TCC
Pre-Filed Testimony
Paul Krupin
EXH-5302_T-RECON

BEFORE THE STATE OF WASHINGTON
ENERGY FACILITY SITING EVALUATION COUNCIL

In the Matter of the Application of: Scout Clean Energy, LLC, for Horse Heaven Wind Farm, LLC, Applicant.	DOCKET NO. EF-210011 PRE-FILED TESTIMONY OF TCC WITNESS PAUL KRUPIN

Q: Have you studied and reviewed the Horse Heaven Hills Wind and Solar Project Application Project?

A: Yes, I have read and reviewed both the original ASC and the Updated ASC the redlined version of the ASC, and the draft EIS. I have read and reviewed both the applications text sections and figures, drawings, tables, and attachments.

I conducted and led tours of the project site numerous times with local city, county, and state government officials, and representatives of many local organizations. I created graphic tour guides which I posted to the Tri-City Cares website and which can be viewed and downloaded here:

Take a Tour — Tri-Cities C.A.R.E.S. (tricitiescares.org).

~~Q. What are is your overall view of the project~~**?**

~~A. In my opinion, the project is too big, with too many turbines too close to people, and there are severe impacts that have not been adequately mitigated at all. There are no~~

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common-sense alternatives identified to offset the damage the project will cause as it is presently described.

With the other board members of Tri-Cities CARES, we wrote an article which was submitted and published in the Tri-City Herald as an op-ed on June 9, 2023. This link opens up the Herald article.

Horse Heaven Hills Op-Ed

I do not believe this project should move forward in its current condition. The proposed project as described in the Original Application as well as the Updated Project Application is deeply flawed and fails to adequately address the requirements of Chapter 463-43 which requires that EFSEC must follow the guidelines for applications found in Chapter 463-60 Washington Administrative Code (WAC). The guidelines require the applicant to fully address more than 60 subjects dealing with environmental and socioeconomic impacts, including measures the applicant will take for mitigating or offsetting impacts the project may have.

The HHWF application is filled with errors, omissions, and misrepresentations regarding the Project's purpose and need, premise, financial feasibility and viability, proposed action, lack of feasible reasonable alternatives, lack of mitigation measures, and the significance of environmental and community impacts that cannot be avoided.

Even in spite of these flaws and issues, the Application clearly demonstrates that the Project will bring about more harm than good. It is imperative that EFSEC identify develop, analyze and present alternative solutions, and not just a single proposed action, that actually meet the need for power generation and do not impose such

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extraordinary damage on the environment and the people who live in communities of Benton City, Richland, Kennewick, and Finley, as well as the rest of Benton County and the Tri-Cities and beyond.

The Project is Not a Farm

The use of the word “Farm” in the title of the project, is a misrepresentation from the very start which is repeated a myriad of times throughout the cover letter, summary document, the application and appendices, the historic records associated with the ASC, and all associated project documentation. The use of the word “farm” is misleading since it is not growing any crop for harvest at all. The use of the words "farm" and "windmill" gives the impression of innocence, insignificance and American as apple pie.

The project is not an agricultural activity under the regulations at all. The use of the words “wind farm” terminology is a distortion used in public relations to bias the view of the public towards something perceived to be green, eco-friendly, and not industrial and more damaging.

The Project is defined as an “Alternative Energy Source” using wind and solar to generate electricity under RCW 80.50.020 (1) (a) and (b).

The Applicant is required to include all topics listed in the RCW unless the applicant *requests they be deleted and EFSEC allowed them to be deleted*

WAC 463-60-115 General—Specific contents and applicability.

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It is recognized that not all sections of these guidelines apply equally to all proposed energy facilities. If the applicant deems a particular section to be totally inapplicable the applicant must justify such conclusion in response to said section. The applicant must address all sections of this chapter and must substantially comply with each section, show it does not apply or secure a waiver from the council. Information submitted by the applicant shall be accompanied by a certification by applicant that all EFSEC application requirements have been reviewed, the data have been prepared by qualified professional personnel, and the application is substantially complete.

The application and all associated documentation with the Project should be revised and utilize the definitions in the RCW and WAC accurately and consistently.

Cascading Errors and Omissions Render the Document Unusable for Rational Decision-Making

The RCW requires that an Application shall provide impartial discussion of significant environmental impacts and shall inform decision makers and the public of reasonable alternatives, including mitigation measures, that would avoid or minimize adverse impacts or enhance environmental quality.

In almost every case, the errors, omissions and misrepresentations contained in the application are failures and flaws which are first identified in the beginning sections of the application.

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~~These failures and flaws then cascade into subsequent sections and are causally connected to additional flaws and failures found in the remainder of the document.~~

~~Remedying these errors, omissions, and misrepresentations must be done carefully and EFSEC must recognize that all the sections of the Application are interrelated and must be made consistent with the necessary changes identified in the public review and adjudication processes. Examples include:~~

- ~~The Application fails identify, quantify and analyze power generation needs and capabilities.~~
- ~~The Application fails to identify, characterize and analyze numerous elements of the environment adequately and understates the impacts on the affected environment and people.~~
- ~~The Application fails to identify reasonable, logical, feasible alternatives that can meet the project objective and result in far less degradation and destruction of the affected environment.~~
- ~~The Application fails to identify reasonable, logical, mitigation measures to protect the environment from long-term degradation and destruction of the environment.~~

~~These and other errors and omissions trigger a cascade of subsequent failures that spiral through the Application starting with the failure to identify and analyze the impacts to the affected environment, which then results in no suitable alternatives~~

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~~being identified and analyzed, and then in no suitable mitigation being identified and analyzed, and no cumulative impacts being identified and analyzed.~~

~~These issues occur throughout the Application and thus render the document useless as a rationally prepared document for proper decision-making under the laws of the State of Washington.~~

~~The Application is Poorly Done and Uses Out-of-Date Publishing Technology~~

~~The manner in which this document has been published is out of date with current digital publishing technology and methods. The way this document was published resulted in a disrespectful, massive waste of valuable time on the part of everyone who sought to read, review, and comment on this document.~~

~~The Application and all the associated documentation needs to be thoroughly edited by skilled technical editors familiar with the styles and technologies used in digital publishing.~~

~~The Application Table of Contents needs to be thoroughly book-marked with live links that go directly to the internal sections of the document. This will save every reader and potential reviewer inordinate amount of time having to scroll through hundreds of pages to find the right section of the document. If the Table of Contents properly linked to bookmarks in all the internal sections, paging through the documents will no longer be needed.~~

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~~A similar approach using links needs to be adopted and utilized everywhere in the document and all associated documents to make using these materials quicker and more efficient. Right now, every time one encounters and seeks to refer to an external document that is mentioned, one needs to open up a new browser to search for, find, and then read the reference text. This results in a gargantuan difficult, arduous waste of time on the part of many participants, and reviewers.~~

~~Using bookmarks and hypertext links will help eliminate time wasted on the part of every user of these documents and make the act of going to a section of a document and every reference nearly instantaneous. Live, tested, validated hypertext links need to be utilized in every element or document in the application:~~

~~This change will dramatically improve the readability of the document and cause a dramatic improvement in the efficiency, effectiveness, and quality of the public review and comment process, and will significantly improve the quality of the permitting process outcomes.~~

~~The process being conducted by the applicant and EFSEC has not been adequately "transparent and inclusive". EFSEC has not been adequately adept at "encouraging meaningful public comment and participation in energy facility decisions" under RCW 80.50.010 (both added in 2022).~~

~~The Application needs to be revised and re-issued once these changes have been completed and a new public comment should be conducted in order to satisfactorily achieve the requirements of RCW 80.050.010.~~

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~~The ASC was Updated on December 1, 2022 without proper and adequate public notice.~~

~~Even the most cursory review of the ASC Update from December 1, 2022 shows massive numbers of revisions and substantive changes on dozens and dozens of pages. No public notice was provided. No timely opportunity to review the document was provided.~~

~~In addition, there is a lengthy biological effects document that was only prepared and distributed on January 9, 2023.~~

~~EFSEC should have given those who submitted scoping comments or otherwise expressed interest in the project notice that the ASC had been revised and amended.~~

~~Moreover, the Application itself should have provided notice that the ASC had been amended and adequate time should have been provided for a meaningful public review.~~

~~The Update to the ASC raises serious questions about the integrity of the SEPA process and compliance with the WAC.~~

~~Both the Application should be revoked and reissued with a new comment period.~~

~~The Application fails to make use of digital GIS mapping systems~~

~~It is common sense to think that the applicant would use the best commonly and readily available technology to help the agencies and the public explore and fully~~

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~~understand the scope and magnitude of the project, the affected environment and the impacts of proposed actions and alternatives.~~

~~But that was not done here. The Application documents fails to adequately describe the major environmental impacts of a proposal and fails to show how measures that can be taken to mitigate those impacts. The manner in which these matters is presented determines the quality of the process and the outcome.~~

~~The Application uses an archaic decades old style of presenting text, tables, color graphics using paper styled maps. The resulting quality of the documents are poor. The maps in particular are poor - the scale of the maps is so large it makes it exceedingly difficult to show the elements of the environment of the entire site on one page. The resolution and robust utility of digital GIS information resolves this quality problem and allows users and reviewers to readily get suitable information right down to individual turbine locations.~~

~~The details on the maps are fuzzy, the colors for the legends are often of such poor contrast it makes it exceedingly difficult to distinguish where specific elements are located and how they relate to project components. While the developer and EFSEC contracts may have used GIS tools to conduct their survey, they did not make use of these technologies in the Application effectively.~~

~~The ASC presents does not present maps that identify and number key project location including proposed micrositing corridors, turbines, solar arrays, roads, transmission lines, substations or other infrastructure components. These maps do~~

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not offer the detail needed at a scale that allows a reviewer or a government official charged with making decisions the ability to rationally understand and assess the proposed actions and alternatives, and the environmental and social impacts that result the proposed actions and alternatives.

GIS is a readily available tool that that can be used to assess the spatial distribution of social impacts. It makes it much easier to show how the proposed projects and alternatives intersect and conflict with elements of the environment. They can be used to create highly effective tools that depict and explain the conflicts at the intersection of engineering and environmental elements, political policies, developmental regulations, media influences, environmental pressures, globalization, and human rights.

References:

https://proceedings.esri.com/library/userconf/proc97/proc97/to200/pap171/p171.htm

https://storymaps.arcgis.com/stories/9f8caef8d9ee49f4ae73cf2df26b09a0

https://www.esri.com/en-us/lg/industry/government/stories/assessing-impact-new-developments-using-3d-gis-tools-lynwood-wa

Numerous federal, state, county and city agencies are utilizing digital interactive GIS tools to help navigate the governmental document and database management. Using these types of tools to navigate the energy project review process will dramatically improve the efficiency and effectiveness of all the agencies involved and make best

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~~use of the limited resources (staff and funding) that are tasked with the role of developing and reviewing documents in an expedited manner. Had digital interactive tools been developed for this Project, the review process would have been significantly streamlined and there would have been a community input process that would have been more effective, far less time consuming and highly beneficial.~~

~~Project design layers need to be easy to access and imposed on the elements of the environment so people can readily explore and understand the effects of the proposed action on elements of the natural and built environment. Interactive maps can be panned and zoomed right down to reveal details at specific trees, homes, and structures. Interactive GIS tools can be used in the documentation to help people writing the Application and the EIS's as well as by people reviewing and commenting on the documents.~~

~~*The Application needs to use readily available digital interactive GIS tools to make it easier for reviewers and decision-makers to explore and explain the conflicts between the proposed action and alternatives and the required elements of the natural and built environment. Using GIS in the permit application review process and downstream documentation can dramatically improve the quality of the communication of key issues related to proposed actions and alternatives and the evaluation of the impacts to the environment and mitigations contemplated.*~~

The application does not contain maps of the project that identify micrositing corridors and turbine numbers and locations suitable for a reasonably accurate analysis of the impacts.

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~~In particular, the lack of turbine numbers in the layout maps for Options 1 and Option 2 make it very difficult to identify and analyze conflicts with elements of the environment.~~

~~In order to conduct a proper review and develop comments that did identify problem project components, reviewers Dave Sharp and Paul Krupin made use of the Benton County Interactive GIS Data base systems and the Cal Topo Digital Mapping System.~~

~~Turbine location maps were created by transferring by hand, the location of the turbines on the Option 1 and Option 2 Project Component Maps to digital maps in the Benton County GIS and in Cal Topo.~~

~~In April 2023, we discovered that the DoD Agreements with Scout, which contained tables of the turbine numbers with the exact GPS coordinates of the turbines, had been published to the EFSEC website quietly with no public notice. This data was then utilized to create interactive digital GIS maps in Google Maps, Google Earth and CalTopo.~~

~~Here is a snapshot of a CalTopo map showing the entire project along with numerous key observation points in residential areas in the Tri-Cities.~~

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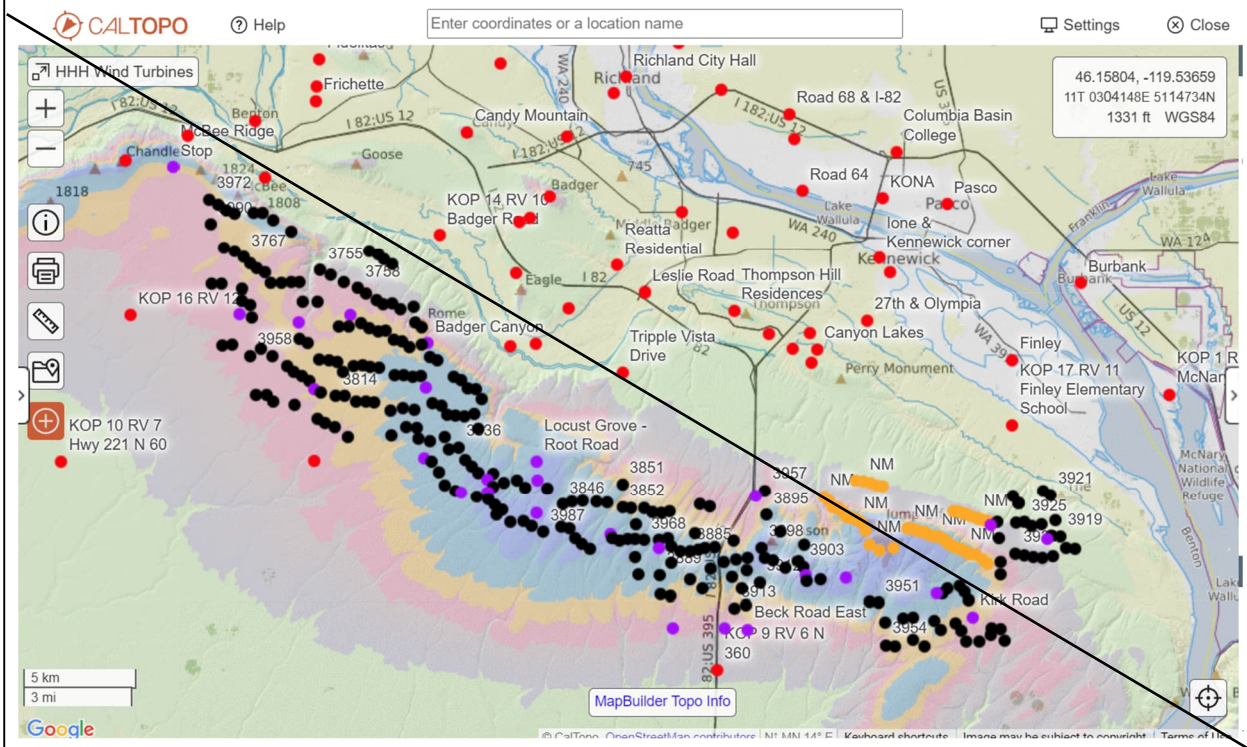
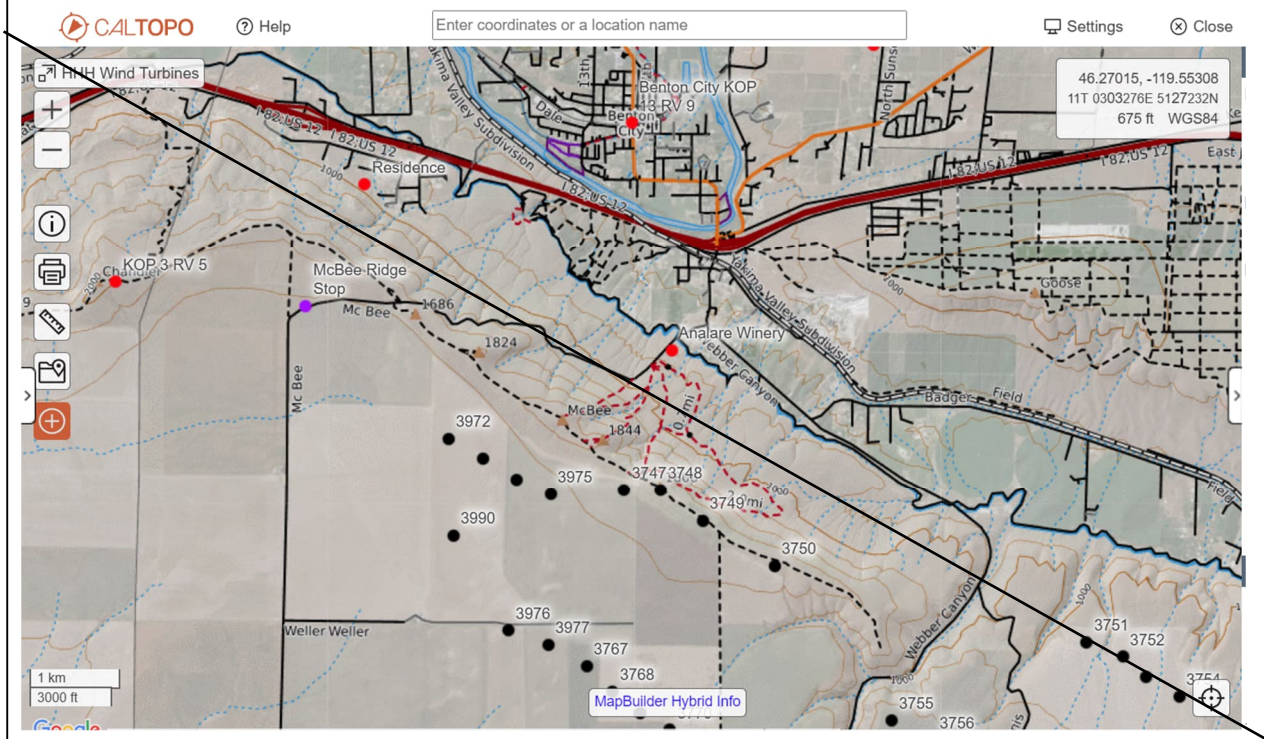


~~Her is an enlargement of a digital map using the aerial photo as a base.~~



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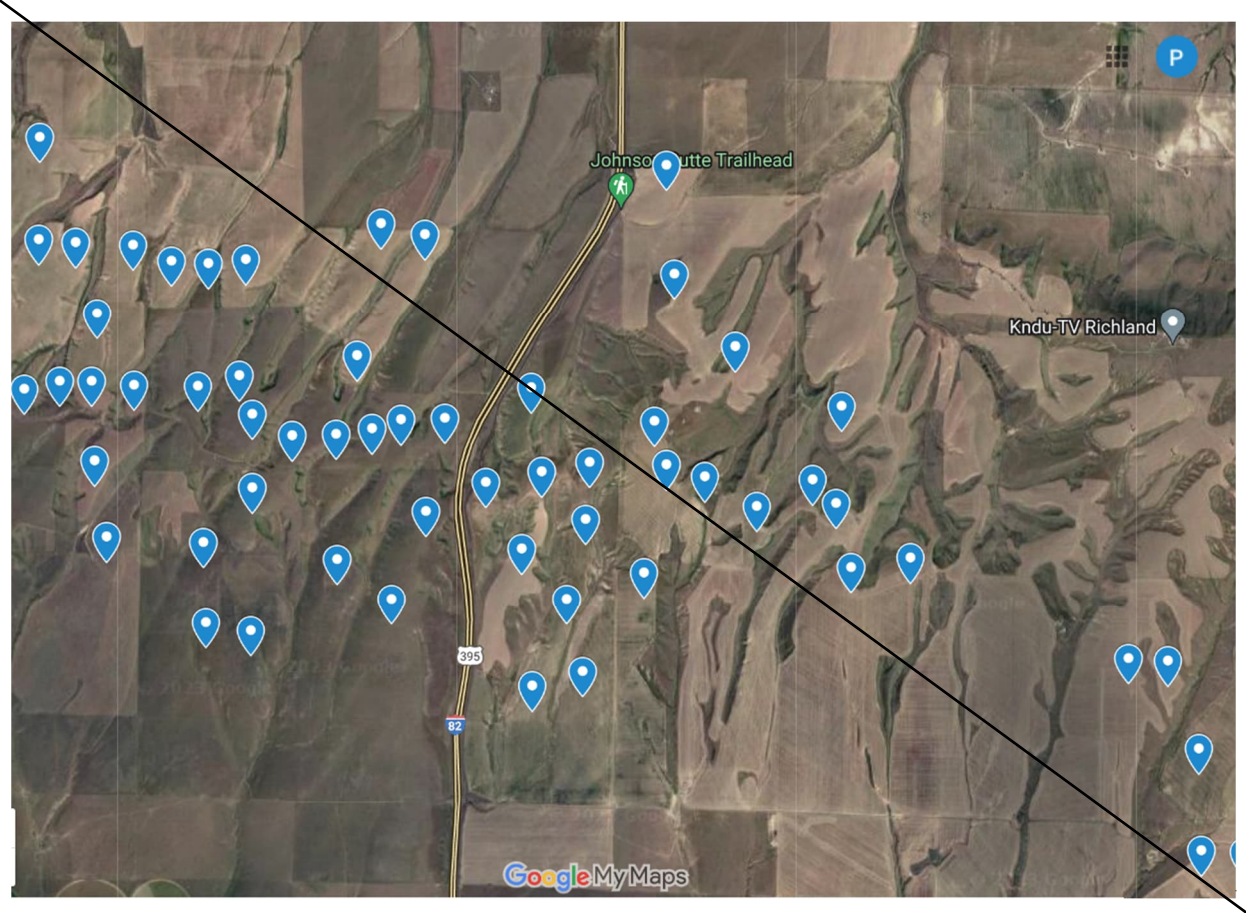
~~This map clearly shows the turbine numbers that in close proximity to frequently used, recreational sites, wineries with public tasting rooms, parks, and residential communities in the Benton City.~~

~~The Google Map can be freely used here~~

~~HHH Turbine Location Map using DOD Agreement GPS Location Data.~~

~~Here is a snapshot of the Google Maps with the turbines in close proximity to Highway 395 south of Kennewick.~~



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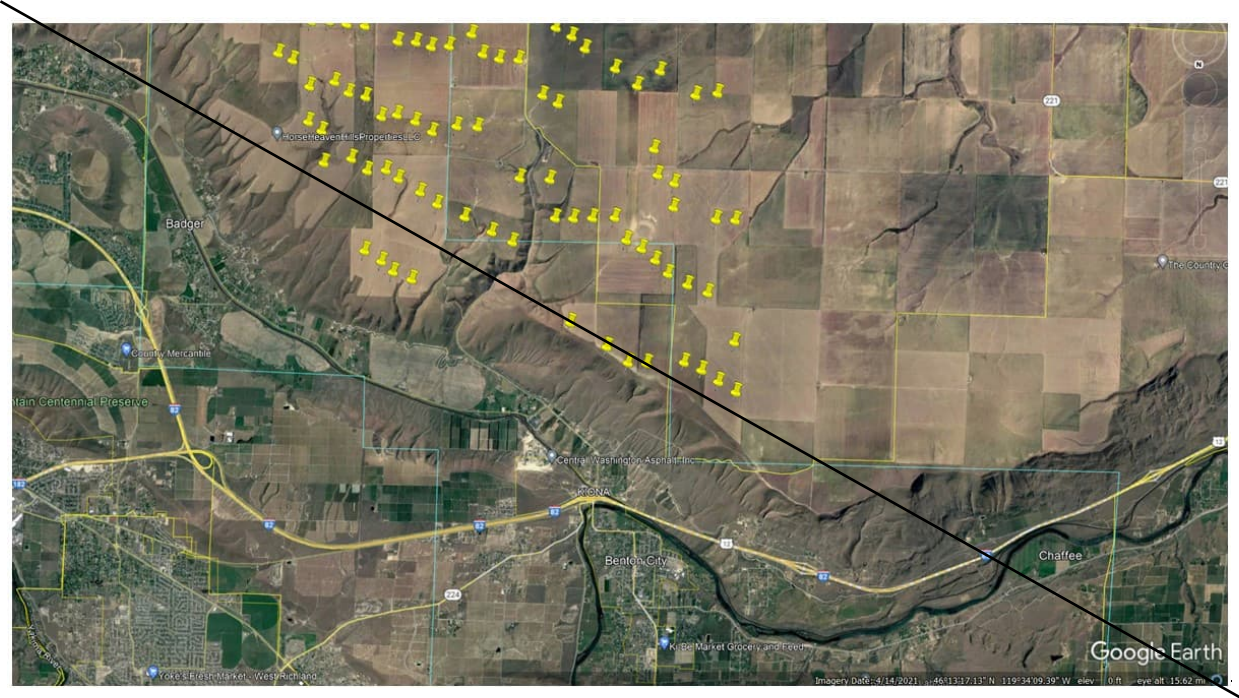
~~Here is a snapshot taken from the Google Earth Pro platform (which is free and can be used by anyone) showing the turbine south of Benton City from the north looking south. The pin points in the thumb nail tabs are located on the precised GPS location coordinate for each wind turbine.~~



~~The are all just simple examples of the types of images that can be readily developed and presented. But none of these tools were provided in the application.~~

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~~Including turbine numbers makes it much easier to identify and evaluate conflicts the proposed action has with other resource elements and values, and would significantly aid the public and EFSEC in identifying and evaluating potential alternatives that can reduce the impacts on the environment.~~

~~Project component map layers with numbers need to be utilized in a digital interactive GIS mapping system along with data sets for all appropriate elements of the natural and built environment so that easy and efficient analysis of potential conflicts can be conducted and achieved.~~

The Application fails to identify, document and demonstrate that the Project does anything at all to mitigate the cited near-term and long-term impacts from climate change.

