</b>			
<b>Project Development and Onsite Labor Impacts</b>			
Construction and Installation Labor	685	\$44	
Construction and Installation Related Services	1059	\$36	
<b>Subtotal</b>	<b>1744</b>	<b>\$80</b>	<b>\$135</b>
<b>Module and Supply Chain Impacts</b>			
<b>Subtotal</b>	<b>1358</b>	<b>\$55</b>	<b>\$174</b>
<b>Induced Impacts</b>	<b>993</b>	<b>\$37</b>	<b>\$121</b>
<b>Total Impacts</b>	<b>4094</b>	<b>\$172</b>	<b>\$431</b>
<b>During operating years (Annual)</b>			
<b>Onsite Labor Impacts</b>			
PV Project Labor Only	18	\$1.1	\$1.1
Local Revenue and Supply Chain Impacts	7	\$.4	\$1.1
<b>Induced Impacts</b>	<b>6</b>	<b>\$.2</b>	<b>\$.7</b>
<b>Total Impacts</b>	<b>31</b>	<b>\$1.7</b>	<b>\$2.9</b>

\* Million 2012 \$

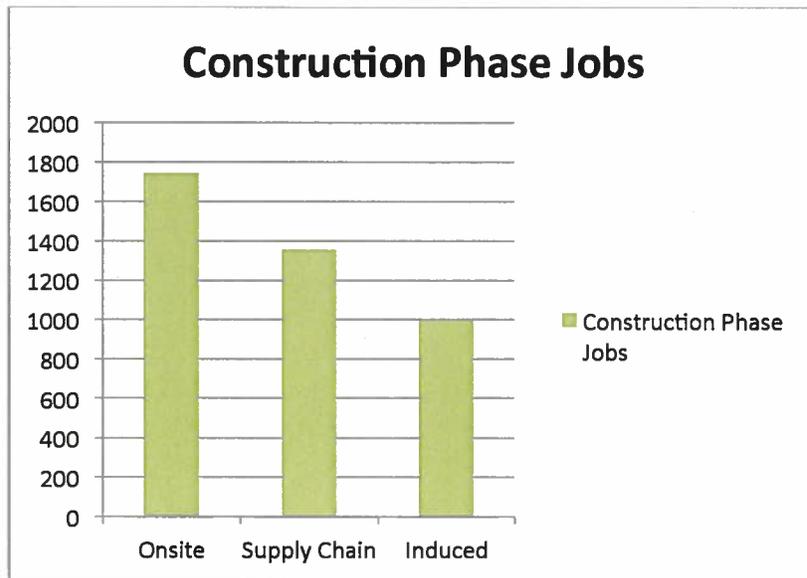


Figure B 3. Full-time jobs during the construction phase of 100 MW Solar PV Development in Arizona

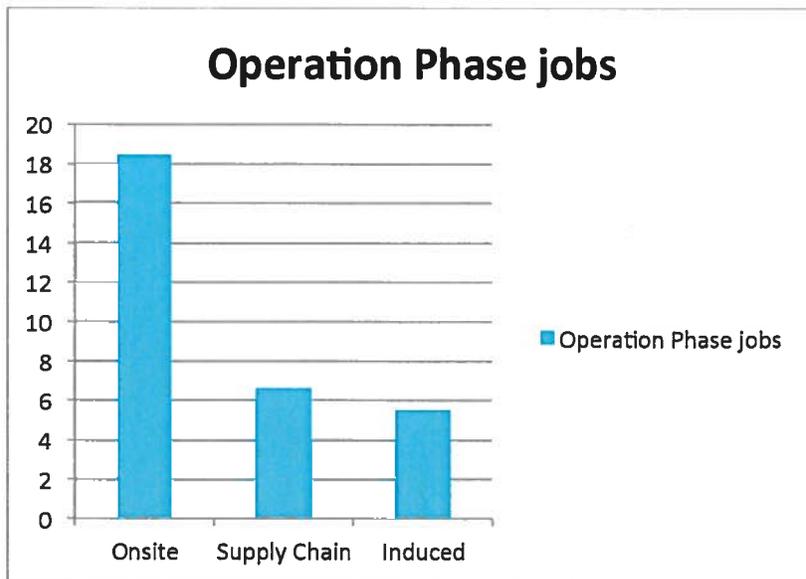


Figure B 4. Full-time jobs during the operation phase of 100 MW Solar PV Development in Arizona

### Concentrating Solar Power (CSP) Development

The following tables and graphs show the impacts of 100 MW of solar CSP development in Arizona. The construction costs were assumed to be \$4862/kW of capacity, and the operation costs were assumed to be \$72.68/kW of capacity, based on the default values of the JEDI model.

Table B 3. Jobs and economic impacts of 100 MW Concentrating Solar Power Development in Arizona

	Jobs	Earnings*	Output*
<b>During construction period</b>			
Project Development and Onsite Labor Impacts	789	\$95	\$116
Construction and Interconnection Labor	570	\$80	
Construction Related Services	219	\$15	
Equipment and Supply Chain Impacts	688	\$41	\$155
Induced Impacts	632	\$27	\$51
<b>Total Impacts</b>	<b>2,109</b>	<b>\$164</b>	<b>\$321</b>
<b>During operating years (annual)</b>			
Onsite Labor Impacts	35	\$3.0	\$3.0
Local Revenue and Supply Chain Impacts	31	\$1.6	\$5.4
Induced Impacts	40	\$1.7	\$3.5
<b>Total Impacts</b>	<b>106</b>	<b>\$6.4</b>	<b>\$11.9</b>

\* \$Million

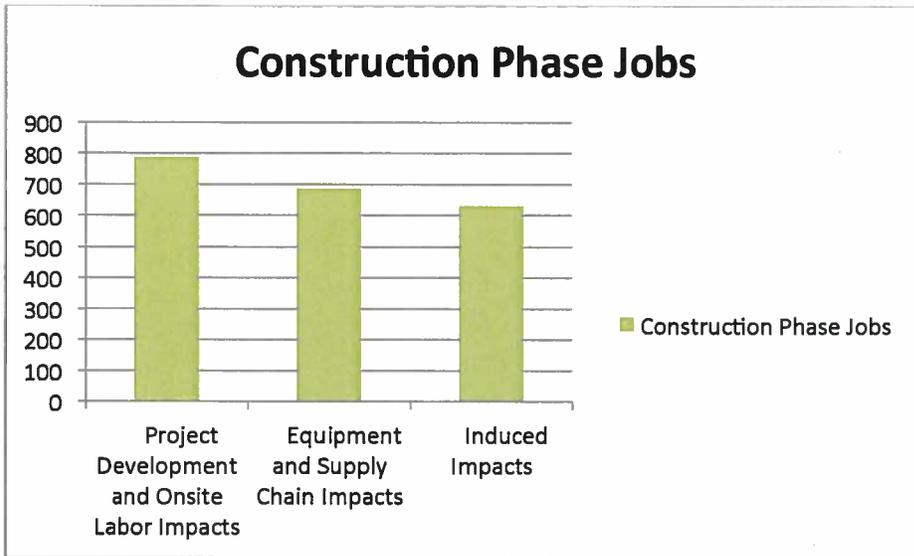


Figure B 5. Full-time jobs during the construction phase of 100 MW Concentrating Solar Power Development in Arizona