~~The Application fails to present or even reference any evidence that the Project will have any positive impacts on climate change and global warming. It is irrational to evaluate the application without reviewing the data that shows that the project can even do the very thing it is being proposed for. There is no justification provided.~~

~~The Application fails to describe or justify how the Project contributes to helping solve climate change problem at all. The need for this particular project seriously needs to be questioned. Much of the alleged need for this project appears to come from well-popularized and poorly documented fears about global warming and climate change. In the haste for new sources of supposedly clean renewable energy, EFSEC runs the risk of being responsible for the destruction of the very environment they are charged with protecting.~~

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~~***This project*** deserves unprecedented scrutiny because of the significant environmental impacts it is going to cause. The project is the largest wind project ever proposed in the state of Washington. It is over 25 miles wide and eight miles across. Over 244 499 ft high wind turbines are to be constructed within six miles of over 100,000 people. These imposing structures will turn a natural looking skyline enjoyed by the residents into a constantly moving highly visible and damaging energy industrial complex.~~

~~The lack of a detailed statement of need and purpose is nothing more than a band-aid. To say the need is a given and does not need to be addressed is wrong – it is a ludicrous post-hoc justification for an already decided project, rather than a well-founded decision that prompts and is supported by a well-coordinated, quality search for a well thought out solution to an established, widely recognized, well-documented and widely accepted need.~~

~~Unless the Application can demonstrate with a reasonable degree of rational scientific certainty that it will produce reliable and substantial benefits on climate change that outweighs the damage and destruction it causes, then the Project should be denied. There must be proof that the underlying premise meets the requirements of RCW 80.50.010. EFSEC must not just blindly assume that this Project is needed and can be supported. Too many people are going to be harmed.~~

~~The Application must identify and describe the impact the Project will specifically have on climate change and global warming.~~

~~The Application Fails to Identify and Analyze the Impact Climate Change will have on the Project~~

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~~Conversely, the Application does not identify or present any information or evaluation of the impact climate change and global warming will have on the Project.~~

~~The state of Washington is forecast to experience several climate changes — summers are forecast to get hotter, storms may hit harder, wildfires may burn more frequently and burn longer, and extreme weather may also increase.~~

~~Will climate change undermine the ability of the Project to meet its stated purpose and need?~~

~~The impact that climate change will have on the wind and cloud cover needs to be identified and analyzed as the "worst case scenario."~~

~~The types of climate changes that are forecast may have a profound and detrimental impact on the project. The best-informed and most up-to-date climate change projects are also accelerating the rates of warming globally and regionally.~~

~~The Washington State Department of Transportation, University of Washington, the U.S. Environmental Protection Agency and many other scientific organizations have written widely about the types of changes in store for the next few decades.~~

~~References:~~

~~Guidance for NEPA and SEPA Project-Level Climate Change Evaluations (cakex.org)~~

~~https://www.pugetsoundinstitute.org/2020/02/new-report-describes-anticipated-climate-change-effects-in-washington-state/~~

~~https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-wa.pdf~~

~~https://cig.uw.edu/learn/climate-impacts-in-brief/~~

~~https://cig.uw.edu/learn/climate-change/~~

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~~In particular, it appears that wind speeds and cloudy days will change in a manner that will negatively affect the feasibility and viability of the project. The anticipated changes will reduce the amount of power that can be created during the life of the project in response to climate changes locally in the Project location, This needs to be carefully explored and evaluated.~~

~~These questions are not addressed in the Application at all. The Application must create a identify and evaluate climate change and take it into account for this Project. It needs to then carry that assessment into every section of the document as needed to properly forecast the impacts for rational decision-making. The Application must identify and describe the impact climate change and global warming will have on the Project.~~

~~Proposed Action and Alternatives Are Inadequate~~

~~The application fails to offer any detailed analysis of alternatives with fewer wind turbines and alternative locations because they would not generate the designed nameplate generating capacity required by the Applicant.~~

~~The Application fails to identify and evaluate the costs and benefits of a reasonable alternatives that can be demonstrated to feasibly attain or approximate the Projects objectives, but at a lower environmental cost or decreased level of environmental damage. The Application is clearly biased towards reaching a final decision before the EIS process has been completed.~~

~~The Application fails to adequately address the requirements in the WAC to identify and discuss alternatives. The detailed discussion and evaluation of alternatives is also required by SEPA.~~

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~~As described above, the application fails to cite and present the most current information regarding feasible power generation interconnection capacities and levels for the Project.~~

~~A review of the current BPA Large Interconnection Protocol requests on record indicates that the project is 850 MW, with up to 350 MW going through the Boffer Substation and up to 500 MW going through the Webber Canyon Substation. Within that 850 MW, there are a range of reasonable solar and wind turbine generation combination options that can readily be analyzed and discussed.~~

~~This analysis also indicates that the proposed action in the Application contains turbines in excess of the number of turbines needed to attain the project objects, and that turbines and the many miles of micrositing corridors and roads, can be eliminated from consideration and still meet the underlying purpose of the project. These proposals clearly illustrate that alternatives exist that can attain the project's objectives at a lower cost and a decreased level of environmental degradation.~~

~~The Application needs to be revised and reissued to include and evaluate reasonable alternatives. The project appears to contain over 70 unnecessary turbines. The micrositing corridors, turbine locations and other infrastructure should be eliminated and relocated to avoid and prevent significant conflicts with important resources and elements of the environment namely, wildlife corridors, wildlife habitat, fire safety and visual impacts. Reasonable alternatives must be identified and evaluated so that mitigation can be achieved to protect the natural and the built environment from damage and harm.~~

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~~Visual Impacts~~

~~The Application Fails to Adequately Identify and Evaluate the Visual Impacts of the Project on People in the Tri-Cities~~

~~Aesthetics is a required element of the built environment that must be identified and evaluated in Application. The information provided below is designed to supplement and complement and not duplicate the testimony provided by Dean Apostol.~~

~~The Application Visual Assessment Appendix 3.10-2 on page 4 states that the SWCA 2022 Visual Impact Assessment Report utilizes several key guidance documents to develop the visual inventory and analysis in the ASC and the Application.~~

~~References:~~

~~A Visual Impact Assessment Process for Wind Energy Projects, State Clean Energy Program Guide, Clean Energy State Alliance, May 2011.~~

~~https://www.cesa.org/wp-content/uploads/CESA-Visual-Impacts-Methodology-May2011.pdf~~

~~BLM.2013. Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands. BLM Wyoming State Office, Cheyenne.~~

~~https://blmwyomingvisual.anl.gov/docs/BLM_RenewableEnergyVisualBMPs_LowRes.pdf~~ .

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~~Sullivan, R. G., L. B. Kirchler, T. Lahti, S. Roché, K. Beckman, B. Cantwell, and P. Richmond. 2012. Wind Turbine Visibility and Visual Impact Threshold Distances in Western Landscapes (2022)~~ ~~https://blmwyomingvisual.anl.gov/docs/WindVITD.pdf~~

~~The Application Visual Assessment Report contains numerous errors, omissions and misrepresentations which render the document ineffective as a basis for decision-making~~

~~These problems include:~~

- ~~Failure to recognize the visual character and viewer sensitivity accurately.~~
- ~~Failure to define, identify and evaluate the visual impacts from appropriate representative viewpoints.~~
- ~~Failure to properly characterize and evaluate the severity of the visual impacts on people, property, agriculture, the local wine industry, and tourism in the affected environment in close proximity to the Project.~~
- ~~Failure to classify the impacts as Unreasonable and Unacceptable.~~

~~The application fails to even try to create a reasonable understanding of the size and visual impact of the wind turbines at all.~~

~~We created the following illustration to achieve that goal;~~

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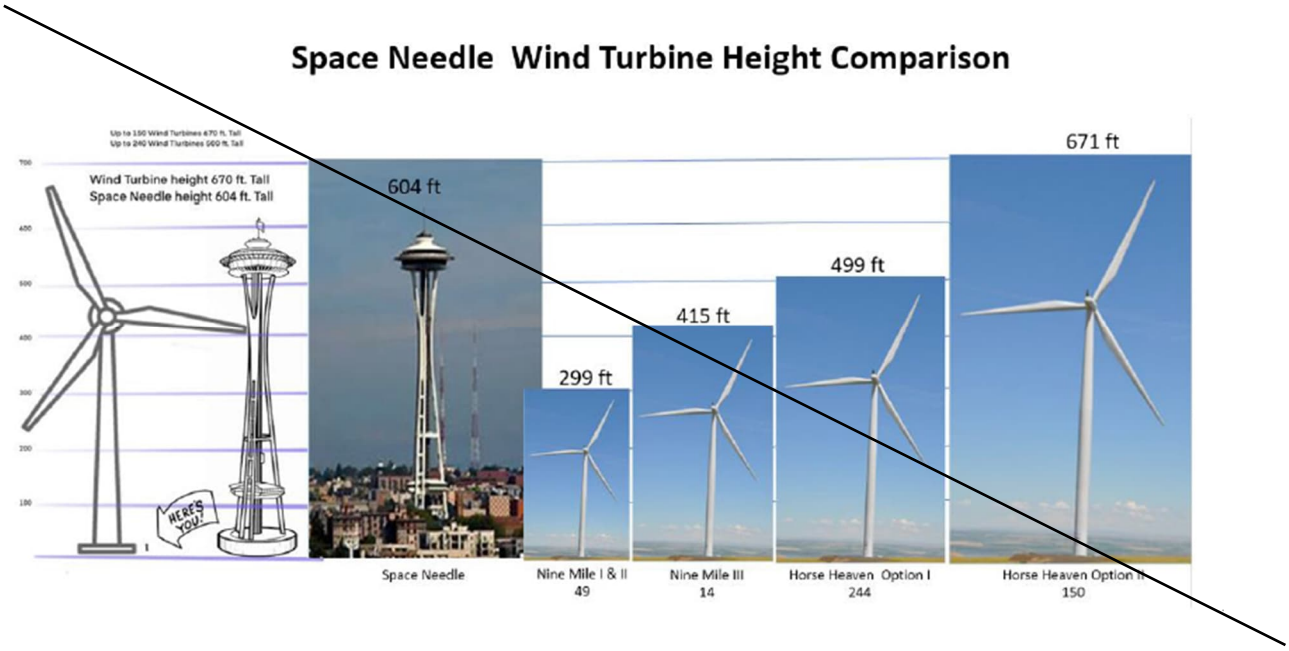

~~EFSEC needs to recognize and acknowledge the wide-spread expectation on the part of tens of thousands of home owners that there is a real risk of harm that will be caused by the visual impacts of the project. The openly voiced concerns focus on the risk of negative impacts on real estate valuations, access to recreation, the wine industry, and to tourism.~~

~~It is now widely accepted that anything that reduces the scenic values of the landscape will reduce the economic value of the properties affected.~~

~~Reference:~~

~~https://scenicsolutions.world/pricing-landscape-quality/~~

~~Very clearly, the project, if constructed as proposed, will dominate and replace the highly sensitive natural views of the Horse Heaven Hills with that of a massive,~~

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~~complex industrial energy facility. This will change the image people have of the entire region as a whole for decades to come.~~

~~The Application fails to even consider turbine elimination and relation as mitigation measures that can be used to reduce the visual impacts of the project. To date, the posture of the Applicant is that they want to build the largest project possible and they declare without proof, that anything less than the maximum will render the project less than viable.~~

~~EFSEC has without rational explanation or appropriate justification just taken the developers proposal and interests into account at face value and given property owners and public benefits short shrift when weighing the regulatory acceptability of the project.~~

~~The Application underestimates the expectations of homeowners and developers who purchased land and built homes believing that the basic natural visual character of the Horse Heaven Hills would be maintained and not destroyed by government approval of this wind turbine project.~~

~~The Application fails to even identify the fact that the Red Mountain AVA and the new Goose Mountain AVA both lie immediately adjacent to and due north of the Project boundary and the construction and operation of the Project. There is no evaluation of the potentially significant adverse impacts the Project will have on this billion-dollar wine industry.~~

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~~The application needs to specifically identify turbines and micrositing corridors and other infrastructure from the Project that need to be eliminated or relocated to prevent significant adverse environmental impacts from being caused by the Project.~~

~~The Application fails to characterize and analyze, and provide information to allow reviewers to quantify the level of impact to population.~~

~~The Visual Analysis Section 4.2.3 of the Application along with APPENDIX Q SWCA 2022 Visual Impact Assessment Report are seriously flawed and fail to adequately identify, quantify and evaluate the visual and consequential impacts on the people who will be affected by the project.~~

~~The Application fails to accurately identify and quantify that a large number of people in near proximity to the project are substantially impacted. There is absolutely no substantiative mitigation offered.~~

~~The Benton County Policy Guidelines for Visual Impact in the Benton County Comprehensive Plan state:~~

> ~~▪ *Public Lands designation Goal 3: Conserve visually prominent naturally vegetated steep slopes and elevated ridges that define the Columbia Basin landscape and are uniquely a product of the ice age floods.*~~
>
> ~~▪ *Policy 3: Pursue a variety of means and mechanisms such as the preparation of specific and area plans, conservation easements, clustered developments, land acquisitions and trades, statutory requirements to protect the natural*~~

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~~*landform and vegetative cover of the Rattlesnake uplift formation, notably Rattlesnake, Red, Candy, and Badger Mountains and the Horse Heaven Hills.*~~

~~**The Application fails to identify and evaluate the Benton County policy goals meaningfully and the fails to recognize the importance that the features hold for the County and its residents.**~~

~~.Attention and evaluation of comprehensive plan policies are required by BCC 11.50.050 PROCEDURES – VARIANCE AND CONDITIONAL USE PERMITS section c.2. which states (in pertinent part):~~

> ~~(2) Each conditional use permit approved by the Hearings Examiner shall specify the location, nature and extent of the conditional use, together with all conditions that are imposed to ensure the proposed use is consistent with all applicable state laws, the Benton County Code, the Benton County Comprehensive Plan and any other information deemed necessary for the issuance of the permit.~~

~~The application does not adequately address this requirement.~~

~~Wind Developers generally have looked to General Industry Best and Customary Practices in rural areas to analyze visual impacts of their project. However, the guidance does not cover a situation where the project wind project is located in close proximity to a major metropolitan area. The State of Washington is a good example. None of the wind projects in the State have been developed near a metropolitan area, or even a mid-sized town.~~

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The BLM VRM methods were generally developed prior to the increase in wind industry projects around the world and the nation. The most recent method to be commonly referenced is the Visual Impact Assessment Process for Wind Energy Projects from the Clean Energy States Alliance (CESA), which were developed to address the unique visual characteristics of wind energy projects (CESA 2011).

The Application fails to accurately apply the most applicable and relevant visual assessment guidance to describe and evaluate visual impacts.

The Application primarily uses Developer Graphical Information and Tools. These are inadequate, and do not allow a full picture of the affected environment making an effective evaluation impossible. There are numerous errors, omissions and misrepresentations.

The Application provides a Viewshed Assessment Map that extends the zone of influence to 25 miles. However, there is no indication of the degree of impact and influence that the views of the project will create. How many residents are within 25 miles? Unknown. How many residences are in the Mid-range viewpoint, which CESA recognizes as one of the more problematic locations. The answer is approximately 100,000 population within 6 miles and 50,000 within 5 miles.

The project maps are provided in the application are poorly done. These maps do not help anyone adequately survey and evaluate the identification, discussion and mitigation of the nature, severity and extent of the visual impacts the project will have

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~~on wildlife, endangered species, cultural resources and real estate values, growth and development.~~

~~The Applicant has identified the viewpoints, KOP's, Key Observation Points. However, they skew toward rural and low trafficked areas, and away from residential areas. Here are just a few of the specific errors and flaws.~~

~~KOP 3# taken near Chandler Butte. Viewpoint Focus-This is a very untraveled viewpoint. The access to the Butte is locked to prevent public access, and it is off project property be over two miles. In spite of that, nearly every turbine is visible from hub height. This is not an appropriate site when a key highly used point, McBee Hill on Chandler ridge just as easily could be used.~~

~~KOP #5-Picture from top of Badger Mountain. This has light to moderate hiker traffic. This KOP had only a single frame picture, and 101 of 101 turbines are visible from hub height. A panorama would be nearly 180-degree field of view and every turbine at hub height would be visible. We do not understand why the Applicant would not have provided the entire panorama. Additionally, the photo quality of this one picture of all of the other crystal-clear photos was heavily grayed out, and photoshopped toward the base.~~

~~This video from the Benton County GIS system shows what the view is from the location of the photograph used. The panorama is taken on the ridge crest between Little Badger and Badger Mountain. View of Horse Heaven Hills using Benton County GIS Benton County GIS (arcgis.com)~~

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~~KOP #9-From Benton City-This Visual Representation photo location mis-represents the dominance of the turbines on Chandler Ridge. Two of the 4 are hidden, one behind a sign, and the other behind a tree. Instructions to the developer during the SEPA scoping phase were to take the photograph from an unobstructed location. There are many unobstructed views from Benton City. The one is from 988 Babs Avenue on State Route 221 through Benton City.~~

~~KOP #10 -This KOP was added as a result of SEPA Scoping. The picture location is about 2.5 miles to the Southwest of where was supposed to be taken. As incorrectly taken, the photo is marked high impact and correctly characterize the impact.~~

~~The is where KOP was supposed to be taken. As can be seen, there will be much greater visual Impact.~~

~~The Application fails to identify the numerous urban areas with business sectors, highly trafficked roads and residential communities that will be subject to prominent views of hundreds of wind turbines in close proximity.~~

~~Documentation of the Area's existing landscape character visually is lacking almost entirely. The application fails to identify, describe and evaluate the visual characteristics of the affected environment north of the site, where over 300,000 people live and work.~~

~~The Horse Heaven Hills, particularly the Chandler Ridge are the most photographed ridgeline features in our area and the local Red Mountain Wineries, provide a high traffic stopping and relaxing point.~~

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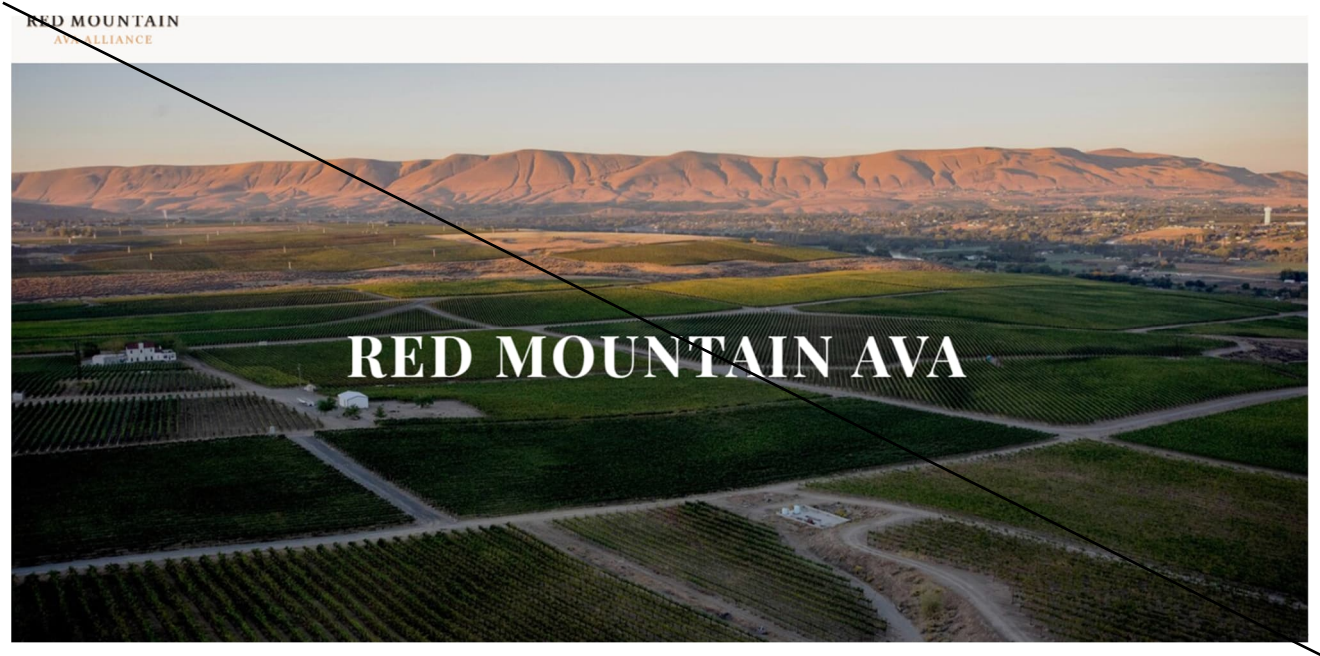
~~The following phot was taken from a drone in the Col Solare winery location, Hedges is on the left side of the picture. Fidelitas, Tapteal, Kiona, Frichette, Hamilton Cellars are just some of the wineries that have outdoor seating areas.~~

~~This ridgeline will be covered by turbines from east to west. This view will be marred and obliterated forever.~~



~~The Red Mountain AVA Wineries are in the shadow of Chandler Ridge and the Southern rim of the Horse Heaven Hills. These wineries do not have it easy. Competition is fierce in the Columbia Valley. The Project will not be viewed positively by the tens of thousands of customers to the Red Mountain Wineries.~~

~~The natural nature of this picture will be turned into an energy industrial complex.~~

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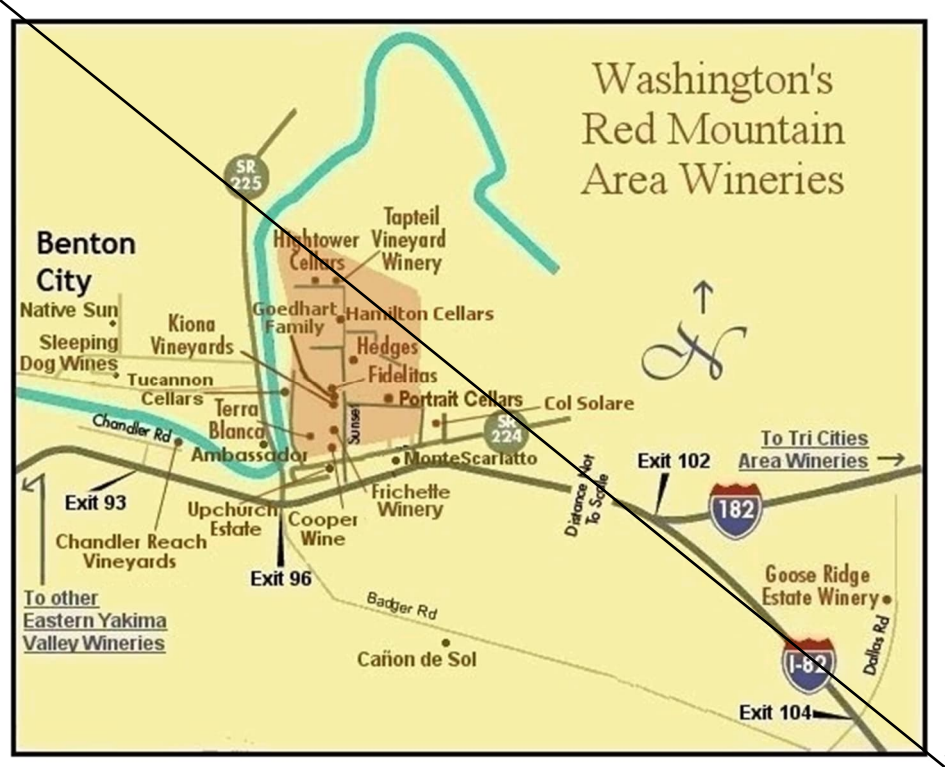
~~Here is an artistic depiction of what will happen to this view created by photographer John Clement.~~

~~There are over a dozen wineries and tasting rooms on Red Mountain.~~



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~~*This is the View from Goose Ridge Winery Outdoor Area Toward Chandler Ridge*~~

~~The Application fails to describe and evaluate the visual impacts on the Wineries~~

~~The Project proposed 244, 499 foot-high turbines, miles of transmission lines, over 100 miles of roads, at least 3 switchyards, and will have red flashing strobe lights on all night long. The topography of the HHH is such that for the central portion of the project there is a general upslope for about 3 miles, a crest, and then a downslope. This means mid-range distance from the project will be most visually impactful. More than one string to turbines will be seen. There are no intervening ridges, trees, or other objects to diminish the strong contrast that the turbines installation will generate.~~

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~~The Project will produce and impose a glaring industrial facility on what is presently a landscape characterized by rolling hills, canyons and arroyos, and steep slopes which historically and presently provide a wonderful palate for artists, or photographers, and recreationists. The stunning visual contrast coming from the sun highlighting features is invigorating.~~

The Application fails to accurately describe and evaluate the scenic resource attributes and sensitivity levels accurately.

As can be seen from the photos, and from many sources, this is truly a scenic resource. John Clement, a local photographer provided the photo below. As you can see below, a great deal of the Horse Heaven Hills is untouched. What it means is that the nearly each and every 499 foot-high turbine will be extremely visible. People in the adjacent areas will see dozens and dozens of turbines, strings of them.

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The next photo shows Right to Left-Chandler Ridge, Webber Canyon, Sheep Canyon, Scouten Canyon, and Badger Canyon.

The project will occupy and fill the entire skyline with 499-foot high wind turbines.

The Horse Heaven Hills in unique, The rims of these hills look like they do because of repeated carvings and runoff from the ice age floods.

The Developer continues to assert that the Ice Age Floods flowed around the Horse Heaven Hills. The HHH were a lakeshore, up to a level of about 1250' above sea level. Approximately 15 turbines will be installed below that elevation. This is the only geologic feature in the world like this.

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The Number of People Affected By the Project is Significant There are 300,000 population living in the immediate area, 100,000 within 6 miles, tens of thousands of people drive through the transportation hub with Interstate Highways, Amtrack, a mid-sized regional airport that has multiple airlines. Compare that to the other 10 counties in Washington that house wind projects. This is a routine travel and visitation route of travelers from Western Washington for a stop at the Red Mountain wineries and then traveling on to Walla Walla, and then returning.

Beyond visual impacts, the Application totally fails to identify, describe, and evaluate the socio-economic impacts of the Project on the wine industry.

Application at ASC Page 3.16.1.4 Economic Conditions brief summary misses the entire industry entirely.

> *"The economy in Benton and Franklin Counties has largely been dependent on federal funding for Hanford Site projects. Employment in the Hanford area has decreased in recent years as part of federal spending cuts. This decrease was part of a region-wide decline in employment between 2012 and 2013 and the end of American Recovery and Reinvestment Act funding (BFCOG 2021). As the Hanford Site's role in the region's economy decreases, agriculture, food processing, and transportation services have experienced growth in recent years. Additional economic trends within the study area relate to increases in agricultural tourism. These changes in economic conditions are often*

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associated with an emerging viticulture (wine) industry and specialty crop farming and tourism-related commercial and recreational activities. The region's tourism activities are often associated with the Snake, Columbia, and Yakima Rivers (Benton County 2021a).

The application fails to recognize that the wine industry in this area has a billion dollar value in Benton County alone, and the fail to accurately describe and analyze the impacts that the proposed project will have to the wine industry and tourism in the region. The application does not identify and evaluate the impacts on the workers that support the wine industry adequately. Benton City has the lowest family income of all the communities impacted by the Project. The KIBE school district has the largest number of non-proficient english speaking students compared to the other communities. Any impact to the wine industry not only impacts the wineries, but also the workers and their families.

Reference: https://www.tri-cityherald.com/news/local/article32059959.html

The Application fails to accurately describe and evaluate the way the Project will be and experienced from Important viewing Locations in the surrounding area.

The Project developer expresses the opinion that visual presence and impacts of the existing Nine Canyon Project are similar to that of the proposed Horse Heaven Hills Project. But the project turbines are almost twice as tall and they wrap around and show over the existing Nine Mile Turbines. This snapshot from CalTopo shows that

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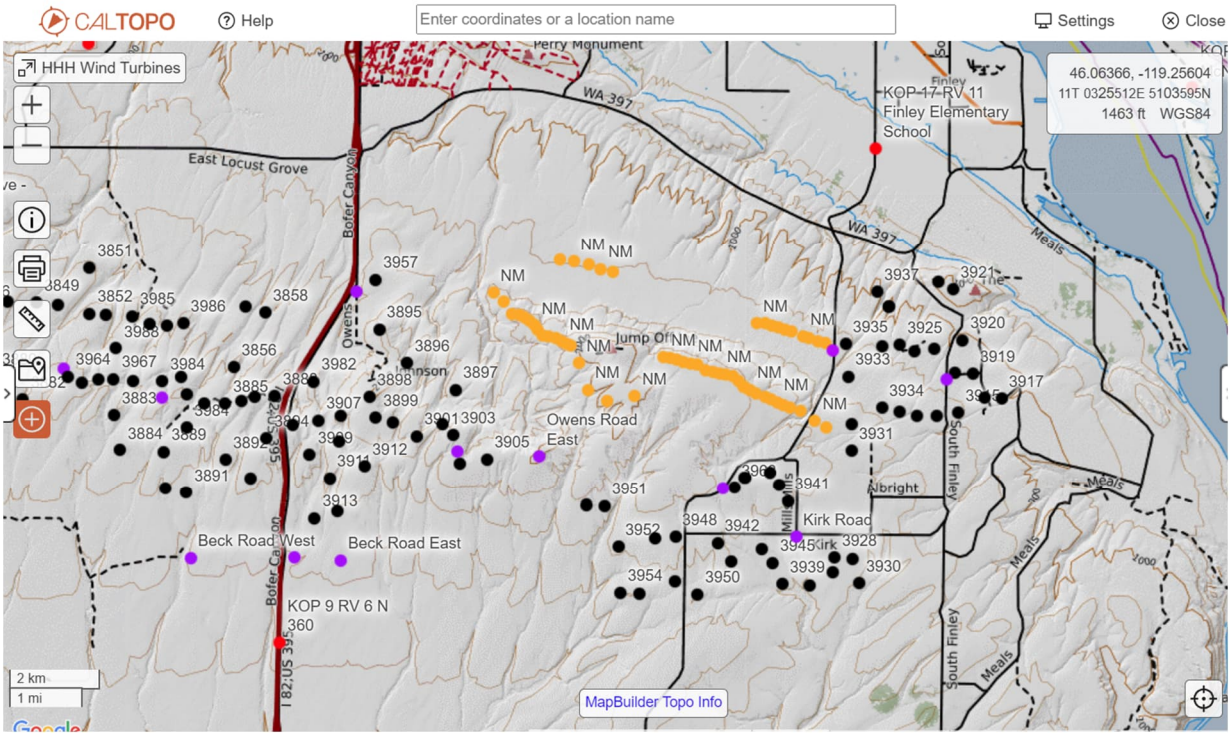
from Finley, WA just to the NE of the project, over two dozen 499 foot high turbines will be visible at three to four miles away, even closer than the smaller, existing turbines in the Nine Mile Project.



The Application fails to recognize that the sheer expanse and size of the HHWF Project dwarfs the Nine Canyon Project with higher turbines that occupy more landscape that people will see.

~~The Application fails to describe and evaluate the visual impacts consistent with the CESA 2001 guidance factors in a way that enables the population that will be affected to become aware of and understand the magnitude of the impacts of the proposed project.~~

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~~The HHH project is the largest wind farm proposed to date in the State. Other wind projects tallest towers are significantly shorter than the turbines on the proposed project.~~

~~The CESA guidelines have historically been utilized on small wind farm installations, in rural areas, significant distances from major municipalities.~~

The Application does not discuss the impacts of viewing the Project turbines while travelling along the many Tri-Cities roads and highways. There are busy highway interchanges and numerous very busy roundabouts Much of the wind turbines on this project will be seen at a 120- to 150- degree field of view. The most prominent visual impacts will be felt by the people who are located 3 to 8 miles away from the project. Many more people will see the project from 8 to 12 miles. The shape of the valley make the turbines along the ridgeline prominent and highly visible. The viewshed for tens of thousands of people will be cluttered. There will be multiple strings of turbines visible because of the shape of the basin and the lack of intervening topography.

~~ADLS Lighting. The application does not call for mitigation of the flashing red lights at night. However, SHB 1173 was signed by the Governor on May 9, 2023 and will have to install FAA-approved light mitigation technology.~~

~~The Application fails to describe and evaluate the project based on the CESA 2021 Guidance 2021 regarding "Unreasonable or Undue Visual Impacts"~~

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~~The application fails to identify that a exceptionally high degree of visual dominance will occur from the project at a large number of highly sensitive viewing areas within the region.~~ ~~The KOP's selected do not adequately identify or even describe the key residential area, highly trafficked roadways, recreational spots, winery outdoor seating areas, elementary schools, parks, river recreational locations, activities -- None of these are described or evaluated in the Application adequately.~~

~~The Application fails to identify and describe reasonable measures that can be taken to mitigate and minimize the visual impacts on the environment.~~

~~The Application fails to specifically and expressly make identify any mitigation measures to reduce the visual impacts of the project. Not one wind turbine or other prominently visible project structure was identified or considered for elimination or relocation.~~

~~References:~~

~~BLM's Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands (BLM 2013)~~

~~CESA's visual impact assessment process (CESA 2011)~~

~~As discussed previously, the existing turbine layouts identified as Option 1 and 2 in the Application, contain no turbine numbers to help identify visual impact conflicts and evaluation in the visual assessment.~~

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~~Turbine elimination and relocation are not discussed at all as a reasonable means to reduce impacts on visual resources. Clearly, reducing the number of turbines in view can dramatically reduce the impacts on the visual resources.~~

~~The mitigation measures proposed by the Applicant Application for the design, construction, operation, and decommissioning stages will produce non-existent mitigation and absolutely no meaningful protection of the visual resources.~~

~~Since the Developer did not provide coordinate locations in the application, the result is that the application understates and misrepresents the impacts of the turbines and fails to propose even a single location for relocation.~~

The Application fails to recognize that the Visual Impacts on Benton County are Significant and Disproportionate When Compared to Every other Wind Project in the State of Washington

The impacts of this project on a large number of people are unprecedented and far outside industry practices. Nowhere in Washington are there the number of people this close to this close to a large project.

The National Wind Database and US Population Census Data can be graphically portrayed to show how the wind power projects in Benton County compare to the 33 wind turbine project in the rest of the state of Washington.

The Application does not report this data at all.

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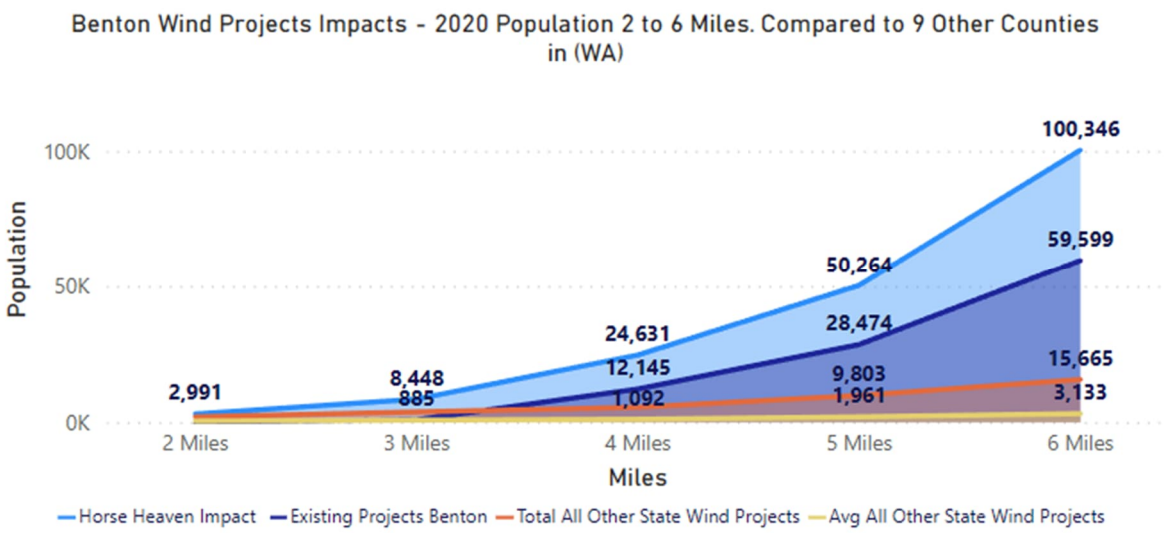

This table provides the numbers that support this graphic.

Benton County	2 Miles	3 Miles	4 Miles	5 Miles	6 Miles
Benton County	**2,991**	**8,448**	**24,631**	**50,264**	**100,346**
Horse Heaven Hills (WA)	2,987	8,191	17,293	42,148	83,657
Nine Canyon (WA)	22	663	3,059	11,027	25,641
Nine Canyon II (WA)	2	21	638	13,064	31,270
Nine Canyon III (WA)	16	324	10,357	27,100	59,031
Total Affected Population	**2,991**	**8,448**	**24,631**	**50,264**	**100,346**

Other Counties	2 Miles	3 Miles	4 Miles	5 Miles	6 Miles
Columbia County	**236**	**387**	**543**	**1,231**	**3,716**
Garfield County	**66**	**120**	**175**	**205**	**328**
Grays Harbor County	**420**	**1,131**	**1,467**	**1,698**	**2,766**
Kittitas County	**797**	**1,258**	**1,878**	**2,497**	**3,340**
Klickitat County	**445**	**906**	**1,460**	**4,290**	**5,739**
Total Affected Population	**1,943**	**3,772**	**5,460**	**9,803**	**15,665**

Other Counties	2 Miles	3 Miles	4 Miles	5 Miles	6 Miles
Average Affected Population	**389**	**754**	**1,092**	**1,961**	**3,133**

~~Reference: The Power data tool created by TCC to make these graphics is discussed herein on page 79.~~ ~~Internet link to the power data tool website~~.

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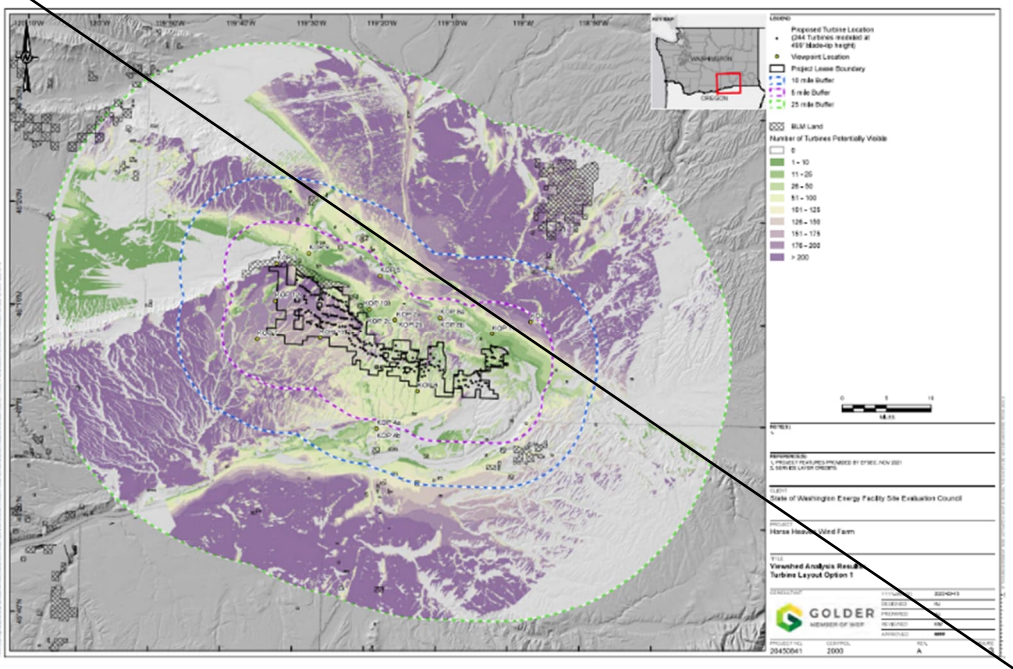
~~Table 1 on Page 8 of Application Appendix 3.10-2 lists KOPs and RV's The KOPs descriptions are not easily located on a map. There are no geographic coordinates provided. There is no way to validate the KOP location or any of the other KOP locations, at all.~~

~~The Visual Assessment Map Viewshed Analysis Results for Turbine Layout Option 1 is pretty much impossible to use for a reasonable evaluation of the visual impacts by reviewers or by anyone in the affected areas.~~



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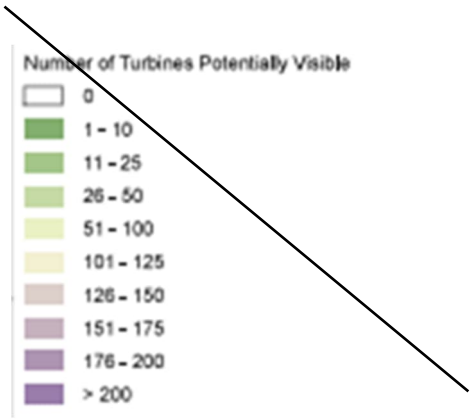

~~It is impossible to see the KOP's. It is impossible to read the KOP number.~~

~~It is impossible to determine the exact location of the KOP's There are no reference location markers (Highways, cities, rivers, etc) on the map anywhere.~~

~~Even the color legend makes it difficult to interpret what the colors mean. The gradients for the number of turbines visible go from low to high. The color spectrum starts at white, goes to yellow, then to green, then to yellow again, and then to lavender and purple.~~

~~This was very confusing so one of the members of TCC used Photoshop to recolor the legend and the map using a color spectrum found on the National Weather Service maps for temperature and precipitation. These maps use a color spectrum that goes from light to dark corresponding to low to high values.~~

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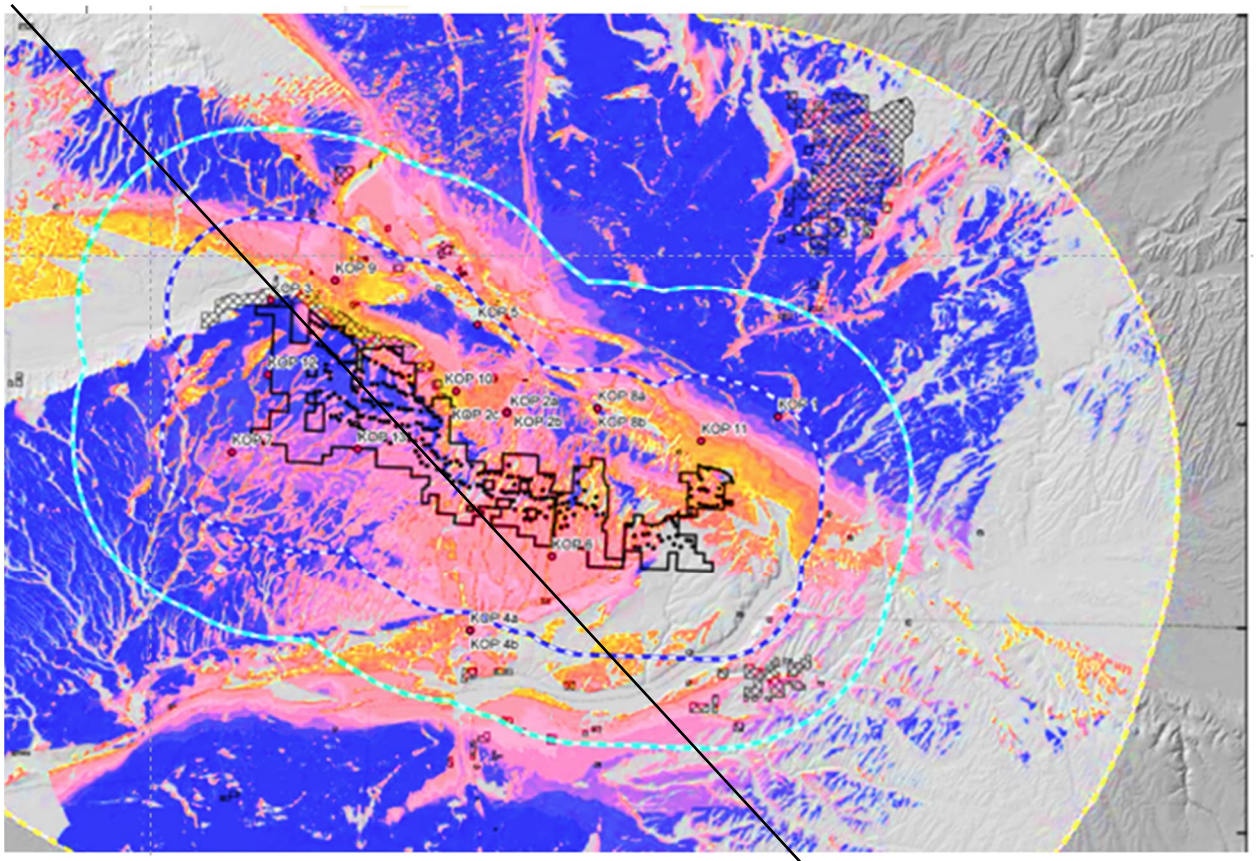

Number of Turbines Potentially Visible

- 0
- 1 - 10
- 11 - 25
- 26 - 50
- 51 - 100
- 101 - 125
- 126 - 150
- 151 - 175
- 176 - 200
- > 200

~~Even with the revised coloration, it is still extremely difficult to make reasonable use of this map. It is impossible to see the locations and details accurately.~~

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~~However, with this recolored map and legend, it is clear that a large portion of the people who live north of the Project will be seeing lots of turbines - 50 to 100, 100 to 200, 200 or more. This is not stated or described adequately in the application.~~

~~The Visual Assessment in the application fails to provide the "transparent and inclusive" requirements under RCW 80.50.010.~~

~~The Application Visual Assessment and Maps need to be completely redone. Using a digital GIS mapping system would also make these maps capable of being enlarged and panned so that people can see the impacts at known locations all across the region much more precisely.~~

~~The Horse Heaven Wind Project Visual Assessment includes 11 KOP's. This a very small number of KOPs given the size and geography of the Project. There needs to be more KOPs to properly sample and assess the visual impacts of the Project. In comparison, the Visual Assessment in the FEIS for the Whistling Ridge Project, with a~~

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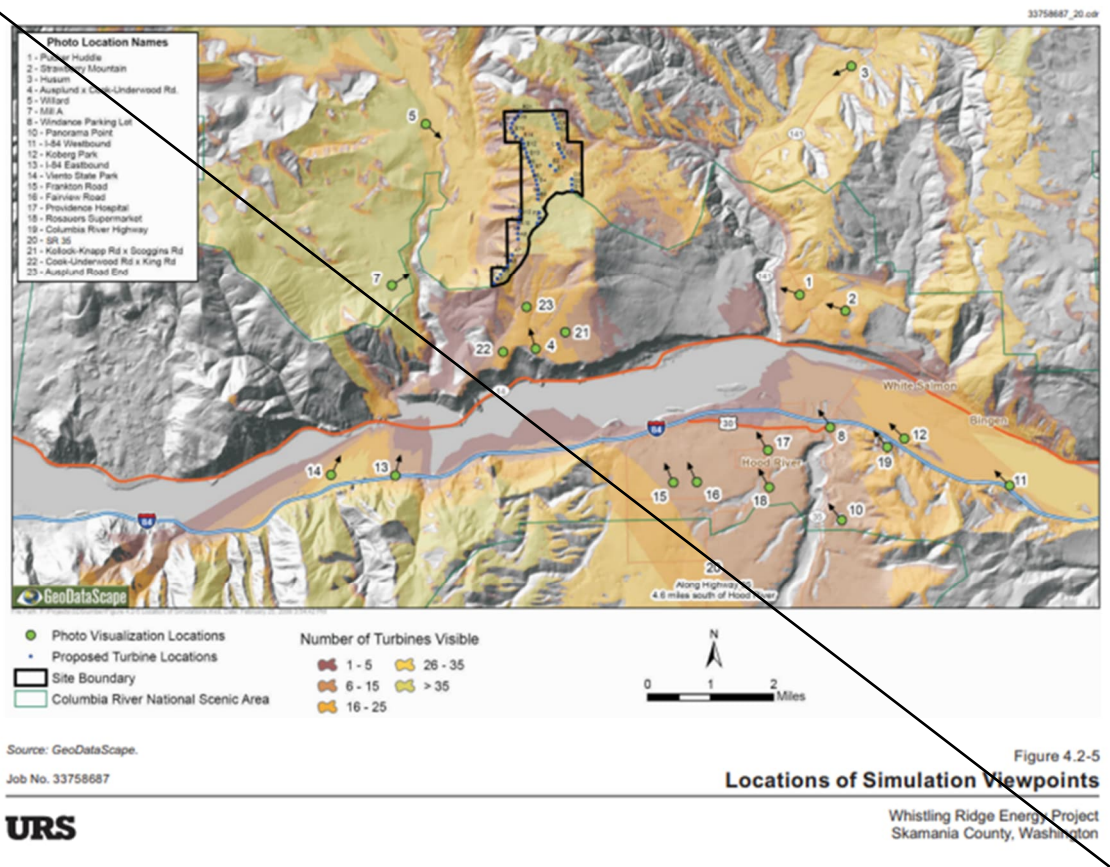
~~proposed 50 221 to 262 ft tall wind turbines contains 23 KOP RV locations.~~



Source: GeoDataScape.

Job No. 33758687

Figure 4.2-5

Locations of Simulation Viewpoints

Whistling Ridge Energy Project
Skamania County, Washington

URS

~~Reference: Whistling Ridge Original Application. The Aesthetics Section pages 4.2-27 to 4.2-72~~

~~A project the size of the Horse Heaven Hills Project needs more KOPs to accurately determine and evaluate the visual Impacts. More KOPs are needed.~~

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~~The KOPs selected and utilized in the Application Visual Assessment do not accurately capture the number of people that will be affected by the visual impacts in the Tri-Cities.~~

~~Only three of the eleven KOPs are located in in residential areas. However, U.S. Census data from 2020 indicates that over 100,000 people live within six miles of the project boundary. The three locations do not properly sample or represent the number and location of the residential areas within this six-mile radius where people live. Residential areas with unobstructed views of a regionally important and memorable scene would be very sensitive to objects or structures that would impede views.~~

~~Most of the remaining KOPs are from rural areas where very few people live, or on rural roads, or from recreation areas. The ratings of KOPs from seldom traveled rural roads where infrequent motorists have only distant, oblique views of wind turbines in an unremarkable setting would likely not qualify as representative of the populations affected by the Project.~~

~~Each of the Visual Simulations in the Application contains fine print that details the number of wind turbines that will likely be seen from each KOP after the project is constructed.~~

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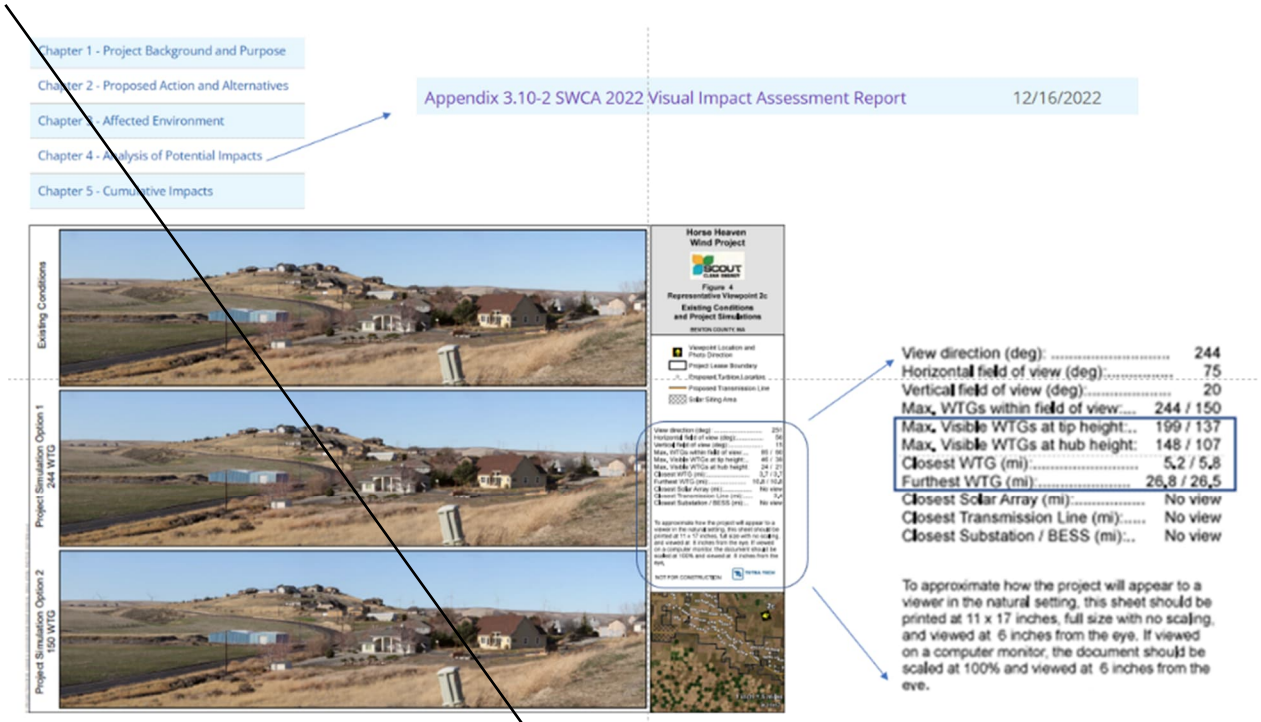

~~If you enlarge the page on your computer, you can then read the fine print.~~

View direction (deg): 244
Horizontal field of view (deg):..... 75
Vertical field of view (deg):..... 20
Max. WTGs within field of view:... 244 / 150
Max. Visible WTGs at tip height:.. 199 / 137
Max. Visible WTGs at hub height: 148 / 107
Closest WTG (mi):..... 5.2 / 5.8
Furthest WTG (mi):..... 26.8 / 26.5
Closest Solar Array (mi):..... No view
Closest Transmission Line (mi):..... No view
Closest Substation / BESS (mi):.. No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 6 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 6 inches from the eye.