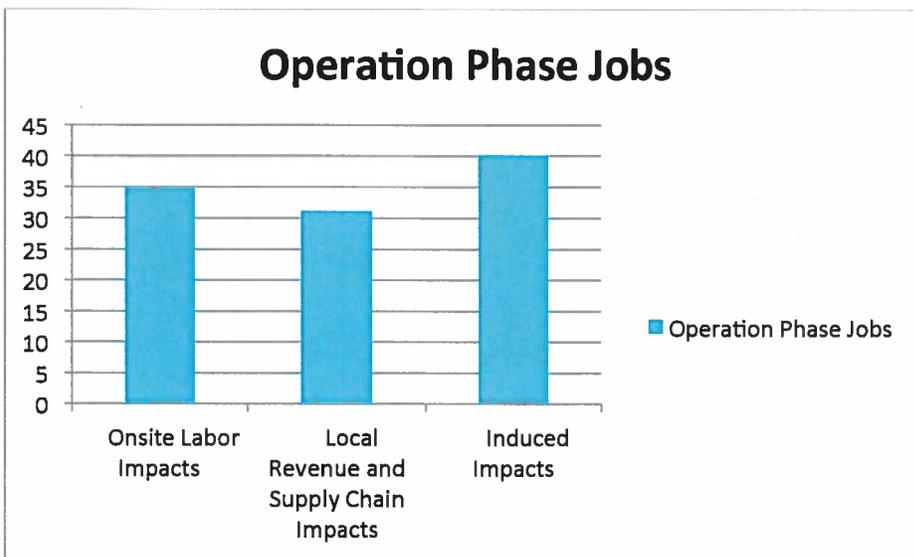


Figure B 6. Full-time jobs during the operation phase of 100 MW Concentrating Solar Power Development in Arizona





Utility-Scale Solar Projects in the United States  
Operating, Under Construction, or Under Development  
Updated February 5, 2015

Table with columns: Project Name, Location, Status, Capacity (MW), and Commissioning Date. Rows include projects like Nevada Solar One, Nevada Solar Two, Nevada Solar Three, etc., across various states including Nevada, California, Arizona, and Texas.







## Appendix C

### The Northern Arizona University Institute for Sustainable Energy Solutions

The NAU Institute for Sustainable Energy Solutions (ISES) has managed a wind resource assessment and reporting program for many years. In addition, ISES performs a range of wind and solar resource assessment and integration research. The following figure shows the locations of the program's wind resource test sites. Additional information and wind resource reports for each test site are available through the ISES website.<sup>3</sup>