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~~The Application does not provide a summary table so we tabulated the data and created an Excel spreadsheet.~~

KOP RV Simulation Data in the DEIS

Only three residential community lotions selected for visual simulation the rest are all in rural areas with low population

Figure - RV	Name	Direction	Field of View	WTGs Max	WTGs Tip Height	WTGs Hub Height	Closest 499	Closest 671	Furthest 499	Furthest 671
1-1	McNary	West 244	75	244/150	100/137	148/107	5.2	5.8	26.8	26.5
2-2a	S Clodfelter Rd	SE 132	57	75/38	56/29	50/24	3.9	4.8	13.4	13
3-2b	S Clodfelter Rd	South 189	57	37/19	36/19	30/17	3	3.5	6.2	5.9
4-2c	S Clodfelter Rd	West 251	56	85/60	46/39	24/21	3.7	3.7	10.8	10.8
5-3	Chandler Butte	SE 128	56	244/150	239/150	219/139	2.5	2.8	28.1	27.6
6-4a	I-82 South	North 350	57	163/110	51/40	34/26	7.3	7.3	19.6	19.4
7-4b	I-82 South	NE 46	57	85/42	66/37	58/33	7	7.3	16.2	15.8
8-5	Badger Mt.	SW 235	58	101/76	101/76	101/76	4.7	4.7	9.9	9.8
9-6	Bofer Canyon	North 360	60	41/17	37/17	29/17	1.7	1.8	5.7	5
10-7	Hwy 221	NE 60	58	122/90	118/87	110/85	5.8	5.8	11.9	11.8
11-8a	Canyon Lakes	South 193	57	43/20	40/19	37/15	3.6	5.4	7.4	7.3
12-8b	Canyon Lakes	West 258	57	153/105	137/101	102/83	5.9	6.1	16.8	16.6
13-9	Benton City	SE 195	73	61/47	5/5	4/4	2.7	2.7	9.7	9.6
14-10	Badger Road	SW 241	76	79/59	15/15	9/7	1.5	1.5	6.6	6.6
15-11	Finley Elementary	SE 169	73	33/47	23/12	19/11	2	2.5	6.6	6.6
16-12	County Well Road	NE 61	73	57/40	53/40	52/37	2.5	2.5	8.7	8.6
17-13	Travis Road	North 16	73	73/54	69/52	65/51	1.1	1.1	7.3	7.1

Spreadsheet created using the data in the Visual Simulations in DEIS Appendix 3.10-2

~~What this reveals is that the KOPs do not accurately correspond to or consistently represent what is presented in their Viewshed Maps for Options 1 and 2. Neither the table nor the viewshed maps reasonably help a reviewer or an EFSEC decision-maker determine and evaluate the visual impacts on the Tri-Cities.~~

~~There is also no evidence of any ground truthing in the Application.~~

~~The Viewshed Analysis in the Application Could Not Be Used to Evaluate the Project~~

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~~Since the viewshed analyses in the Application was so poor and could not be utilized to adequately assess the project, a number of special actions were taken.~~

1. Bruce Bjornstad, PhD. Geologist volunteered to take drone photos at several proposed turbine locations on the Project. This is the view from the Proposed Turbine Location just east of Webber Canyon.

This photo is taken 500 feet above the ground at a proposed turbine location off Dennis Road and Weber Canyon. It provides perspective and insight into the question who can see this turbine. With permission and photo credit to Bruce Bjornstad.

This photo reveals that people who live in Benton City, South Kennewick, Richland, Kennewick, Pasco and Finely will be seeing 100 to 200 turbines or more from their homes, on roads, and businesses, day in day out.

A 57 second drone video from this same location can be viewed here:

https://presari.com/media/dji_0005.mp4

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This helps answer the question "who can see this turbine?" We took similar photos from four locations, but for the sake of brevity, are only presenting one. The others reveal similar views from other locations.

2. Since the Application Viewshed Assessment does a very poor job describing what people will see from many critical residential areas in the Tri-Cities, we utilized a pro subscription version of the CalTopo Digital Mapping System https://caltopo.com/. CalTopo can also be downloaded to a smart phone and used in the field if wireless access is available. Free versions are also available.

The desktop version was utilized to create a whole series of Viewsheds to cover the KOPs that the Application could have and should have covered.

TCC identified and selected over a dozen key observation points representative of the residential communities and other highly populated viewing locations in Finley, Kennewick, Pasco, Richland, West Richland, and Benton City.

We then created CalTopo Viewsheds that can be viewed and downloaded as pdf files using the following links:

Benton City

Red Mountain Wineries

Queensgate Area

Summit View Residences

Reatta Residences

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~~Leslie Road at I-82~~

~~Badger Mountain Preserve~~

~~Badger Mountain South Residences~~

~~Tripple Vista Residences~~

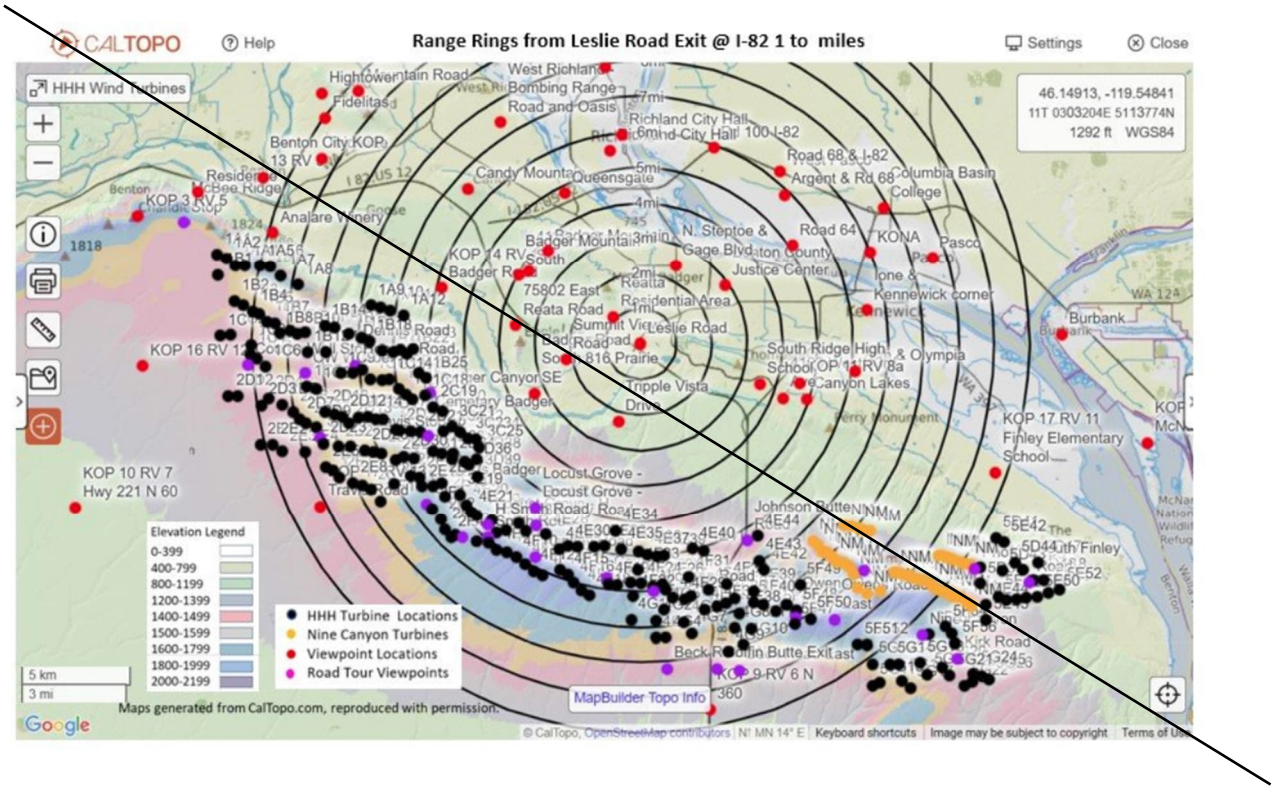
~~Thompson Hill Residences~~

~~Canyon Lakes Residences~~

~~Kennewick High School~~

~~Finley~~

~~The following viewshed is centered on the location of the roundabout at the Leslie Road exit on Interstate 82 in Kennewick WA.~~



~~The links above then open up individual viewshed graphics from each of the separate locations.~~

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~~For each graphic, the viewpoint location is the red dot at the center of the range rings. The range rings are 1 to 10 miles in one-mile increments. The black markers are HHH turbines; the yellow markers = the existing Nine Mile turbines; Black marker on Purple = the hub is visible. Black on Gray = partially visible to not visible depending distance and on intervening topography.~~

~~The viewsheds are aimed at the hubs on the 499 ft. high turbines, you will see more if they build the 671 ft. high turbines, which are taller than the space needle.~~

~~We ground truth each of these photos by going to each location and taking ground photography using a hand-held smart phone.~~

~~In order to understand how the height of the wind turbines would be perceived from varying distances, we used Internet calculators to create the following chart. We were conservative and utilized the height of the largest turbines in the Nine Mile Project. (14 turbines at 415 ft high compared to 49 turbines at 299 ft high).~~

~~We conducted many ground truthing road trips and then reviewed the USGS topo maps, the CalTopo Viewsheds, and the proposed project maps for Option 1 and Option 2 from the Application. We reached the conclusion that the CalTopo Viewshed maps are conservative in that they likely show less than what will actually be visible.~~

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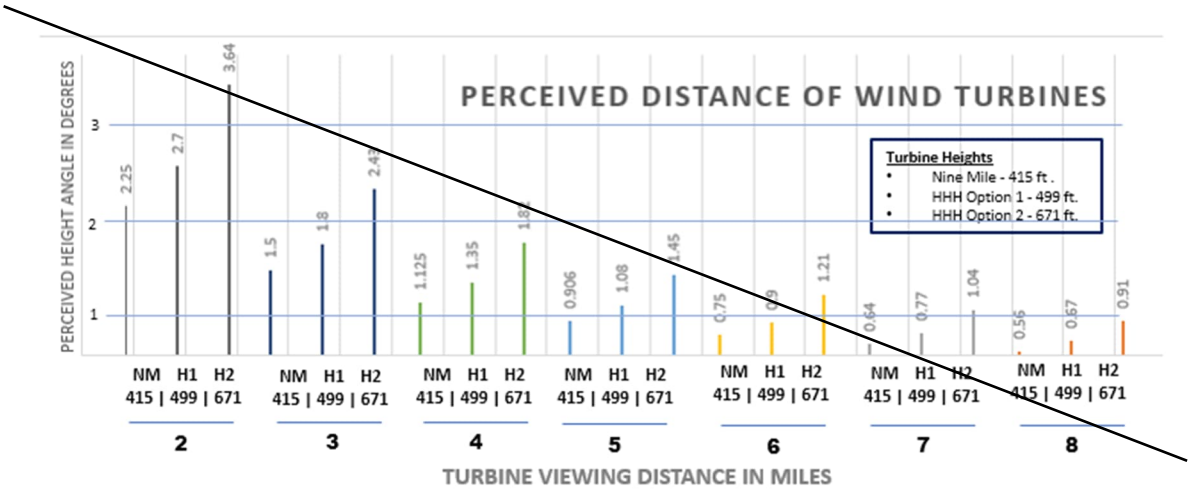
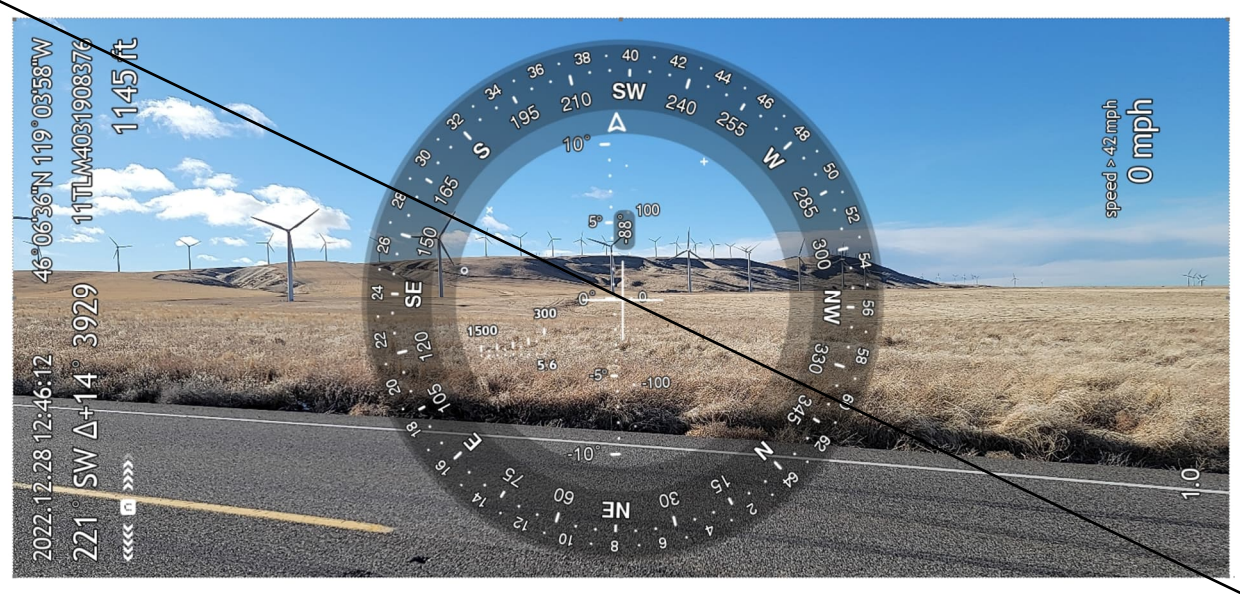


~~By selecting the distance in miles, you can then see the radial angle of the height of the wind turbines you are interested in.~~

~~We used a digital compass on a smart phone called Spyglass to ground truth this table.~~

~~The closer you are, the bigger the turbines will appear to you.~~



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~~To offer some ground level perspective, here is a photo taken from 75802 East Reata Road in Kennewick, followed by the CalTopo Viewshed taken from the same location with the viewshed elevation set at the height of the hub on the 499 ft high turbine.~~

~~There will be more than a dozen turbines in full view from the flat bench in the center of the photo to the left (and to the south on the viewshed map). This is just three to four miles away from the photo location.~~

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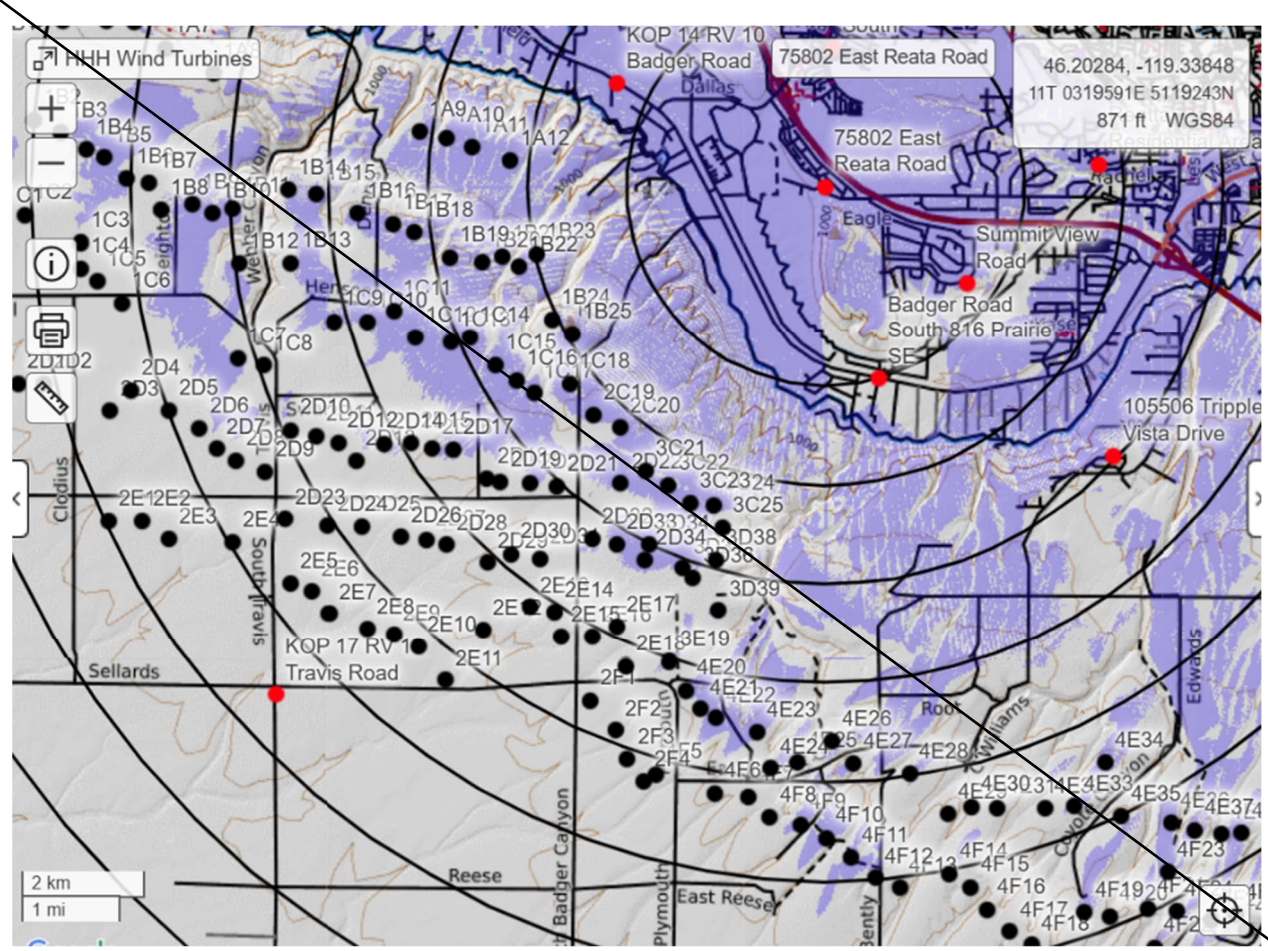

~~Both the picture and the viewshed face toward the Southwest. The photos indicates that people who live and drive in this neighborhood will be seeing full views of 150 to 200 turbines of the A, B, C and D Turbine Strings from the south east through the southwest.~~

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~~Here is the Viewshed provided in the Application taken from downtown Benton City~~

~~The application simulation literally blocks and obscures the view of the project that will be seen from this location. The gas station sign and the trees obscuring more than half of the view in the photo and they analysis yields absolutely no information of value to the visual assessment. It's basically useless.~~

Figure 13
KOP 13
RV9
SE 195

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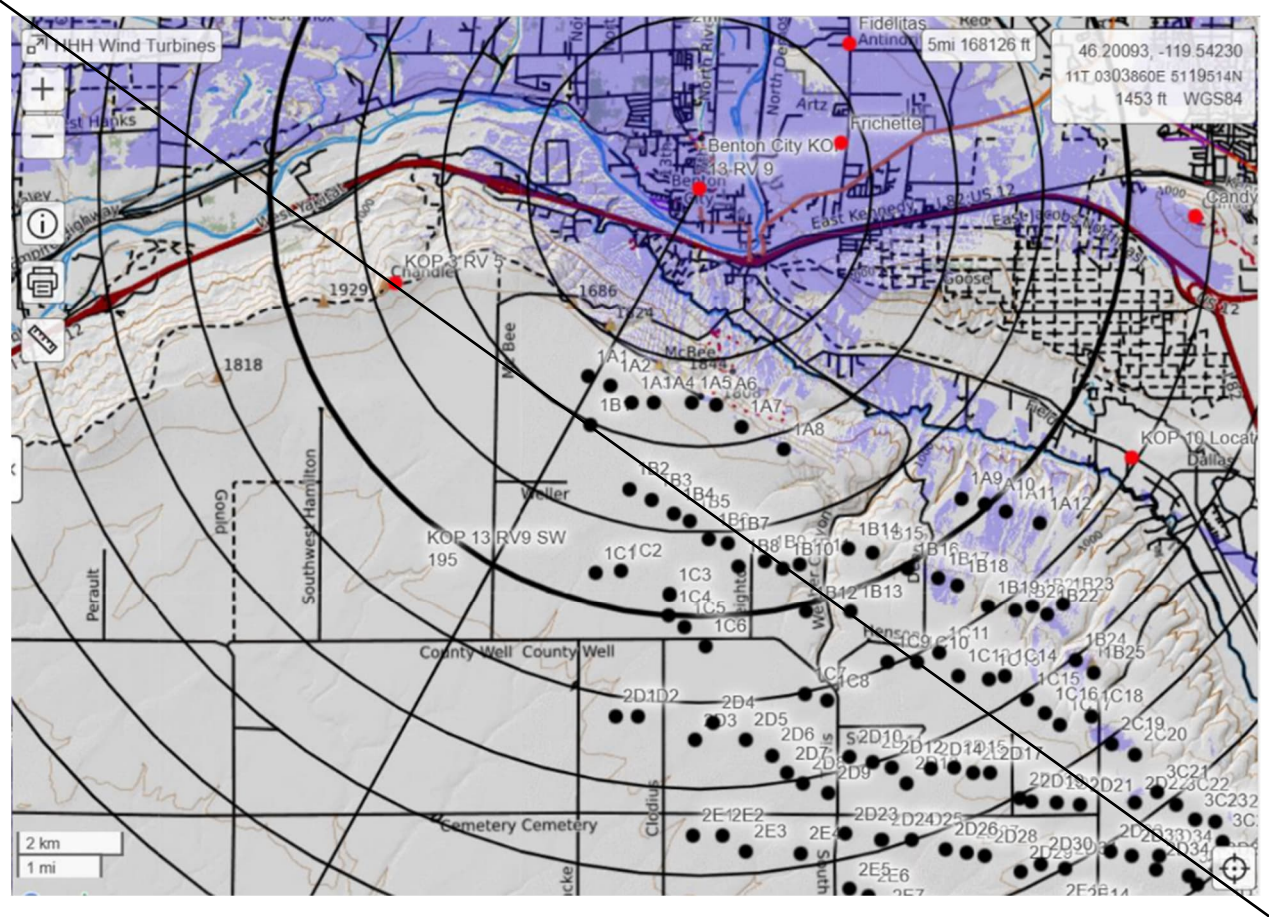

~~This next viewshed sample Viewshed is located on the Fidelitas Winery on Sunset Road in the middle of the Red Mountain AVA.~~

~~The nearest turbines are 4.5 miles away and they will be able to see a dozen or more 5 to 7 miles away. Right from the porch at the wine tasting room.~~

~~The higher you go on Red Mountain, the more wind turbines people will see.~~

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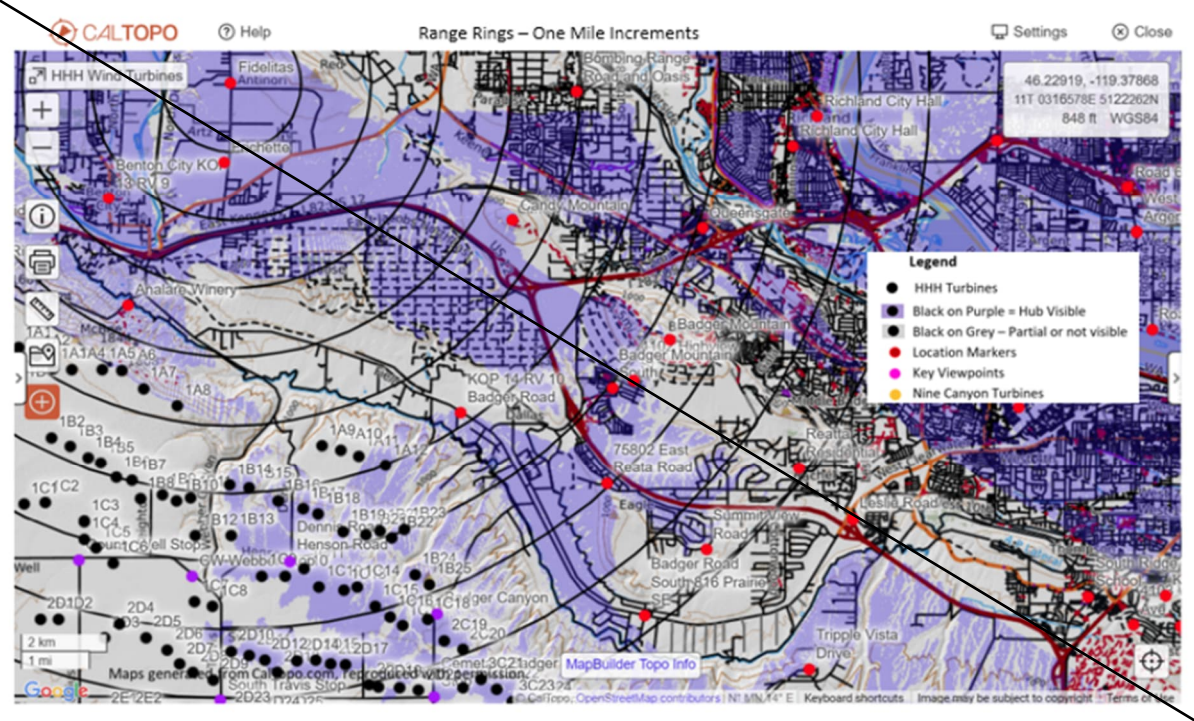
Fidelitas Viewshed 499 ft hub height



~~This next viewshed is located on the Thompson Hill Residences just off the Hildebrand Street - Bob Adams Parkway Intersection with Highway 395 in South Kennewick~~

~~50 or more turbines will be visible from this residential community at distance from 5 to 98 miles away. The Nine Canyon turbines are also visible from this location. They are smaller than the Horse Heaven turbines, which will be larger 499 feet high or 671 feet high, and will be visible towering over the smaller one.~~

~~A ground photo taken from one of the homes on South 26th St helps put the viewshed into perspective.~~

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~~Finally, we received a photograph taken by retired engineer Elliott Aholo, who lives at : 30751 E Red Mountain Road, Benton City. The camera he used is a Nikon D800, 200mm lens. The photo was taken on 13 March, 2016 at 6:37 pm. The photo meta data shows 5:37 pm, but the length of the shadow of Red Mountain suggests the camera clock was not "sprung forward" to Daylight Saving Time.~~

~~Landmarks that can be seen in the photo:~~

1. ~~Grain elevator on Clearwater Ave is at extreme left of image.~~
2. ~~At center is the radio tower on the hill south of Finley near Highway 397 and S Finley Rd.~~

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3. At far right is Thompson Hill and the water tanks on the eastern flank of Badger Mountain, south of Trailhead Park.

4. All the turbines are on the east side of the Columbia River, the ones near the center of the photo are of the eastern State Line Wind project on the ridge just south east of Wallula Junction (Washington).

5. Kennewick Walmart is large white building in the middle of the photo just below and right of the Finley radio tower.

6. The intersection of Keene Rd and Belmont Blvd in southern West Richland is at left foreground.

7. The turbines at the extreme left are part of the Combine Hill II project located just south, and a little east, of the intersection of Hudson Bay Rd and Schubert Rd about 8 miles due west of Milton-Freewater.

    a. The dark hills in middle of photo are those south of Kennewick.

    b. The sunlit hills in the background are between Wallula and Milton-Freewater.

    c. The Oregon Blue Mountains around Tollgate would normally dominate the far background if they were sunlit and not in cloud shadow.

A CalTopo Map was created to show the location where the photo, the segment of the terrain that the photograph captures, and the viewshed map of the HHWF turbines, facing the direction.

This set of illustrations shows that the wind turbines are visible from as far away as 60 miles.

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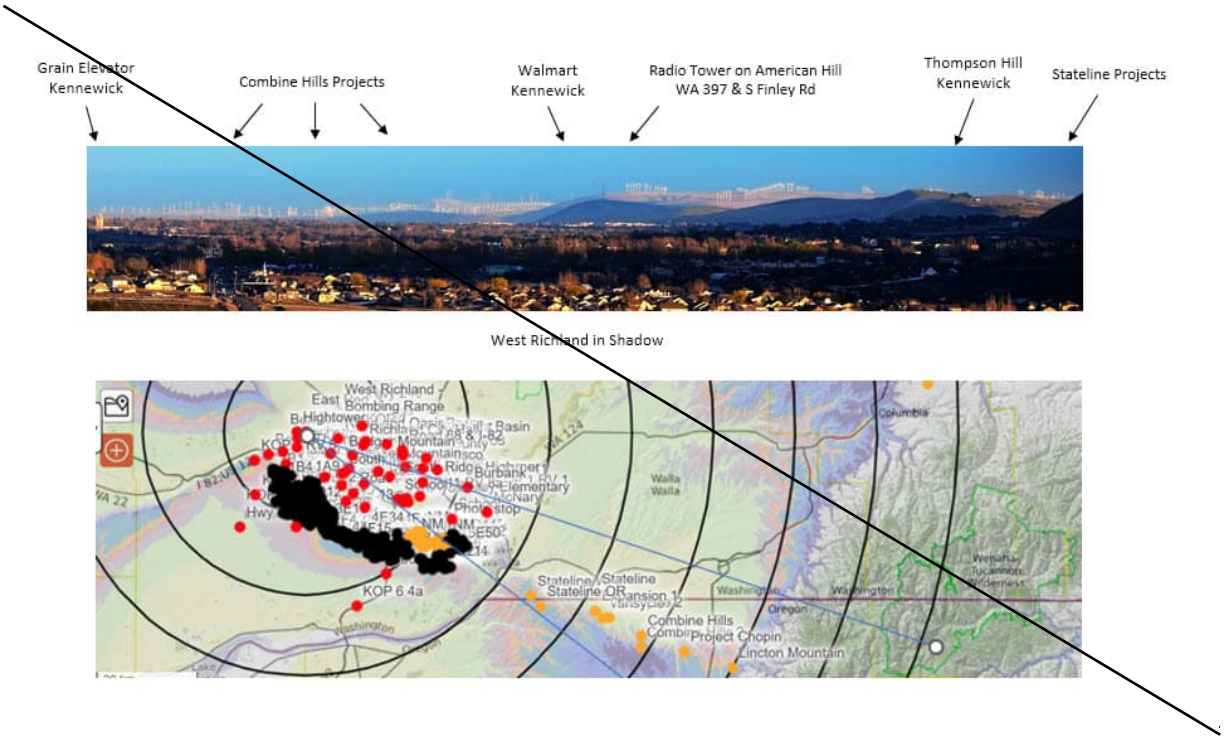

~~These samples and the accompanying photography indicate and support the conclusion that Application Visual Analysis is seriously flawed and does not provide a rational basis for decision-making. More work needs to be done to establish a better understanding of the visual impacts on the people affected by the Project especially near the residential areas two to ten miles away from the Project boundaries.~~

~~The Application fails to identify and discuss the perceived size of turbines with a proper scientific understanding of how big they will appear on prominent ridgelines to viewers in the town.~~

~~The wind turbines will appear differently depending on a variety of factors including distance.~~

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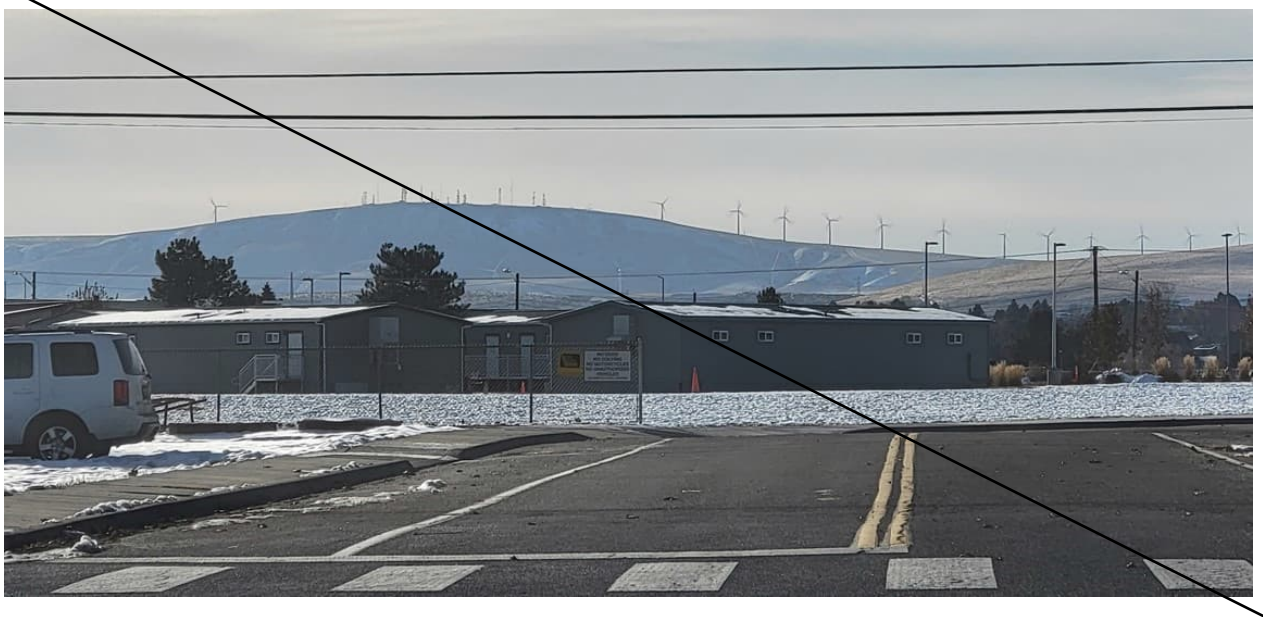
~~The following graphic was prepared to compare the perceived size of the turbines for the existing Nine Canyon Project as compared to the proposed Horse Heaven Hills Project including the 499-foot turbines in Option 1 and the 671-foot turbines in Option 2.~~

~~Here is a photo taken from downtown Kennewick looking south towards the Nine Mile Project. The foreground turbines above the roof is a measured Amistad Elementary School is 6.4 miles away from the photo location using CalTopo's measuring tool (accurate to distance feet). The ridgeline is 7 miles away and more as one looks down the ridge to the east.~~



~~Compare this to the size of the turbines in the Application Visual simulations which state in the fine print that the turbines in the middle and lower photo simulations are three miles away.~~

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~~The wind turbines in the Application computer simulations appear smaller at 3 miles than the smart phone photo of the Nine Mile turbines at 6 to 7 miles.~~

~~This raises serious concerns about the accuracy and validity of the entire visual assessment presented in the Application.~~

~~The Application fails to select an adequate number of KOPs. The KOPs in the Application are not representative of the people who live in the affected environment. The Application and SCA Visual Simulations fail to provide accurate depictions of the Project viewsheds. The analysis and the rating of viewer sensitivity and impacts is flawed. The Application fails to provide clear criteria regarding the threshold between "reasonable" and "unreasonable" visual impacts. The CalTopo Viewsheds created~~

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~~with a digital GIS mapping program with the parcel data showing residential community locations and the radial distance rings are helpful in identifying threshold distances or ranges.~~

~~CESA 2021 recognizes the sensitivity of viewsheds to residential communities at five to ten miles. Based on the guidance in the CESA 2011 Step 2, on page 25, a distance of six to seven miles may be deemed acceptable and defendable, since it is what people are used to seeing in south Kennewick. However, the Horse Heaven Hill turbines will be much larger than the Nine Mile turbines, and there will be more of them, and they are proposed to be much closer than the Nine Mile turbines.~~

~~Turbines at distances of less than six miles or seven miles should be deemed to be unacceptable, too sensitive, too visually intrusive and imposing to too many people in too many thousands of homes.~~

The developer has not yet identified a viable and adequate source of water for the project.

~~The application fails to demonstrate compliance with the requirements WAC 463-60-165 which states in pertinent part):~~

> ~~*Proposal – Water supply.*~~
>
> ~~*(1) Water intake and conveyance facilities. The application shall describe the location and type of water intakes, water lines, pipelines and water conveyance*~~

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~~*systems, and other associated facilities required for providing water to the energy facility for which certification is being requested.*~~

~~*(2) Water supply and usage alternatives.*~~

~~*(a) The applicant shall consider water supply alternatives, including use of reclaimed water, water reuse projects, and conservation methods. The application shall describe all supply alternatives considered, including the associated cost of implementing such alternatives, and the resulting benefits and penalties that would be incurred.*~~

~~*(b) The application shall include detailed information regarding using air cooling as an alternative to consumptive water use, including associated costs.*~~

~~*(c) The application shall describe water conservation methods that will be used during construction and operation of the facility.*~~

~~Even if the developer uses a water source identified at the mouth of the Snake River in Burbank, there is no identification of the impacts and evaluation of the traffic and other problems that will result in 45 to 60, 5,000-gallon trucks traveling day and night on Highways I-82 and I-84, and Highways 395 and 397, and the County Roads for months during construction This is going to create more traffic problems than are being identified or discussed.~~

~~The application does not identify the source, nor the quantity, and the impacts of gravel and cement that will be needed for the project~~

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~~Section 2.16 Construction management in the application repeatedly refers to the use of on-site and temporary concrete batch plants, rock quarries, and rock crushers and that they will be permitted in accordance with local processes.~~

~~However, the application fails to identify, describe and evaluate the source and impacts associated with the creation, transportation, and management of the massive quantities of concrete and gravel required for the project.~~

~~An estimate can be developed using data from the Blue Creek Wind Farm in Ohio. To create just one turbine foundation measuring 6o ft x 20 ft deep requires 40 trucks of cement, which yields a total of 960 tons of cement ... 1 average cement truck carries @ 12 cubic yards. at 4,050 pounds per cubic yard, which weighs approximately 24 tons.~~

~~References:~~

~~www.windpowerengineering.com/take-a-closer-look-at-pouring-turbine-foundations/~~

~~www.utilitysmarts.com/renewables/wind-power/how-big-is-the-concrete-foundation-for-a-wind-turbine/~~

~~Other similar wind turbine projects show similar volume and weight estimates. If one uses these same numbers at the Horse Heaven Hills Wind Farm, 244 turbines times 40 trucks/turbine at 24tons/truck requires totals 234,240 tons of cement.~~

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~~The application does not identify the source for the rock and cement needed for the project.~~

~~The application does not identify and describe the impact transporting 234,000 tons across county roads will have.~~

~~The application does not identify the sources for crushed gravel source for making concrete The application does not identify the location of a batch plant and the consequent impacts on noise, vibration, dust and wildlife and people.~~

~~The application lacks the information needed to reasonably satisfy the transparency requirements of RCW 80.050.010~~

~~The Application Fails to Adequately Identify and Evaluate Significant Impacts on the Environment and People~~

~~The Application fails to take a adequately and appropriately identify and evaluate the impact the proposed action and any reasonable alternatives will have on people & the environment.~~

~~The Application consistently and repeatedly describes and portrays the distance of the project to the cities of Finley, Kennewick, Richland, and Benton City in an erroneous manner. This misrepresentation is carried through the entire Application and into the EIS materials as well. This is yet another systematic failure ot comply with the transparency and inclusivity requirements of RCW 80.50.010.~~

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~~The Application needs to address this error and misrepresentation by accurately identifying and evaluating the number of people in the affected environment and then accurately identifying and evaluating the socio-economic impacts the Project will have on these people.~~

~~The official EFSEC Tour Never Set Foot on the Project at All.~~

~~The November 1, 2022 Road tour to the Horse Heaven Hills Project did not provide EFSEC with a reasonable means of describing, experiencing and evaluating the proposed Project, the affected environment, the lack of alternatives, and the need for mitigation measures to protect the environment.~~

~~Neither of the tour stop locations is on the HHH project property but are located about a mile north of the project boundary. EFSEC members did not view the actual proposed site locations and will not be able to gain a reasonable or realistic description of what and where the applicant has proposed facilities. Basically, from these locations, you will not be able to even set eyes on the actual project itself.~~

~~The project is 25 miles from west to east and is 8 to 10 miles across from north to south. The project lands cannot be readily viewed from the two locations identified. Very simply, the proposed stops are in the valley below the elevation of the project. From these locations, you get to look up and the Horse Heaven Hills ridgeline blocks the view of the project lands, so all you will see is the sky above just a few of the northern-most proposed turbine locations.~~

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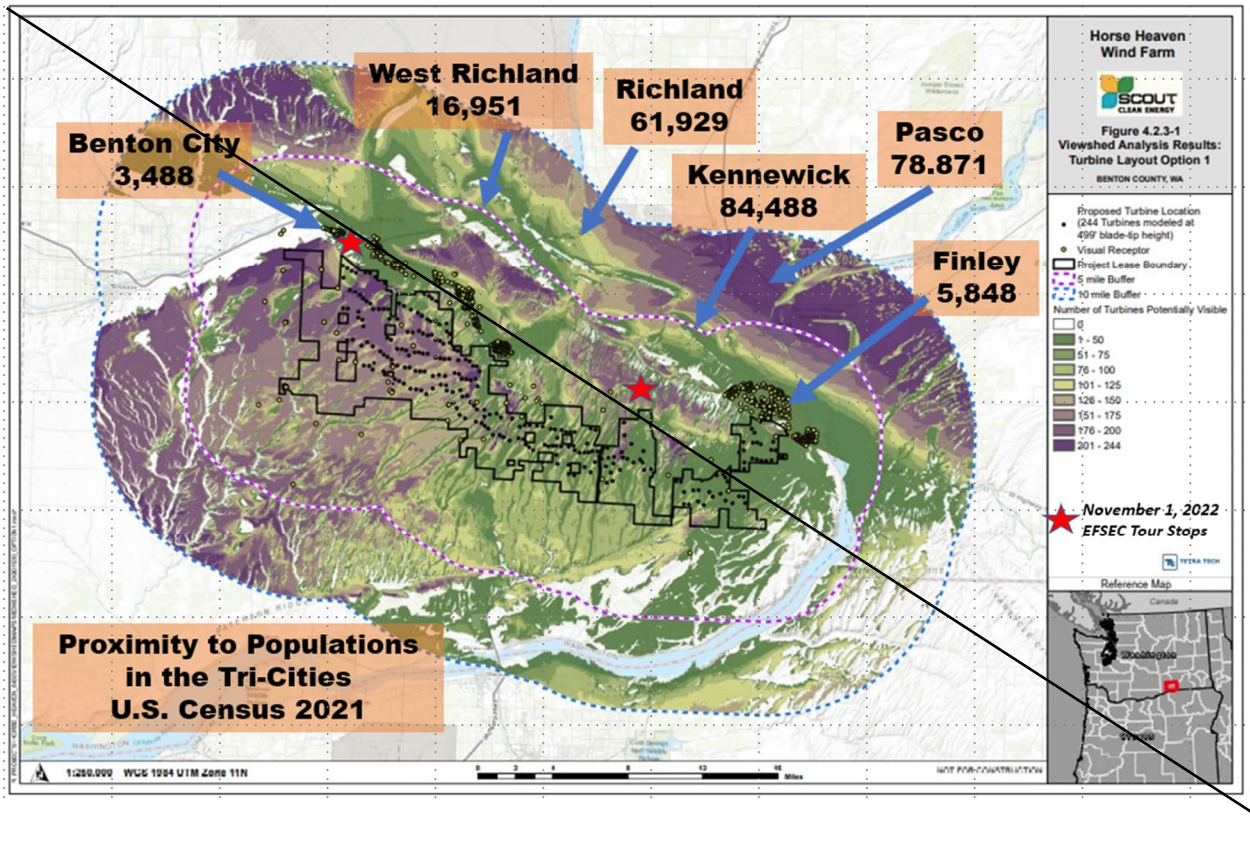
~~The road tour failed to describe the proximity of populations of people to the Project.~~

~~The red stars on the following map shows the road tour stops were located where the hillside obscured the views of the residential areas where people live.~~



~~Neither the EFSEC Tour nor the Application accurately describe the populations in the affected environment accurately.~~

~~The Application fails to describe the disproportionate impact the Project has on people when compared to every other wind project in the State of Washington.~~

~~The following table contains 2020 Census Data for the state and for the affected towns near the Horse Heaven Hills Project.~~

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Washington State Wind Projects-Proximity to Population

Sorted by Distance from Community

Wind Project Data						Community Data		
Project Name	# Turbines	Turbine Size-MW	Total Height-Ft	Hub Height-Ft	Capacity-MW	Closest Community	Dist-Miles	Population
HH Option 1	244	2.82	499	262	737	Finley/Benton C/Kenn	0.5/1.3/3.1	93,834
HH Option 2	150	5.5	671	410	825	Finley/Benton C/Kenn	0.5/1.3/3.1	93,834
Nine Canyon (NC)	63	1.3/2.3	299/415	197	96	Finley-Note 2	1.8	6,000
Linden, WA-Note 3	25	2	409	257	50	Goldendale	4.5	3,459
StatelineWa Portion	454	0.4	241	164	181.6	Finley	6.2	357
Windy Point	175	2.3	414	262	402.5	Goldendale	7.0	3,459
Swauk Valley	5	0.8	276	180	4	Cle Elem	9.4	2,115
Kittital Valley	48	2.1	407	262	100.8	Cle Elem	10.6	2,115
Rattlesnake Flat	58	2.7	497	262	156.6	Ritzville	12.5	1,680
Paloose Project	64	2	427	262	128	Colfax	12.5	2,891
Skookumchuk	38	3.6	492	269	136.8	Bucoda	12.5	668
Goodnoe Hills	47	2.2	459	279	103.4	Goldendale	21.0	3,459
White Creek	87	2.3	415	262	204.7	Goldendale	22.0	3,459
Wild Horse	127	1.8	351	262	228.6	Ellensberg	25.0	21,579
Wild Horse	22	2	351	144	272.6	Ellensberg	24.0	21,579
Hopkins Ridge	87	1.8	351	220	156.6	Colfax	25.0	2,891
Marengo	78	1.8	384	220	140.4	Walla Walla	25.0	32,793
Tucannon	116	2.3	440	262	266.8	Walla Walla	25.0	32,793
Lower Snake River	119	2.3	428	262	273.7	Colfax	25.0	2,891
Vantage Pt	60	1.5	389	262	90	Ellensberg	26.3	21,579
Big Horn	133	1.5	389	262	199.5	Prosser/Goldendale	28.1	6,202
Big Horn	24	2	404	262	50	Prosser/Goldendale	28.1	6,202
Juniper Canyon	64	2.4	418	262	153.6	Prosser/Goldendale	28.1	6,202
Harvest	45	2.3	415	262	103.5	Goldendale	30.0	3,459

Wind Turbine Data from National Wind Turbine Data Base
Population data from the U.S. Census 2021
Distances Measured from Map-Approximate

~~Data compiled from the National Wind Turbine Data Base, Population data from the U.S. Census 2021, Distances Measured Using CalTopo digital GIS with the USGS Topo Maps base maps, Distances are in miles.~~

~~EFSEC needs to do another tour to revisit the site and actually get on the Project and see and understand first hand the disproportionate impact the Project has on the people in Tri-Cities and the degree to which the Project causes significant impacts. The Application needs to be revised to accurately describe and evaluate the populations and communities near the project and the impacts the Project will have on people.~~

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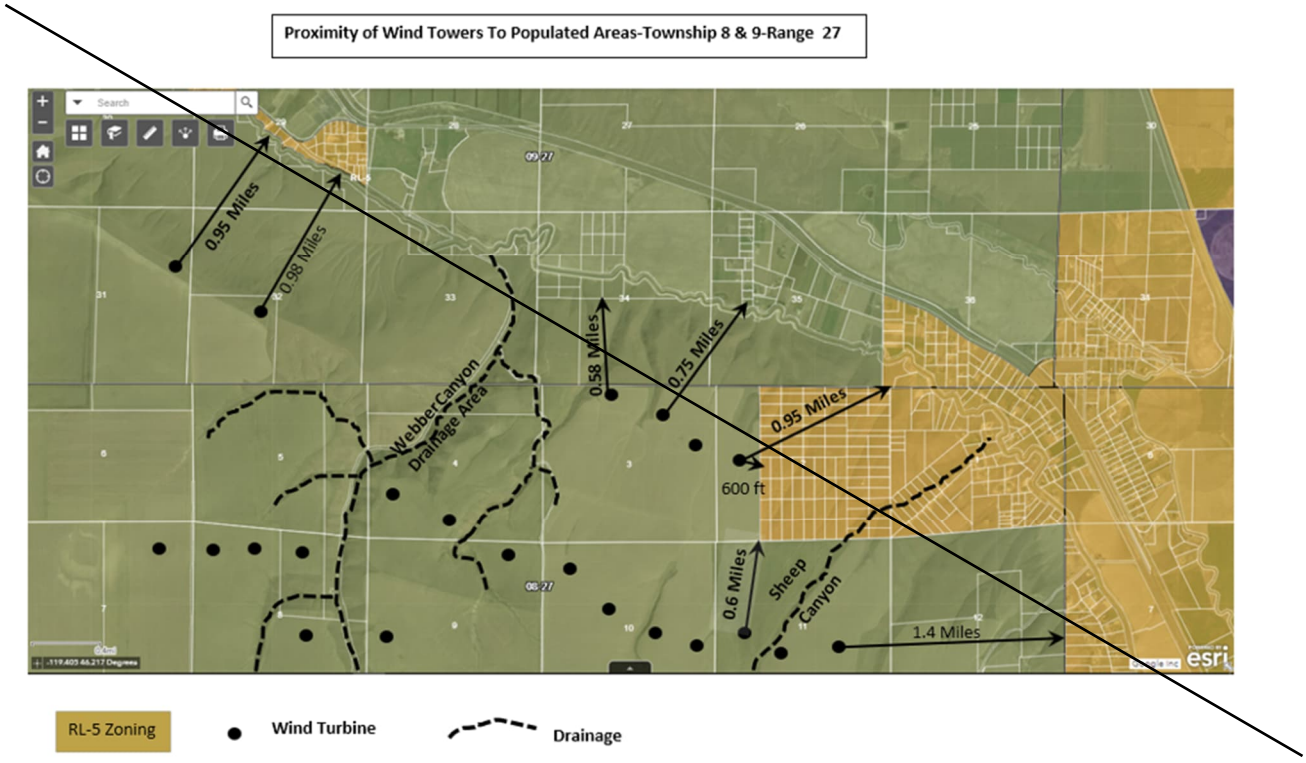
~~The Application does not accurately describe and evaluate the location, proximity, and impact on people who live in close proximity to the Project.~~

~~The Benton County GIS system, which is available to the public online at the following website https://benton-county-gis-bentonco.hub.arcgis.com/ can be used to create graphics which show describe and evaluate the Project, and depict the proximity of the project to people and the designated land use categories that are affected by the project at present and in the future.~~

~~The following map is for the area near Webber Canyon. The highlighted RL-5 Zoning Classification indicates the location of existing and planned residential communities.~~



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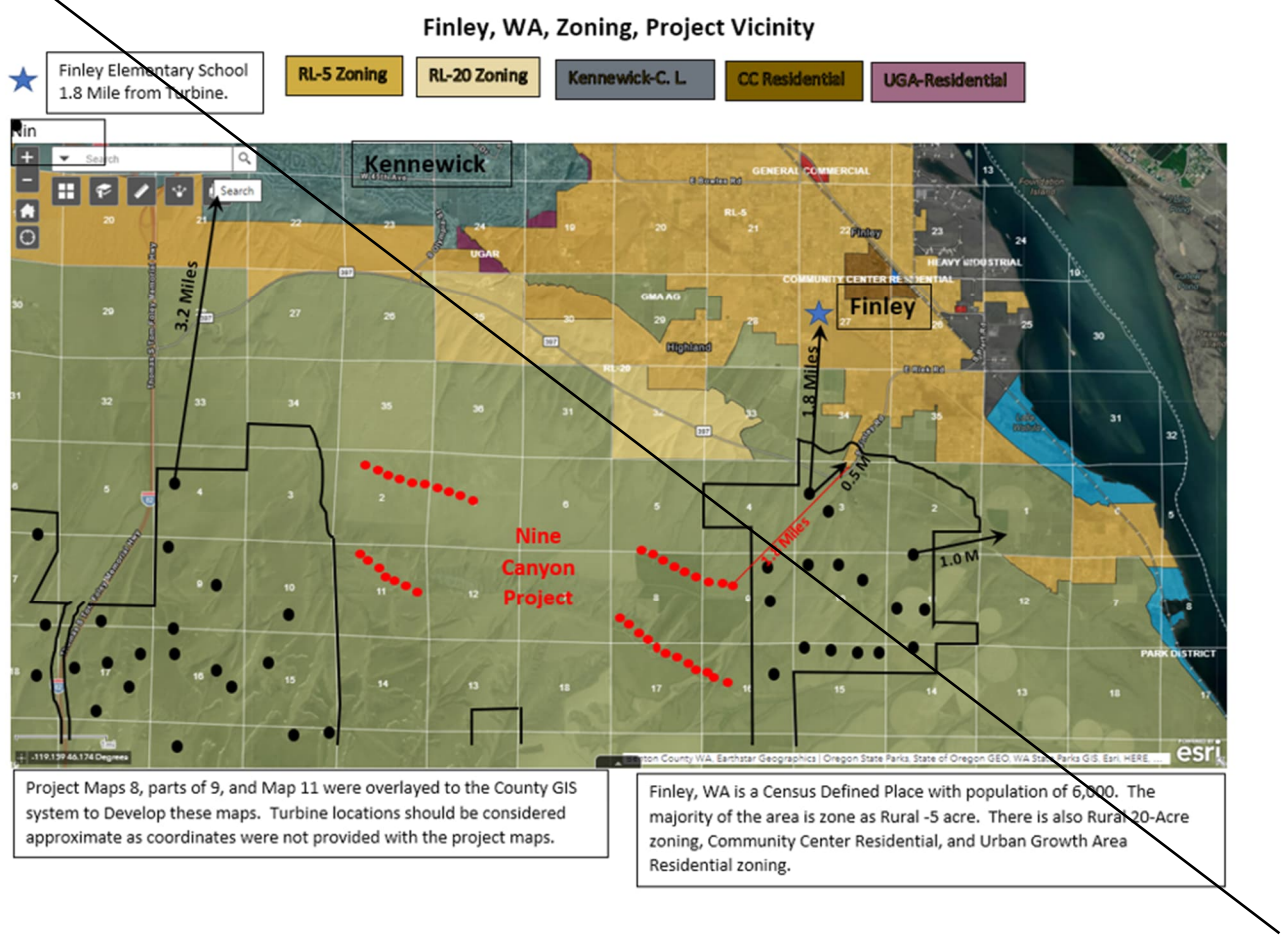
~~The following map is for the area south of Kennewick to Finley. The highlighted RL-5 Zoning Classification indicates the location of existing and planned residential communities.~~



~~The Application does not identify and evaluate the proximity of the Project to people adequately. The distances described in the Application are in error and misrepresent the real conditions found at the present time.~~

~~The Application does not use digital GIS Mapping to identify and evaluate the elements of the environment and the significant impacts the project and alternatives will have. As noted in another section of the comment, CalTopo is an inexpensive and~~

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~~versatile digital GIS mapping program that can be readily used to help understand and evaluate the relationships between features of interest and elements of the environment.~~

~~This following graphics are centered on a turbine we numbered 1A7. It is one of a dozen turbines labeled in the A String of turbines that can be seen south of Benton City, and south west of south Badger Road in south Kennewick. As noted in previous comments, the developer has not provided maps that show turbine and other project infrastructure coordinates and they do not number the turbines.~~

~~The first graphic is the a CalTopo viewshed from turbine 1A7 set at hub height on a proposed 499-foot high turbine.~~