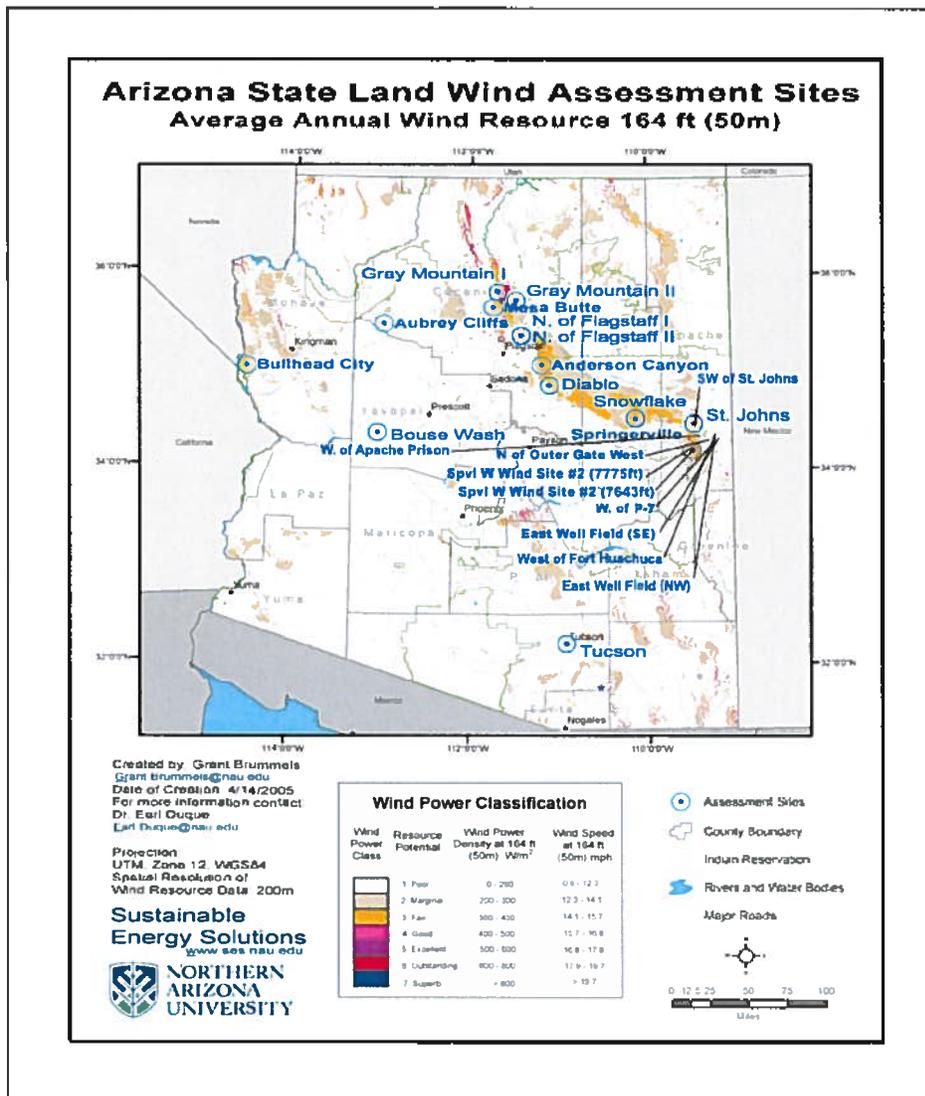


Figure C 1. Map of locations of anemometer loan program test sites.

<sup>3</sup> See <http://ses.nau.edu/>



**ARIZONA STATE LAND DEPARTMENT  
FIVE YEAR DISPOSITION PLAN  
UPDATE  
2011**



MARICOPA COUNTY

TABLE 6-2011 FIVE YEAR DISPOSITION PLAN UPDATE

FYPID	NAME	TOWNSHIP*	RANGE*	SECTION*	CITY	ACRES	TERM
40	Agua Fria Frontage	4N	1E	18	Unincorporated	167.9	N
42	NW Maricopa 78	4N	1E	8	Unincorporated	76.6	N
43	Happy Valley Road and Lake Pleasant Parkway 2	4N	1E	8	Peoria	4.9	N
44	Happy Valley Road and Lake Pleasant Parkway 1	4N	1E	4	Peoria	84.4	N
154	Hatfield Road and 91st Ave.	4N	1E	10	Peoria	108.0	N
220	Grand and Loop 303	4N	1W	19	Surprise	42.0	N
314	107th Ave. and Hatfield Road	4N	1E	7	Unincorporated	35.6	N
316	North of Hatfield Road	4N	1E	7	Unincorporated	10.0	N
324	South of Hatfield Road	4N	1E	7	Unincorporated	9.9	N
336	Agua Fria 40's	4N	1W	13	Unincorporated	119.7	N
359	Lake Pleasant Parkway - Lease	4N	1E	4	Peoria	26.0	N
141	Loop 303 and El Mirage Road	4N	1W	11	Unincorporated	246.7	M
148	Loop 303 and Hatfield Road	4N	1W	12	Unincorporated	138.7	M
149	Happy Valley Road and 115th Ave. 2	4N	1W	1	Unincorporated	402.1	M
150	Happy Valley Road and 115th Ave. 1	4N	1E	6	Unincorporated	5.9	M
151	Bearsley and Vistancia	5N	1W	36	Peoria	590.9	M
152	NE of Bearsley and 115th Ave. 1	5N	1E	31	Peoria	519.3	M
232	Saddleback Heights	5N	1W	6	Peoria	159.4	M
357	Carmino South	4N	1E	20	Peoria	344.2	M
399	Rio Vista - 1	4N	1W	24	Unincorporated	80.4	M
400	Rio Vista - 2	4N	1W	24	Unincorporated	105.4	M
401	Rio Vista - 3	4N	1W	24	Unincorporated	307.9	M
402	Rio Vista - 4	4N	1W	24	Unincorporated	478.0	M
34	Jomax and 163rd Ave.	5N	2W	36	Unincorporated	319.7	L
35	Jomax and 163rd Ave.	5N	2W	36	Unincorporated	139.9	L
36	155th Ave. and SR303	4N	1W	8	Unincorporated	432.6	L
37	155th Ave. and SR303	4N	1W	17	Unincorporated	9.9	L
142	Jomax and Bullard 1	4N	1W	3	Surprise	128.5	L
143	Jomax and Bullard 2	4N	1W	4	Surprise	371.9	L
144	Jomax and Bullard 3	4N	1W	3	Surprise	67.2	L
145	NE of Jomax and 143rd Ave.	5N	1W	33	Unincorporated	770.6	L
146	NE of Bullard and Dynamite	5N	1W	28	Unincorporated	641.1	L
147	Section 20 South of Bearsley 1	4N	1W	2	Peoria / Unincorporated	590.8	L
153	NE of Bearsley and 115th Ave. 2	5N	1E	30	Peoria	343.7	L