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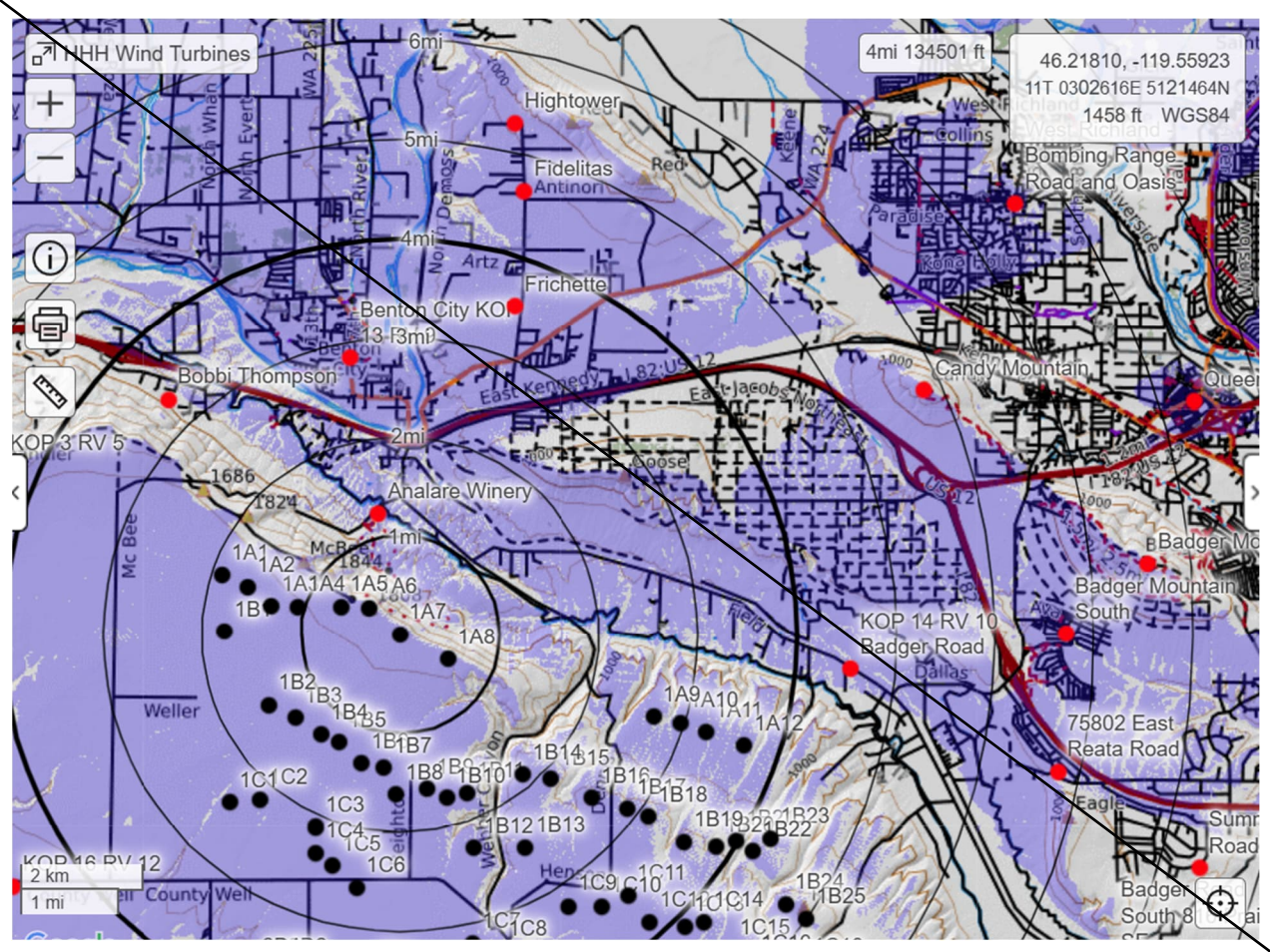

~~CalTopo can be utilized to map parcel data on to maps with markers and range rings to illustrate and help understand the proximity of the Project to people in near the project and the wind turbines proposed.~~

~~The next graphic is a screenshot with the ownership of land identified using a data layer in CalTopo.~~

~~The pink lines are the parcel boundaries the black circles are the range rings in one-mile increments going out to six miles around the seelcted turbine. If one zooms and pans inward, the land owner and parcel numbers can be readily seen.~~

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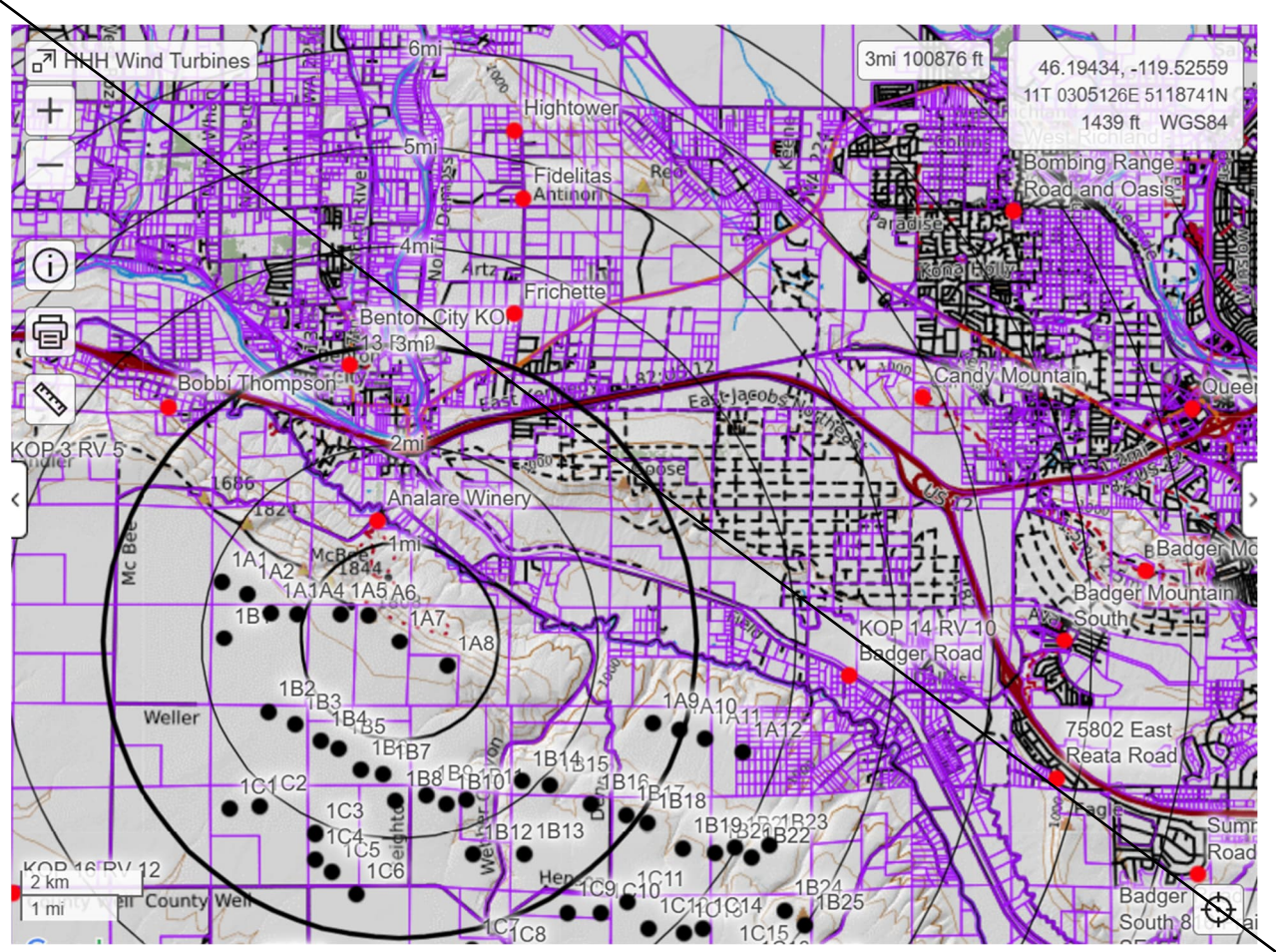

~~The following graphic repeats these two digital GIS data overlay selections to again illustrate the type of analysis that was not provided in the ASC or the Application for a Turbine we numbered 3C24 in close proximity to numerous residential areas in south Kennewick.~~

~~Here is the Viewshed from Turbine 3C24.~~

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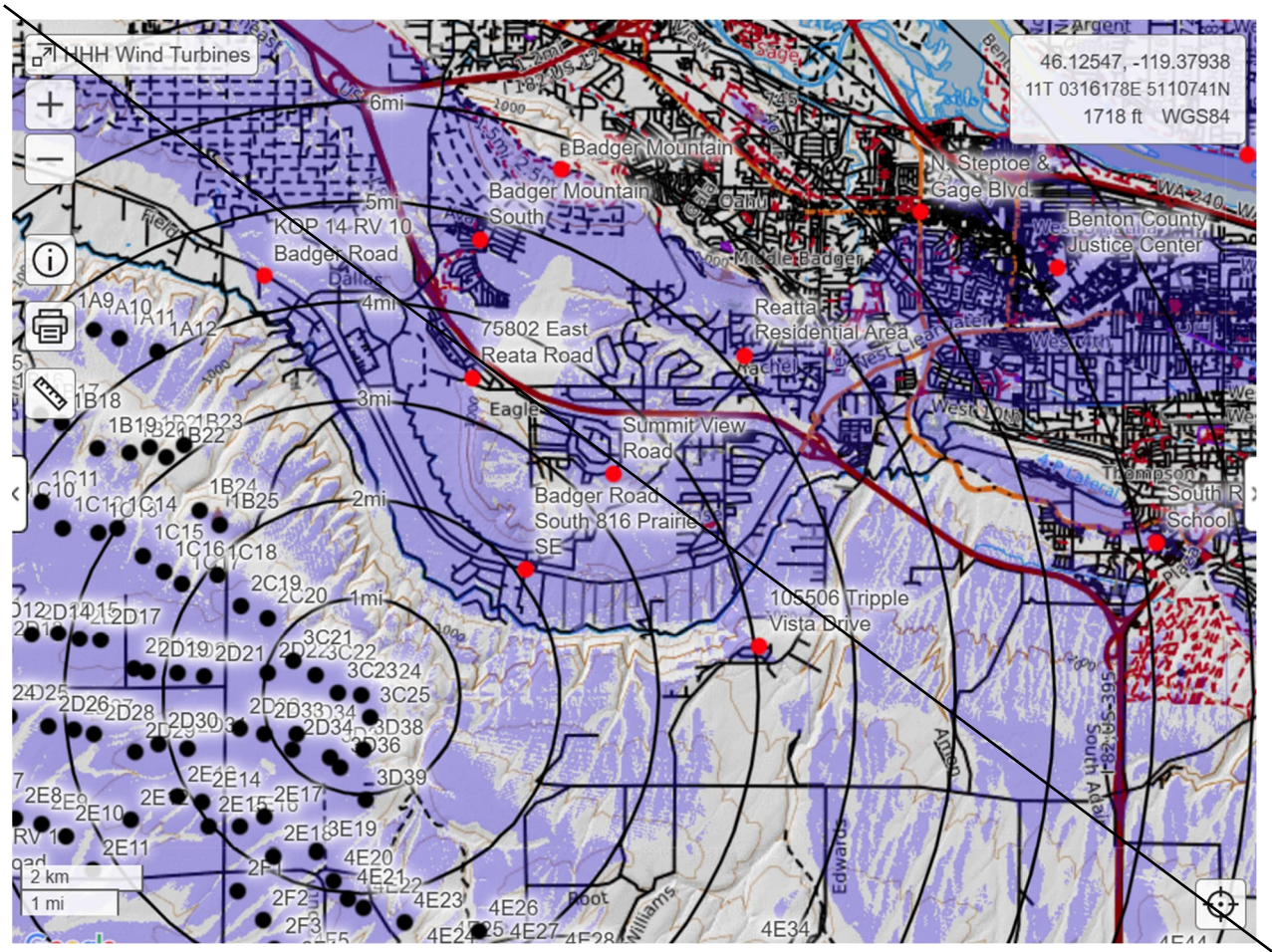

~~The viewshed map helps understand the answer to the question, "who can see this turbine? On this viewshed map, if a person is in a zone that colored purple, then they will be able to feasibly see the hub of the turning turbine. In particular look at the location of housing developments that are within 2 miles, 3 miles, 4 miles, 5 miles, and 6 miles of turbine numbered 3C24. These distances correspond to areas that are deemed to be of high sensitivity in CESA 2011.~~

~~Here is the corresponding ownership parcel data map.~~

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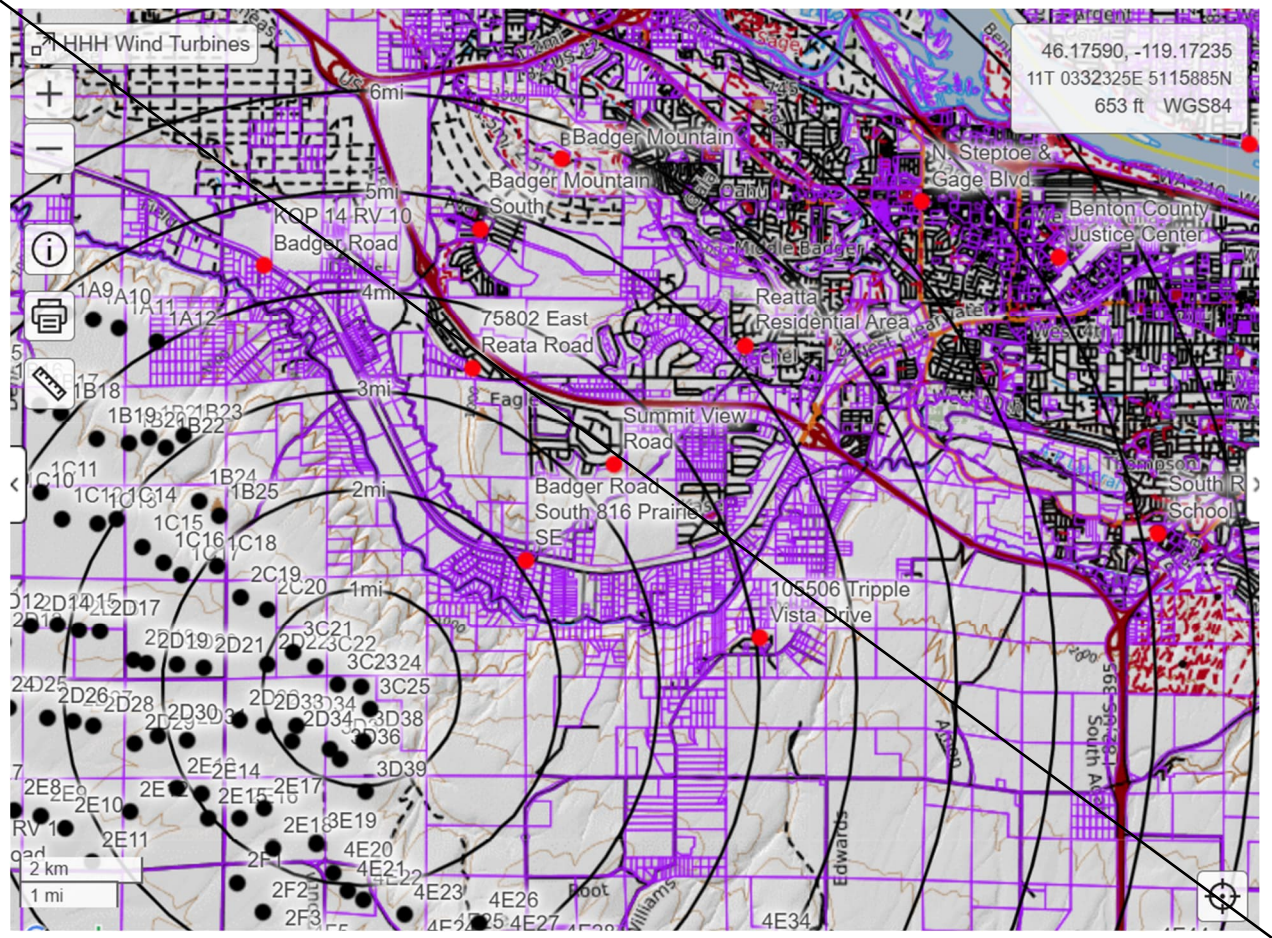

~~Of particular importance are the locations where a high density of pink ownership lines can be seen. The areas containing high density of pink grids correspond to locations where residential community developments are already constructed or have probably been planned and approved by city and county for future expansion. Note the location of the KOP 14 RV 10 and the comments on the improper selection of location as a Representative Viewpoint.~~

~~Observe that there is not a single other KOP located in this graphic.~~

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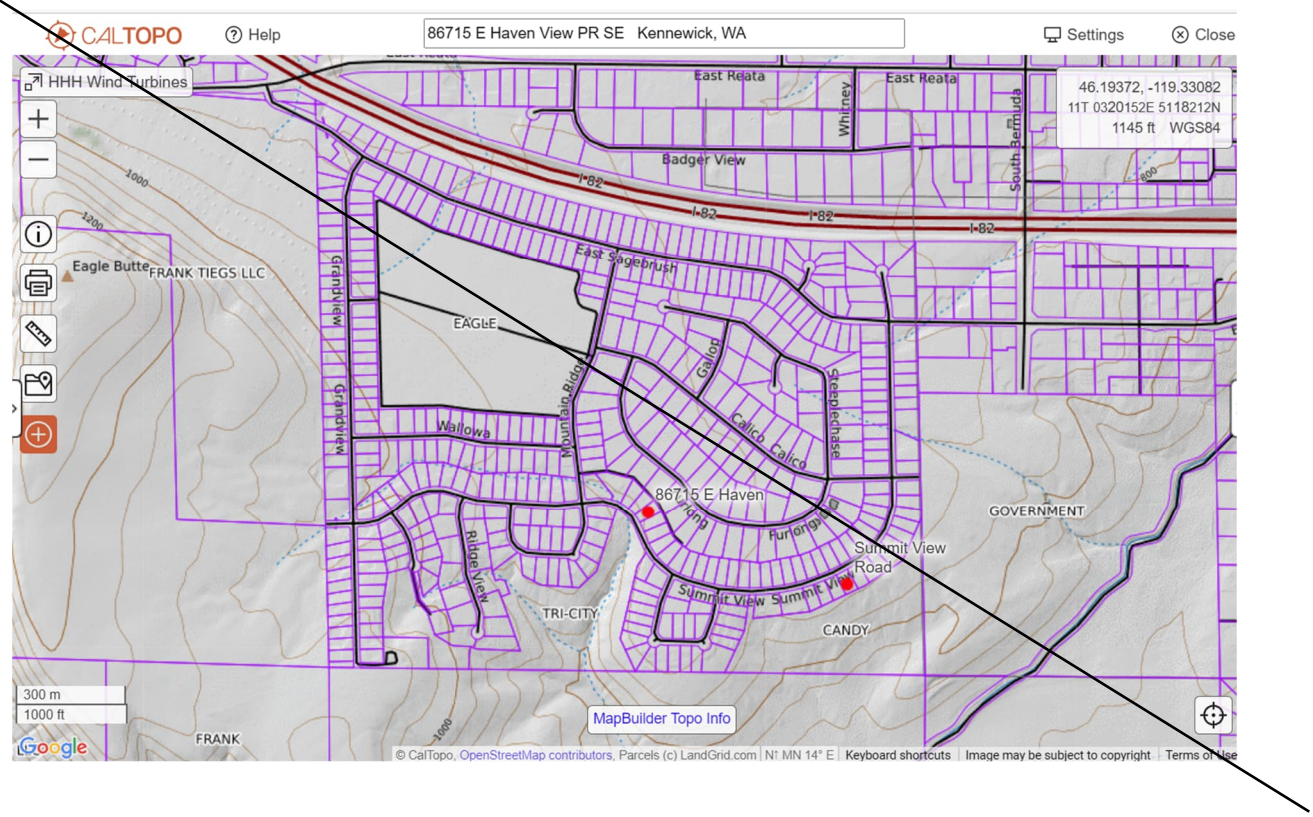
~~Here is a CalTopo graphic showing the parcel ownership & home density in the Summit View Residential Community. Everyone who lives in this community will be seeing the same viewshed of the turbines.~~



~~This CalTopo graphic shows the proximity of the proposed turbines to the Summitview neighborhood.~~

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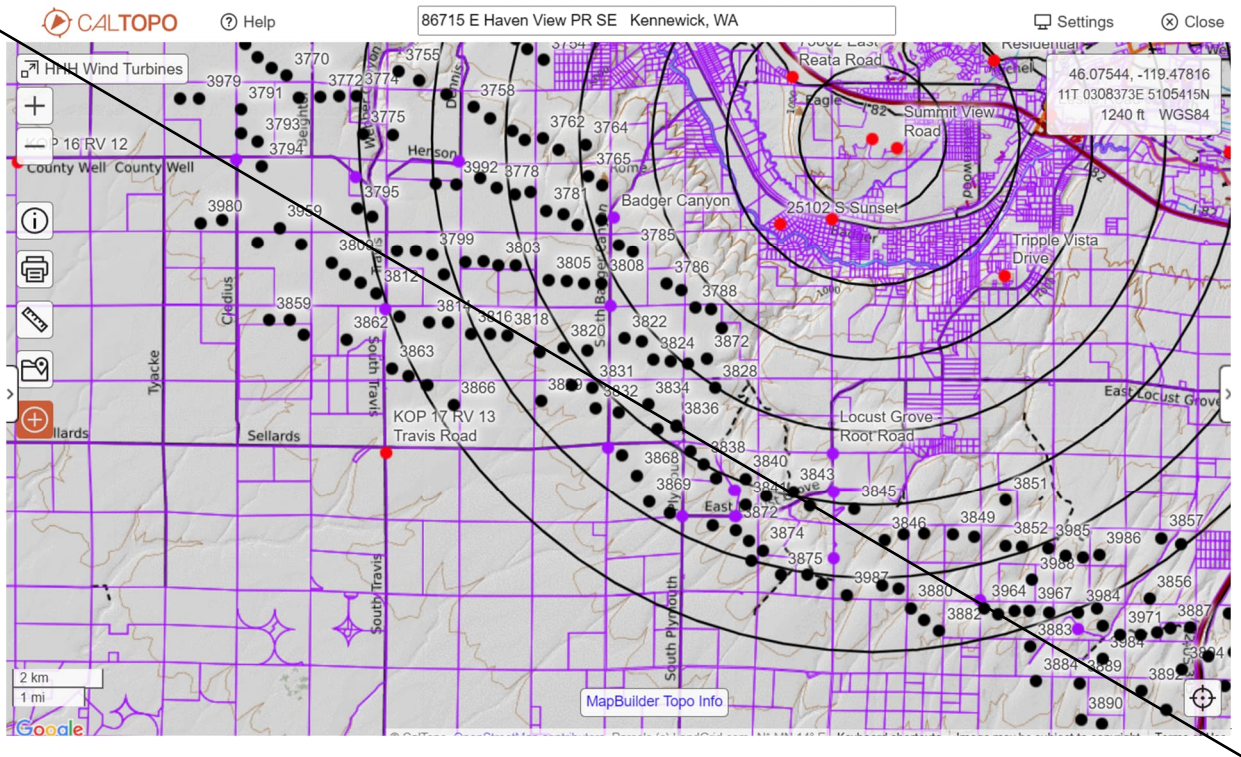

~~The range rings are 1,2,3,4,5,6,7 miles.~~

~~We can readily show the proximity of the HHH wind turbines to additional sample locations in numerous residential communities. However, the descriptions and comments are presented here to simply show and demonstrate the failure of the ASC and the Application to properly identify and even minimally describe, evaluate and mitigate and minimize the impacts of the project on people who live in near proximity of the Project.~~

~~The ASC and the Application need to be revised and re-issued to provide what is required under the WAC.~~

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The ASC and the Application fails to identify and evaluate the Impact of the Project and Feasible Alternatives Using a Suitable Analysis of Population Within the Affected Environment.

The Application fails to describe and define which turbines are too close to people and will be deemed unacceptable

In order to ascertain the deficiency in the analysis provided in the Application, the reviewers received voluntary support of a big data analyst who created a power data tool that can be used to provide detailed population data analysis of the areas of Benton County affected by the project. The power data analysis tool utilizes two primary data sources:

1. The Socioeconomic Data and Applications Center (SEDAC), is one of the Distributed Active Archive Centers (DAACs) in the Earth Observing System Data and Information System (EOSDIS) of the U.S. National Aeronautics and Space Administration. Focusing on human interactions in the environment, SEDAC has as its mission to develop and operate applications that support the integration of socioeconomic and earth science data and to serve as an "Information Gateway" between earth sciences and social sciences. https://sedac.ciesin.columbia.edu/

2. The United States Wind Turbine Database (USWTDB) provides the locations of land-based and offshore wind turbines in the United States, corresponding wind project information, and turbine technical specifications. The creation of this

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~~database was jointly funded by the U.S. Department of Energy (DOE) Wind Energy Technologies Office (WETO) via the Lawrence Berkeley National Laboratory (LBNL) Electricity Markets and Policy Group, the U.S. Geological Survey (USGS) Energy Resources Program, and the American Clean Power Association (ACP). The database is being continuously updated through collaboration among LBNL, USGS, and ACP. Wind turbine records are collected and compiled from various public and private sources, digitized or position-verified from aerial imagery, and quality checked. Technical specifications for turbines are obtained directly from project developers and turbine manufacturers, or they are based on data obtained from public sources. https://eerscmap.usgs.gov/uswtdb/~~

~~SEDAC was used to provide population estimates for each block in the database. Blocks are organized by country, state, county, tract, block group, and blocks. In some highly populated areas, blocks can be divided into sub-blocks. Each block has a centroid latitude and longitude coordinate. These centroids are depicted in red on the interactive map in the power tool. In most cases, projects contain multiple turbines and various turbines can affect the same block of population, or multiple projects in a county can affect the same block. Therefore, when evaluating the population at the project level, no two population blocks were counted twice. This methodology also holds when assessing at the county and the state levels.~~

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~~The power tool lets users analyze and compare all the Wind Turbine Projects in Washington, Oregon and Montana. Users can then select and analyze and compare projects and their characteristics by county.~~

~~On Page 1 the Power Data Tool measures include:~~

- ~~the number of projects and their projected output in MW.~~
- ~~Number, height, and hub height of turbines in projects and the location of the projects selected on map.~~

~~On Page 2 the Power Data Tool measures include:~~

- ~~The state(s) or counties selected for analysis~~
- ~~Distance from the project – 2,3,4,5 or 6 miles can be selected.~~
- ~~The height and number of turbines selected for analysis~~
- ~~A data table of the Population within the selected distance from the project(s) selected by year using census data from 2000, 2005, 20210, 2015 and 2020~~
- ~~A graphic of the Population withing the selected distance by project~~
- ~~A graphic of the Population within the selected distance by County~~
- ~~A map showing the color graded Population Within the Counties within a radius based on the distance selected.~~

~~On Page 3 the Power data Tool measures include:~~

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- ~~The state(s) or counties selected for analysis~~
- ~~Distance from the project – 2,3,4,5 or 6 miles can be selected.~~
- ~~The height and number of turbines selected for analysis~~
- ~~A circle graphic comparing the 2020 Population Within the selected radius in the 10 Counties compared to Benton County~~
- ~~A graphic Comparing the Benton County Wind Projects 2020 Population from 2 to 6 miles compared to the nine other Counties in Washington~~
- ~~A block graphic of the 2020 Population by County at the selected radius distance~~
- ~~A table of the wind projects in Benton County and the wind projects other 9 counties showing a comparison of the populations with 2,3,4,5, and 6 miles of the projects.~~

~~On page 4, the Power data tool measures include:~~

- ~~The state(s), counties and projects selected for analysis~~
- ~~Distance from the project – 2,3,4,5 or 6 miles can be selected.~~
- ~~A table showing the Township and Range location and the US Census Data plots and the population of the people for the distance selected for analysis~~

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- ~~A map identifying the location of the wind turbines in the project that are used to calculate the populations within the selected radius distance~~

- ~~A graphic layer on an aerial photo showing the US Census blocks with the 2020 Population at the selected distance for analysis.~~

~~The following pages present the results of the Power Tool Data outputs for the Project as compares to all the other wind turbine projects in the State of Washington.~~

~~The results of the Power data Tool Analysis are graphical and in color.~~

~~The following interpretations can be made from the analysis:~~

- ~~There are 2067 turbines in 33 projects in ther state of Washington.~~

- ~~The Horse Heaven Hills Project will have the tallest turbines compared to all the other projects in the state.~~

- ~~The Horse Heaven Hills projected output wil be the largest of any of the wind projects in the state (650 MW).~~

- ~~The Stateline wind project has the highest number of turbines (270) compared to the Horse Heaven Hills, but they are 241 feet high compared to 499 feet high.~~

~~Benton County will have the highest population within six miles of any project in the state. Over 100,000 people live within 6 miles of the project.~~

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~~Benton County will disproportionately impacted by the Horse Heaven Hills Project compared to all the other projects in the state combined within six miles of each project.~~

~~Over 100K population in Benton County compared to 19.5K for all the other counties and projects combined. In Washington state, the average project population within six miles is 2,178 people within six miles.~~

~~***The power data tool can be used here*** (Internet link to the power data tool website).~~

~~The power data tool screenshots of the analysis of the Horse Heaven Hills project are provided below.~~

~~The ASC and the Application needs to adequately identify and evaluate the Impact of the Project and feasible alternatives using a suitable method to analysis the affected populations within the affected environment. The Application needs to include the utilization and application of the power data tools and digital GIS mapping tools to accurately identify, describe and evaluate the impacts of the project and any feasible alternatives have on people.~~

~~EFSEC needs to develop and transparently propose and defend a rational sound basis for determining whether turbine location distances can be deemed acceptable or unacceptable. The basis for this regulatory framework must identify the distance between people and wind turbines based on a multitude of factors.~~

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~~Turbines and other project components, which are deemed through evaluation to be within the unacceptable distance (e.g., six miles) to residential communities, existing and planned, must be eliminated from the project. These turbines need to be identified, evaluate and reviewed, and finalized before the final permit stipulations are issued and the Project Recommendation is prepared by EFSEC and sent to the Governor for a approve or deny decision.~~

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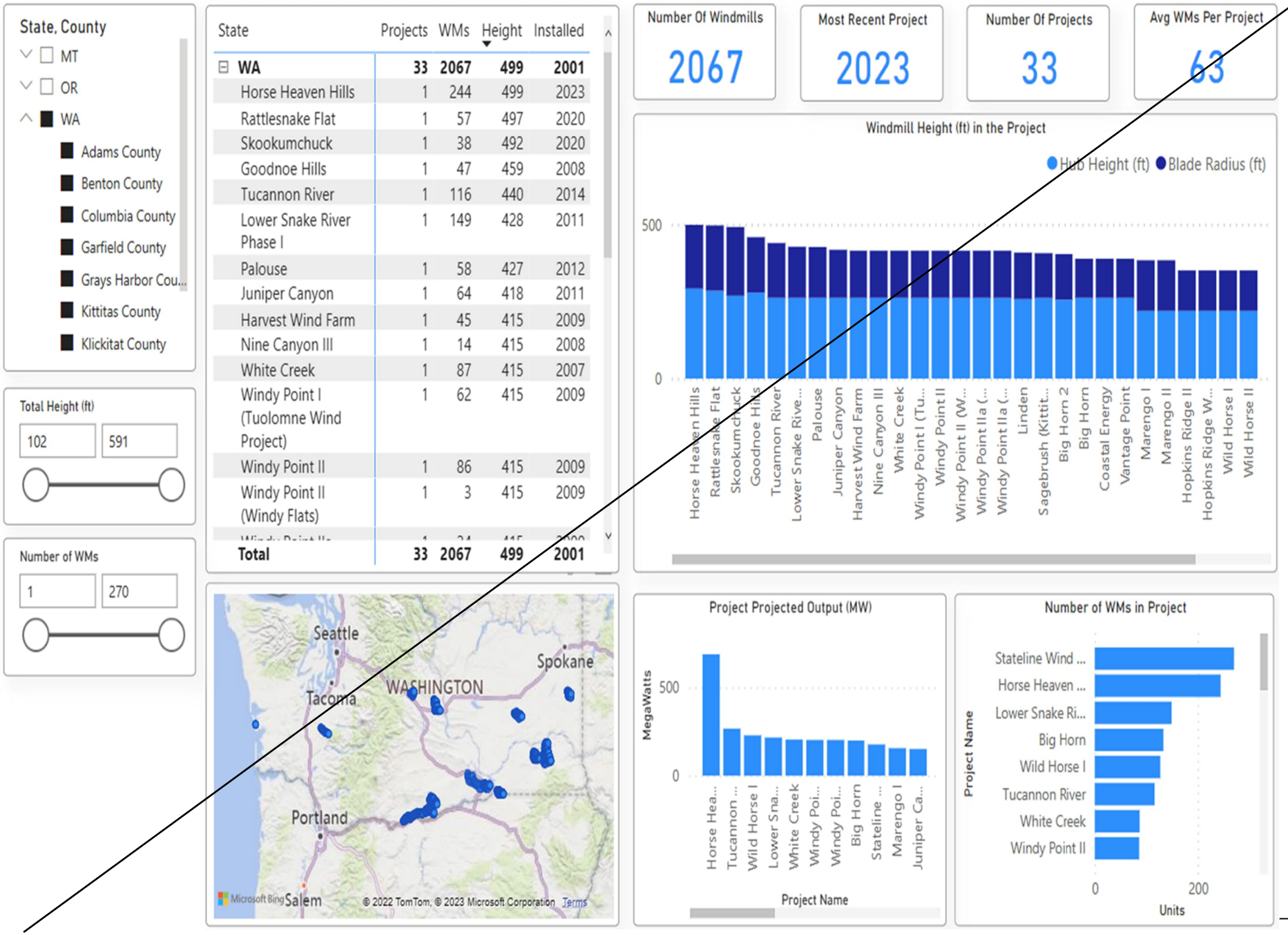

State, County
MT
OR
WA
Adams County
Benton County
Columbia County
Garfield County
Grays Harbor Cou...
Kittitas County
Klickitat County
Total Height (ft)
102
591
Number of WMs
1
270
State
Projects
WMs
Height
Installed
WA 33 2067 499 2001
Horse Heaven Hills 1 244 499 2023
Rattlesnake Flat 1 57 497 2020
Skookumchuck 1 38 492 2020
Goodnoe Hills 1 47 459 2008
Tucannon River 1 116 440 2014
Lower Snake River Phase I 1 149 428 2011
Palouse 1 58 427 2012
Juniper Canyon 1 64 418 2011
Harvest Wind Farm 1 45 415 2009
Nine Canyon III 1 14 415 2008
White Creek 1 87 415 2007
Windy Point I (Tuolomne Wind Project) 1 62 415 2009
Windy Point II 1 86 415 2009
Windy Point II (Windy Flats) 1 3 415 2009
Total 33 2067 499 2001
Number Of Windmills
2067
Most Recent Project
2023
Number Of Projects
33
Avg WMs Per Project
63
Windmill Height (ft) in the Project
Hub Height (ft)
Blade Radius (ft)
500
0
Horse Heaven Hills
Rattlesnake Flat
Skookumchuck
Goodnoe Hills
Tucannon River
Lower Snake Rive...
Palouse
Juniper Canyon
Harvest Wind Farm
Nine Canyon III
White Creek
Windy Point I (Tu...
Windy Point II
Windy Point II (W...
Windy Point IIa (...
Windy Point IIa (...
Linden
Sagebrush (Kittit...
Big Horn 2
Big Horn
Coastal Energy
Vantage Point
Marengo I
Marengo II
Hopkins Ridge II
Hopkins Ridge W...
Wild Horse I
Wild Horse II
Seattle
Spokane
WASHINGTON
Tacoma
Portland
Salem
Microsoft Bing
© 2022 TomTom, © 2023 Microsoft Corporation Terms
Project Projected Output (MW)
MegaWatts
500
0
Horse Hea...
Tucannon ...
Wild Horse I
Lower Sna...
White Creek
Windy Poi...
Windy Poi...
Big Horn
Stateline ...
Marengo I
Juniper Ca...
Project Name
Number of WMs in Project
Project Name
Stateline Wind ...
Horse Heaven ...
Lower Snake Ri...
Big Horn
Wild Horse I
Tucannon River
White Creek
Windy Point II
0
200
Units

State, County

- MT
- OR
- WA
  - Adams County
  - Benton County
  - Columbia County
  - Garfield County
  - Grays Harbor Cou...
  - Kittitas County
  - Klickitat County

Total Height (ft)

102 591

Number of WMs

1 270

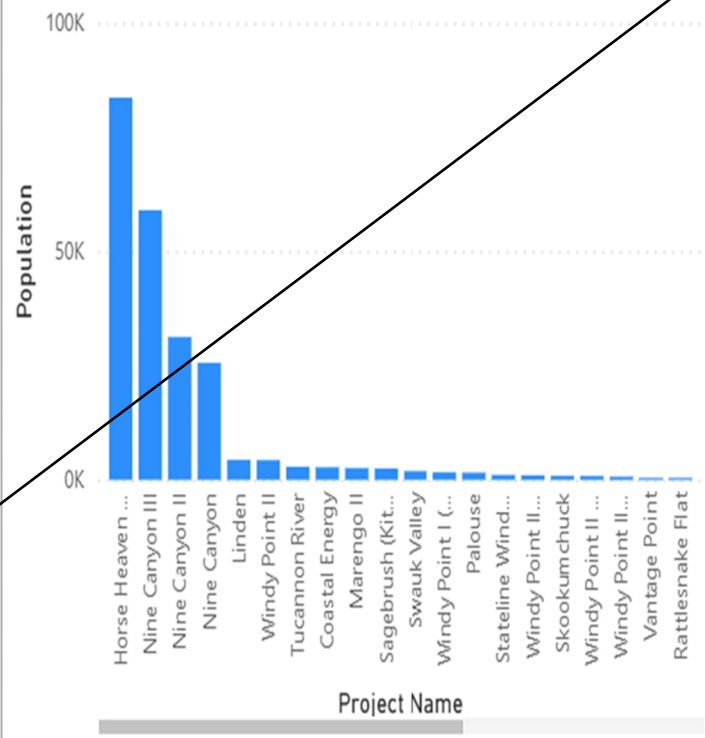
Distance from Project

- 2 Miles
- 3 Miles
- 4 Miles
- 5 Miles
- 6 Miles

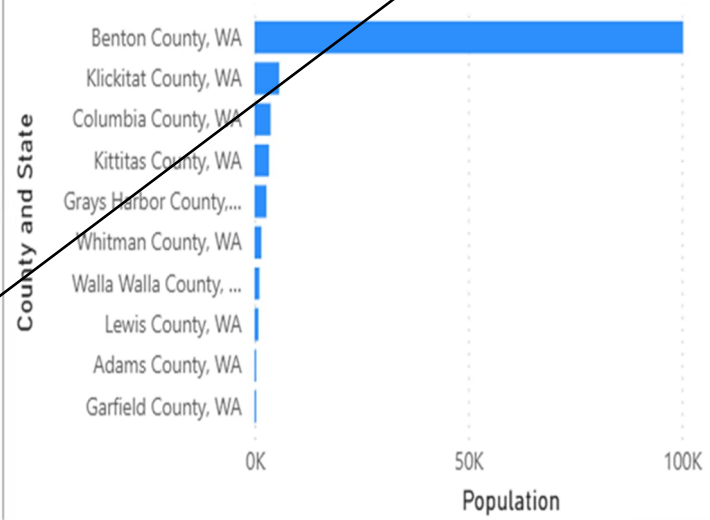
Population Affected by Year

State, County, Project	Total WMs	2000	2005	2010	2015	2020
WA	**2067**	**86,560**	**94,710**	**102,996**	**111,371**	**119,755**
Benton County	**307**	**69,255**	**76,728**	**84,496**	**92,410**	**100,346**
Horse Heaven Hills	244	57,824	64,037	70,482	77,060	83,657
Nine Canyon III	14	40,429	44,900	49,546	54,270	59,031
Nine Canyon II	12	21,426	23,777	26,242	28,747	31,270
Nine Canyon	37	17,564	19,499	21,517	23,558	25,641
Klickitat County	**601**	**5,325**	**5,486**	**5,596**	**5,671**	**5,739**
Columbia County	**320**	**3,790**	**3,786**	**3,784**	**3,777**	**3,716**
Grays Harbor County	**4**	**2,540**	**2,616**	**2,682**	**2,735**	**2,766**
Kittitas County	**262**	**2,314**	**2,573**	**2,811**	**3,056**	**3,340**
Whitman	**58**	**1,392**	**1,471**	**1,505**	**1,535**	**1,588**
Walla Walla County	**270**	**1,007**	**1,043**	**1,062**	**1,074**	**1,093**
Total	**2067**	**86,560**	**94,710**	**102,996**	**111,371**	**119,755**

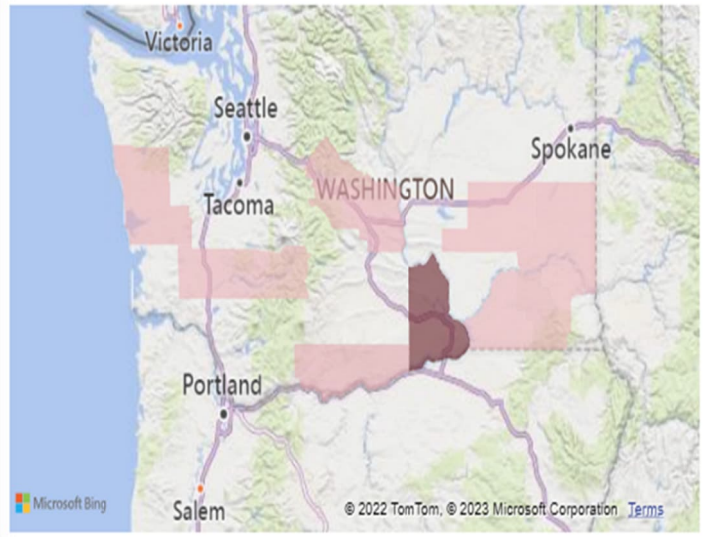
People Affected in 2020 by Selected Projects within a 6 Mile Radius



People Affected in 2020 per County within a 6 Mile Radius



Population Affected from 10 Counties within a 6 Mile Radius



State, County

- MT
- OR
- WA
  - Adams County
  - Benton County
  - Columbia County
  - Garfield County
  - Grays Harbor Cou...
  - Kittitas County
  - Klickitat County
  - Lewis County

Total Height (ft)

102 591

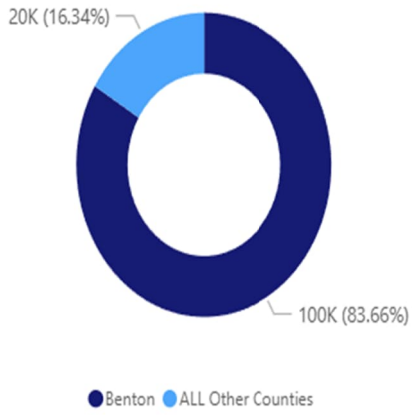
Number of WMs

1 270

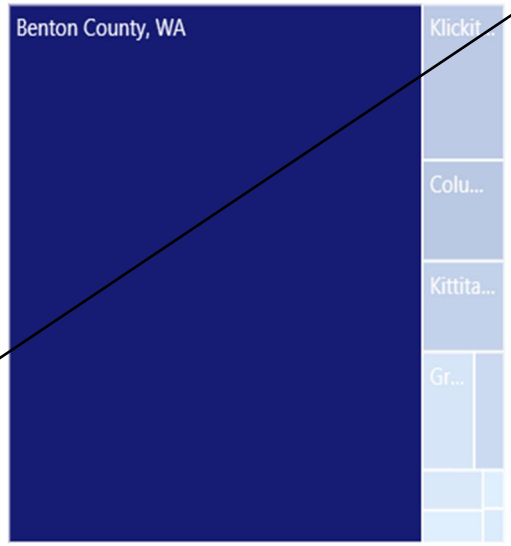
Distance from Project

- 2 Miles
- 3 Miles
- 4 Miles
- 5 Miles
- 6 Miles

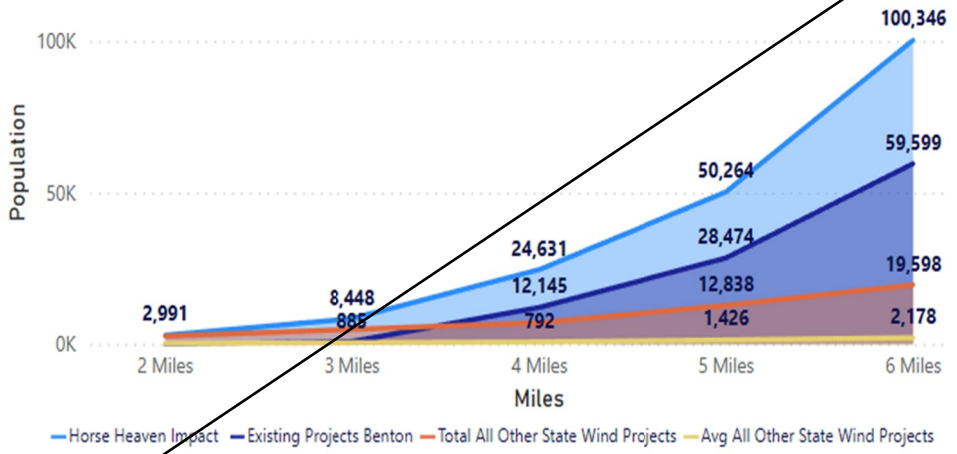
Affected 2020 Population from 10 Counties in Comparison to Benton County in a 6 Mile Radius



Impacted 2020 Population By County in 10 Selected Counties at a 6 Mile Radius



Benton Wind Projects Impacts - 2020 Population 2 to 6 Miles. Compared to 9 Other Counties in (W



Benton County	2 Miles	3 Miles	4 Miles	5 Miles	6 Miles
Benton County	**2,991**	**8,448**	**24,631**	**50,264**	**100,346**
Horse Heaven Hills (WA)	2,987	8,191	17,293	42,148	83,657
Nine Canyon (WA)	22	663	3,059	11,027	25,641
Nine Canyon II (WA)	2	21	638	13,064	31,270
Nine Canyon III (WA)	16	324	10,357	27,100	59,031
Total Affected Population	**2,991**	**8,448**	**24,631**	**50,264**	**100,346**

Other Counties	2 Miles	3 Miles	4 Miles	5 Miles	6 Miles
Adams County	**63**	**74**	**113**	**197**	**369**
Columbia County	**236**	**387**	**543**	**1,231**	**3,716**
Garfield County	**66**	**120**	**175**	**205**	**328**
Grays Harbor County	**420**	**1,131**	**1,467**	**1,698**	**2,766**
Kittitas County	**797**	**1,258**	**1,878**	**2,497**	**3,340**
Klickitat County	**445**	**906**	**1,460**	**4,290**	**5,739**
Total Affected Population	**2,657**	**4,928**	**7,127**	**12,838**	**19,598**

Other Counties	2 Miles	3 Miles	4 Miles	5 Miles	6 Miles
Average Affected Population	**295**	**548**	**792**	**1,426**	**2,178**

State, County

- (Blank)
- MT
- OR
- WA
  - Adams County
  - Benton County
  - Columbia County
  - Garfield County
  - Grays Harbor Cou...
  - Kittitas County

Project Name ID

- Horse Heaven Hills (WA)
- Nine Canyon (WA)
- Nine Canyon II (WA)
- Nine Canyon III (WA)

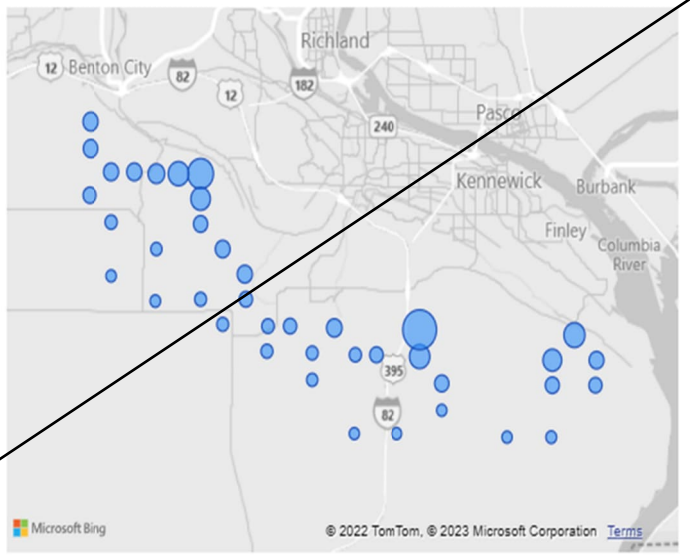
Distance from Project

- 2 Miles
- 3 Miles
- 4 Miles
- 5 Miles
- 6 Miles

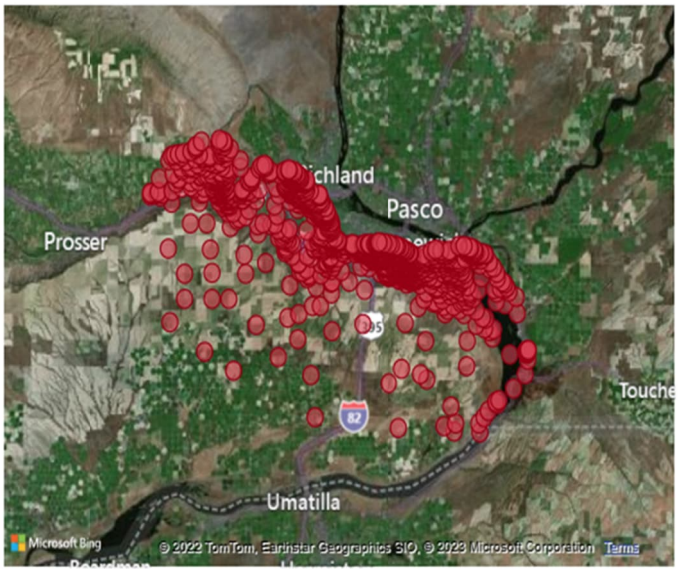
Project, Windmill ID	2020 Population
Horse Heaven Hills (WA)	**83,657**
T7N R29E Sect: 4 (3C23: 3C24: 3C25: 4D36: 4D38)	39,116
T8N R27E Sect: 2 (5D41)	25,783
T7N R30E Sect: 3 (2F2: 2F3)	18,030
T8N R27E Sect: 3 (5D39: 5D40:)	17,168
T7N R29E Sect: 9 (2D10: 2D11: 2D12: 2D13)	16,987
T8N R27E Sect: 11 (5F47: 5F50)	15,475
T7N R30E Sect: 9 (1C6)	14,176
T8N R27E Sect: 4 (5D46: 5D47: 5D48)	10,746
T9N R26E Sect: 25 (5G14:5G15:5G16: 5G17: 5G18)	9,601
T7N R28E Sect: 2 (3D39)	8,838
T9N R26E Sect: 36 (5G22: 5G23: 5G24: 5G25: 5G26)	8,632
T8N R28E Sect: 30 (4G2: 4G3:4G4)	8,200
T9N R27E Sect: 31 (5E50: 5E51: 5E52)	8,099
T9N R27E Sect: 32 (5E44: 4E45)	8,066
T8N R27E Sect: 24 (4E40: 4E41:4F31:)	7,710
T7N R30E Sect: 11 (1B24: 1B25: 1C17: 1C18)	7,671
T7N R29E Sect: 15 (B14: B15)	6,795
T8N R27E Sect: 14 (4E43: 5F44)	6,595
T7N R30E Sect: 16 (1A12)	6,352
T7N R30E Sect: 20 (1A9: 1A10: 1A11)	6,352
T8N R26E Sect: 12 (5G17: 5G17: 5G19)	5,864
T7N R29E Sect: 7 (2C19: 2C20: 2C213D34: 3D35)	5,404
T8N R28E Sect: 31 (4E37: 4E38: 4E39)	5,146
T7N R28E Sect: 4 (4E34:)	5,045
T7N R30E Sect: 14 (1A7: 1A8)	4,816
T7N R28E Sect: 5 (4E28:)	3,832
Total	**83,657**

2020 Population	Number Of Windmills	Number of Blocks
84K	244	1392

Windmills

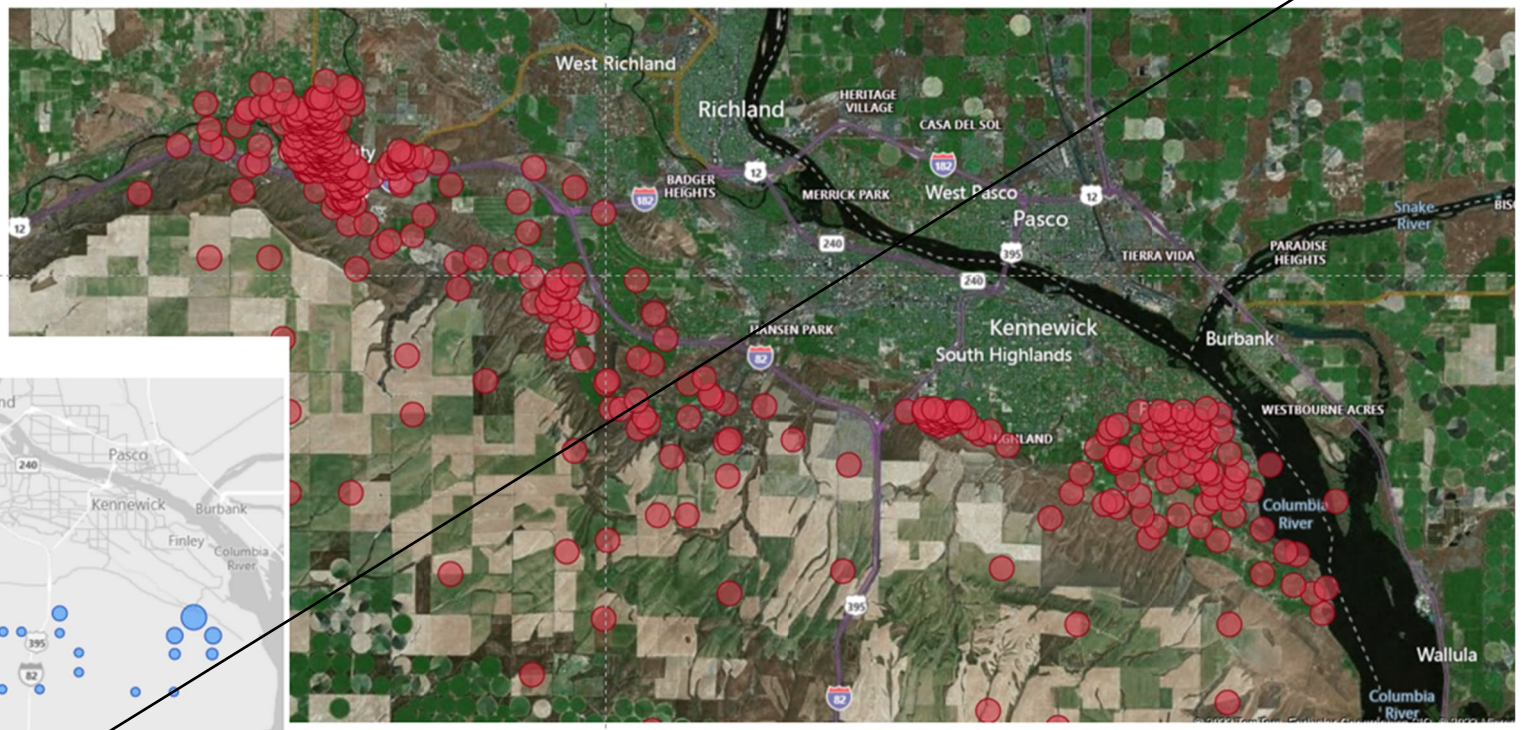


2020 Population at 6 Miles

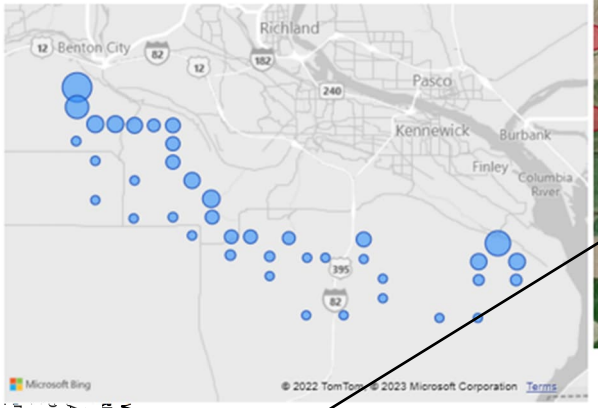


4 miles – 17,293
Benton City 1,141
East Badger Road 2,680
North Dallas Road 2,252
South Finley 5,140

2020 POPULATION AT 4 MILES



Windmills



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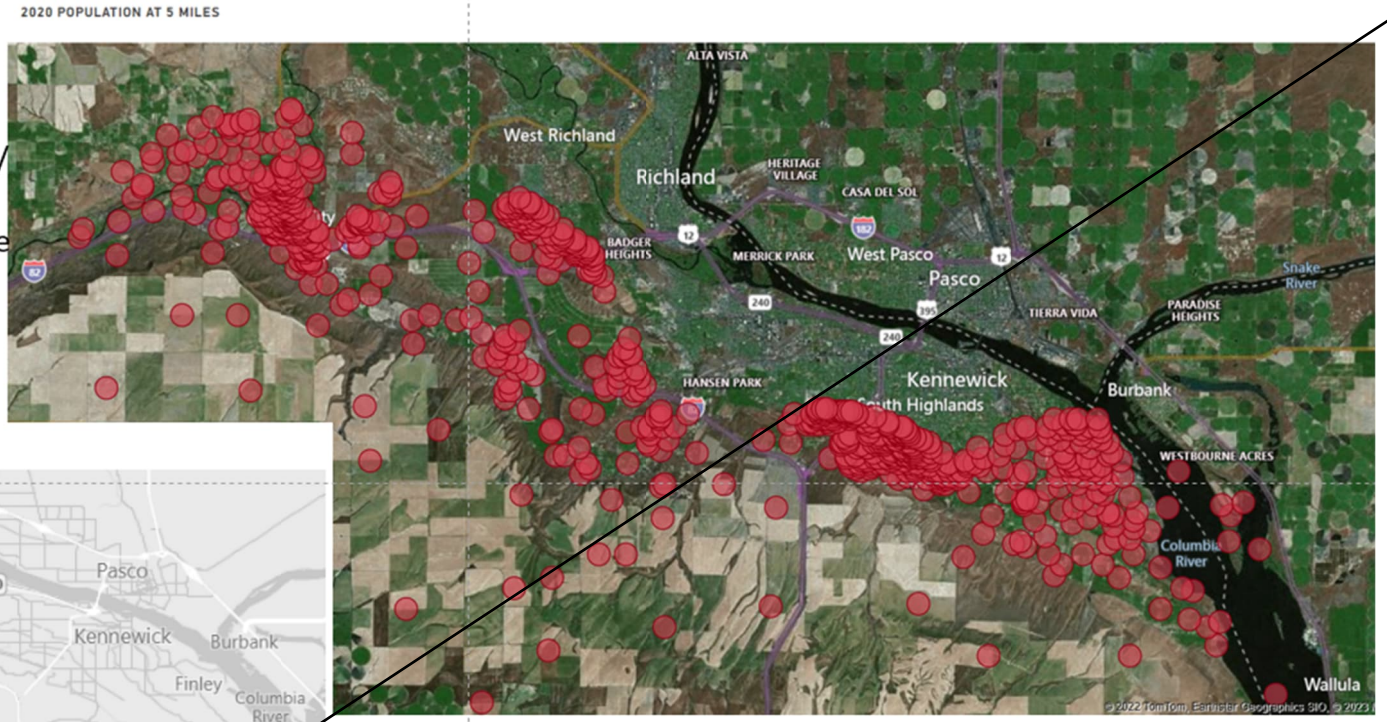
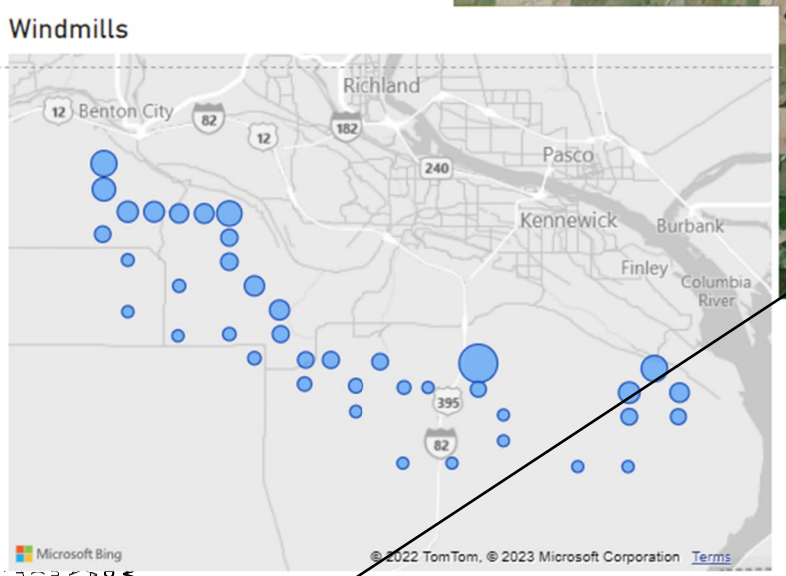
5 miles 42,143
Benton City 15,966
East Badger Road / North Dallas Road / Badger Heights / Reatta 17,168
South Kennewick / Creekstone / Canyon Lakes/ South Highlands 15,966
Finley 8651





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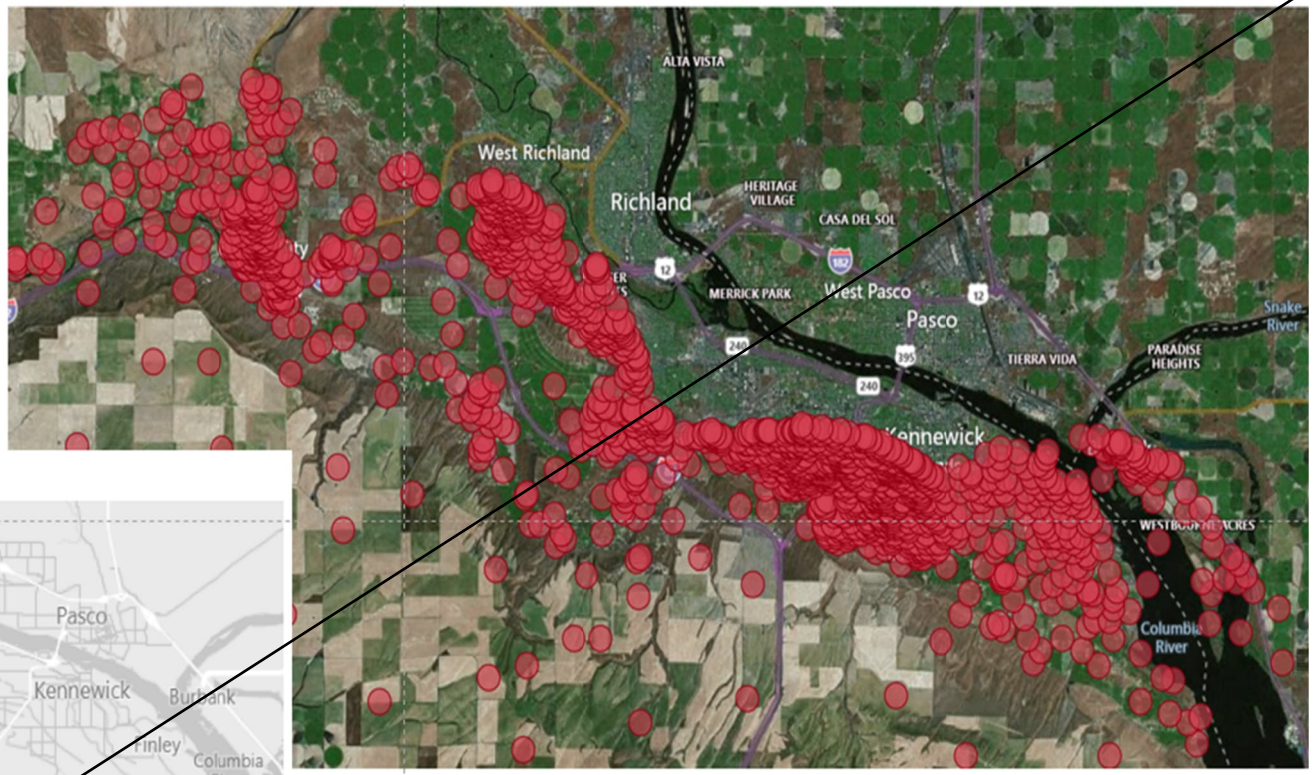
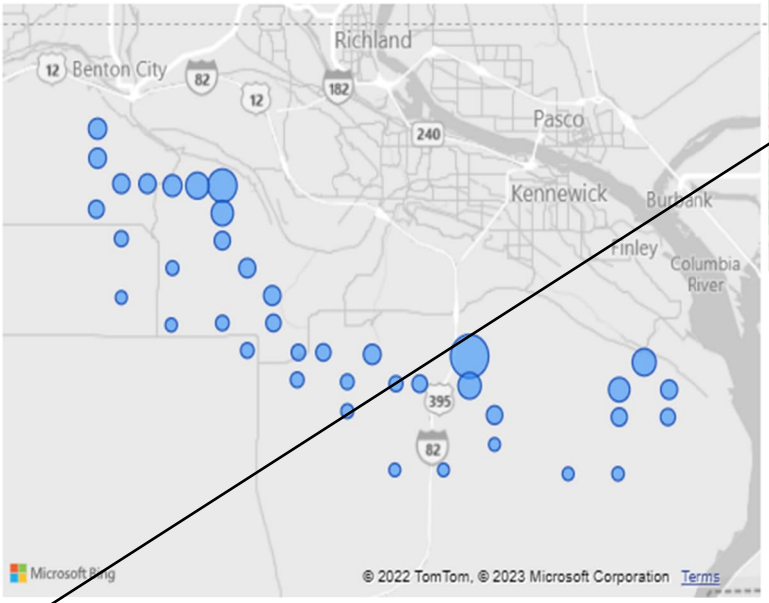
6 miles 83,657
Benton City 25,783
East Badger Road / North Dallas Road / Badger Heights / Reatta 25,783
Creekstone / Canyon Lakes 39,116
Finley 14,176

2020 POPULATION AT 6 MILES

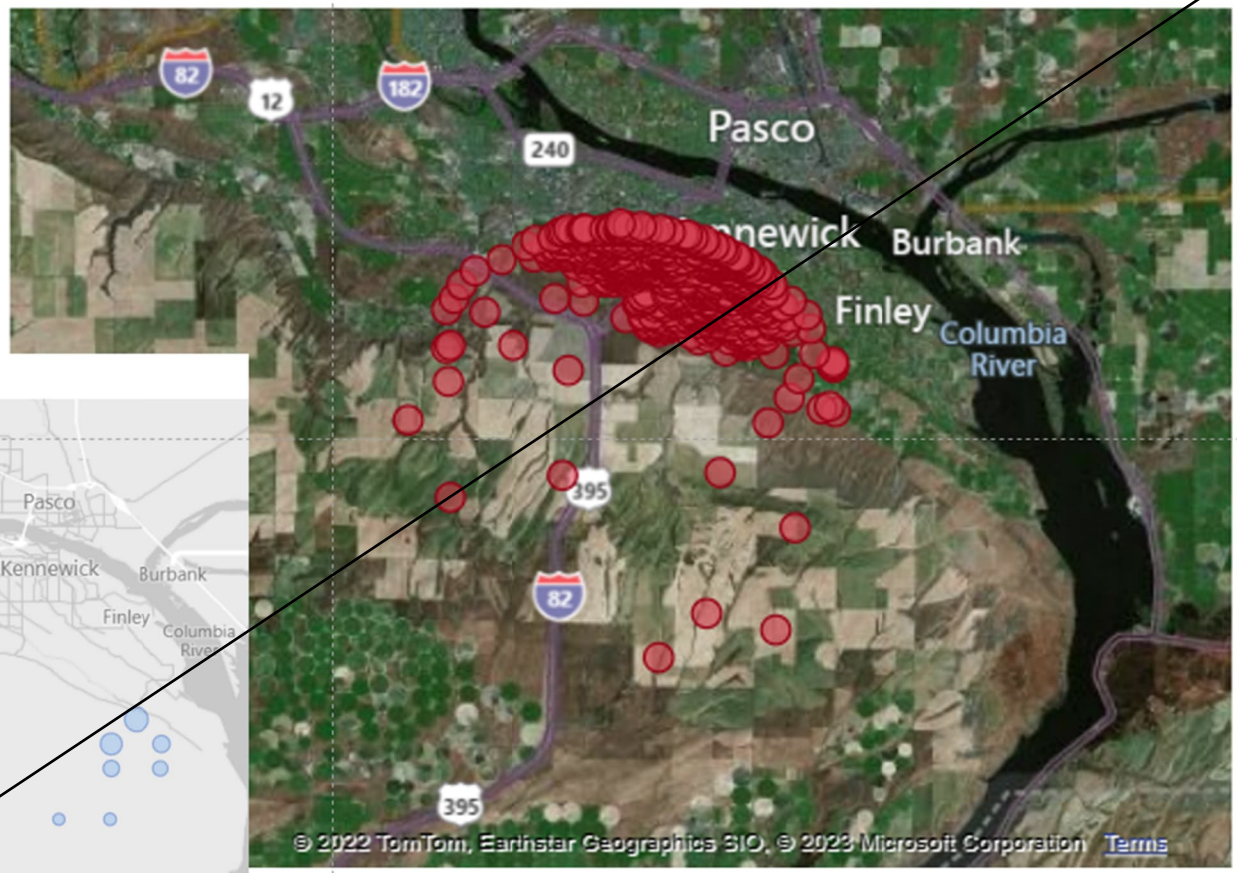


Windmills

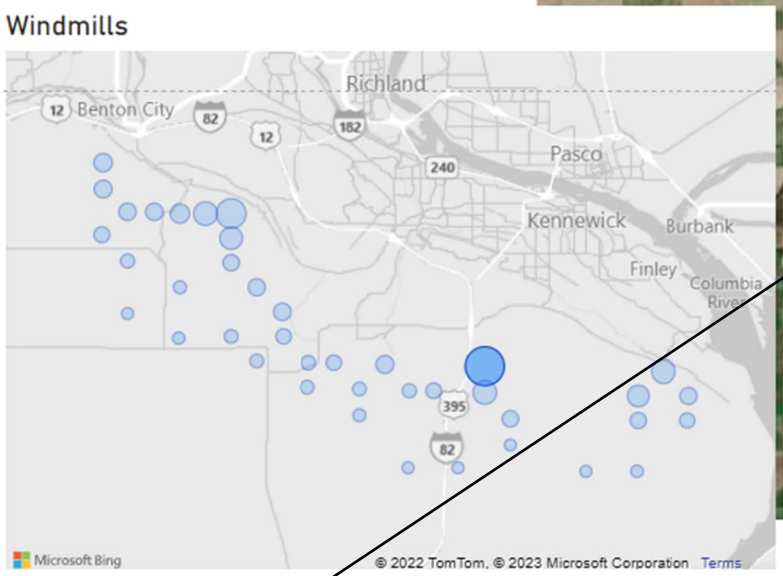


Johnson Butte Turbine Cluster

2020 Population at 6 Miles



Windmills



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Fugitive

The Application Fails to Adequately Identify, Describe and Evaluate the Significant and Unhealthy Adverse Impacts of Fugitive Dust Emissions Caused by the Project.

The Application fails to describe and evaluate the incredibly risk of enormous fugitive dust from the project and that particulate matter will be deposited beyond the property line in significant quantities that will interfere with the use and enjoyment of the people in the downwind affected areas. The applicant fails to identify and describe the reasonable precautions to prevent the release of air contaminants from materials handling, construction, demolition, or other fugitive emissions sources. The application fails to describe reasonable measures to prevent dust from becoming airborne and minimize emissions.

The Application fails to identify, describe and evaluate feasible alternatives that can reasonably control and mitigate the health hazards from the fugitive dust emissions caused by the project.

The Application identifies that there will be a dramatic increase the amount of fugitive dust created during construction of the HH wind farm project. This is a significant impact to the environment that also threatens human health. The application underestimates the dust that will be generated in the highly erodible fine grained glacial soils – the loess that covers the agricultural land the project is located on. The blowing dust created by the 100 miles of proposed roads will be well beyond anything identified in the Application. They will not be able to control the dust with water due to

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the evapotranspiration rates found in this area. Their statements that they will mitigate the dust is without scientific foundation.

The Application does not identify, describe and evaluate fugitive dust created after construction during the anticipated 35-year operation of the wind farm.

The Application on page 3-46 to 3-55 utilize wind roses from the Richland Airport for the Annual Year 2020. They do not utilize and present the meteorological data taken from the meteorological towers on the Project Site itself.

The text in Application Chapter 3 – Affected Environment states with emphasis added:

> *"Atmospheric stability, which refers to a lack of vertical air movement, plays an important role in air quality because air contaminants are not dispersed as quickly or widely when the atmosphere is stable (Hanna et al. 1982). Atmospheric stability is generally characterized according to the Pasquill-Gifford scheme, which ranges from Class A (most unstable) to Class G (most stable). Figure 3.3-2 shows the average atmospheric stability in Richland 2020. Similar to the wind rose in Figure 3.3-1, in this "stability rose," the spokes in the figure depict wind direction, but here the colors represent the atmospheric stability associated with each wind direction.* ***The figure shows that unstable to neutral (Class A–D) atmospheric conditions, which promote acceptable pollutant dispersion, predominate in all compass directions in the Richland area and that highly stable conditions (Class F and G) with reduced atmospheric mixing are less frequent." (emphasis added)***

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This is not scientifically correct given that the Richland weather station is eight miles away from the northern boundary of the site and the wind increases with elevation

The declarations made in the Application in Section 2.12 Emission Control lack scientific basis and misrepresent the risk and amount of fugitive dust that will be caused by the project construction and operation from the use of fuel-burning equipment disturbing the exposed surface windblown dust, access road traffic, bulldozing, and grading activities.

The Application states without any explanation or quantification "Emissions during Project construction are expected to comply with all applicable air quality rules, regulations, and plans. The applicant on page 2-134 simply states:

> *"To prevent and reduce fugitive dust emissions during construction, the Applicant would prepare a Dust Control Plan. The Dust Control Plan would consider and incorporate dust control guidance from the BCAA as applicable (Benton Clean Air Agency 2020)."*

Page 3-43 of Application states

> *"In addition to prescribing the above Washington state regulations, the BCAA requires notification prior to commencement of any work that would generate fugitive air emissions (BCAA Regulation 1 Section 4.02.D). Additionally, a dust control plan that identifies management practices and operational procedures to effectively control fugitive dust emissions must be maintained and provided to the BCAA prior to construction (BCAA Regulation 1 Section 4.02.E)*

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These empty declarations of intent are without any substance and detail whatsoever and putting the commitment to create a adequate dust control plan off into some undetermined future time. The Application is simply ignoring the regulatory requirements and is failing to address the issue in any meaningful way at all.

The Application fails to adequately identify, describe and evaluate that unacceptable air quality conditions will occur from the road construction disturbance and cause significant environmental impacts that will impacts over 100,000 people in the Tri-Cities. Project monitoring of PM2.5 and PM 10 is inadequate.

The Application fails to identify and evaluate fugitive dust issues and provide adequate mitigation as required by WAC 463-60-312, which states in pertinent part:

> *Natural environment—Air.*
>
> *The application shall provide detailed descriptions of the affected environment, project impacts, and mitigation measures for the following:*
>
> *(1) Air quality. The application shall identify all pertinent air pollution control standards. The application shall contain adequate data showing air quality and meteorological conditions at the site. Meteorological data shall include, at least, adequate information about wind direction patterns, air stability, wind velocity patterns, precipitation, humidity, and temperature. The*

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applicant shall describe the means to be utilized to assure compliance with applicable local, state, and federal air quality and emission standards.

…[]…

(5) Air quality. The application shall identify all pertinent air pollution control standards. The application shall contain adequate data showing air quality and meteorological conditions at the site. Meteorological data shall include, at least, adequate information about wind direction patterns, air stability, wind velocity patterns, precipitation, humidity, and temperature. The applicant shall describe the means to be utilized to assure compliance with applicable local, state, and federal air quality and emission standards.

The micrositing corridors arrays of giant turbines stacked six rows deep have the potential to create their own turbulence and promote fine dust traveling into residential neighborhoods below the HH plateau.

The Application on page 3-56 describes the air monitoring sites in the region

3.2.1.3 Existing Air Quality

The two most prevalent existing sources of air pollution in Benton County are fugitive dust and vehicle emissions. Windblown fugitive dust is prevalent in non-irrigated agricultural areas. Fugitive dust and combustion emissions are generated by agricultural activities, traveling vehicles, construction, and other

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activities that disturb the soils and use combustion engines. The nearest air quality monitors to the Project are located in Kennewick, Washington (with the monitor located approximately 4 miles to the north), which measure ozone and PM10. The nearest PM2.5 monitors are in Pendleton, Oregon (approximately 35 miles southwest) and Toppenish, Washington (approximately 40 miles to the northwest).

The HHWF is 25 miles across, 8 miles wide and proposes about 100 miles of roads. The project monitoring of PM 2.5 and PM 10 are totally inadequate.

The Application does not provide for adequate Project Air monitoring and mitigation plans do not identify and commit to any increased monitoring of PM 10 and PM 2.5.

There is no existing baseline on the smallest and most dangerous dust particles (PM2.5) in our area with the closest monitoring station in Toppenish. The HH wind farm project cannot be permitted before a good baseline of PM 2.5 in our area has been established and reviewed by health experts.

The Tri-City area is a dusty place - the local baseball team is called the Dust Devils. Frequent storms from the west blow across the plateau of the Horse Heaven Hills and large clouds of dust travel into the lower areas of the Columbia and Yakima River Valleys. Residential areas like Badger Canyon, West Kennewick, South Richland, and Canyon Lakes are then enveloped in a grey-brown clouds of blowing dust.

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Dust is harmful to human health, especially small particles of less than 2.5 um called PM 2.5 have shown to be very harmful as they travel deep into the lungs. Silica particles of that size cause inflammation and scarring of the lung tissue; serious complications called fibrosis are known to cause lung infection, high blood pressure and heart failure.

The soil of the Horse Heaven Hills is high in silica due to the low level of organic content and its silty- sandy nature. When the soil is dry (most of the year in Eastern Washington), the fine soil particles are easily moved by wind, vehicle traffic, or any air currents moving across the plateau, and are blown into the lower-lying areas of the Tri-Cities, some 1600 feet below the plateau. There many new communities are exposed to the hazards of fine dust blowing into their homes.

The Horse Heaven Hill wind farm will significantly increase the dangerous dust clouds in our area. During construction and with a lot of oversight, the 36 ft wide roads with their 350-foot wide corridors, they have underestimated the amount of water they will need to spray the roads and control the dust down. Even with control that assume that 75 % of the dust can be controlled, there will be 3080 tons of PM10 and 337 tons of PM2.5 from construction drifting into the air and the surrounding areas. This is an unacceptable impact on the affected environment.

The Application needs to be revised and reissued to identify, describe and evaluate the impacts of the Project construction and operation. Alternatives need to be identified and evaluated to reduce the significant impacts of the dust. Fewer turbines

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close to the urban residential area boundaries need to be considered. Relocation of the project away from Tri-Cities should also be considered.

The dust blowing into the Tri-Cities and the effects of PM10 and PM2.5 particles on our communities need to be adequately identified, fully and properly evaluated and reliably mitigated to prevent significant impacts to people in the Tri-Cities.

This photo depicts a wind wall in carrying dust in the Horse Heaven Hills.

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This next photo shows dust from the HHH plateau blowing into Badger Canyon, as seen from Badger Valley during a dust storm from the Summit View area in south Kennewick.

~~**The Application fails to identify and evaluate specific turbine locations that are identified to cause significant impacts. The Application fails to propose or even contemplate any remedy if it entails turbine elimination or relocation.**~~

~~The maps described above were utilized to develop a list of the turbines that should be eliminated from consideration in order to protect the wildlife migration corridor, ecological connectivity and habitat.~~

~~The Application fails to identify and consider the elimination and relocation of turbines, solar arrays and other project infrastructure to reduce the significant impacts of the Project on highly trafficked roadways, wildlife corridors, wildlife habitats, sensitive species, and visual impacts of the Project.~~

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~~The following CalTopo map shows where the wind turbines (numbered using the DoD GPS Coordinates), are located in close proximity to Highway 395 south of Kennewick. Several wind turbines will tower above the highway where thousands of cars are travelling.~~

~~The base of these wind turbines, numbered 3888, 3908, and 3894 are about 1000 to 1500 feet away from the traveled pavement on the highway, they are located along the highest part of the ridgeline and Horse Heaven Pass, and the base is elevated on the about 40 feet above the elevation of the highway. Engineers have developed a formula to describe the distance needed to avoid and reduce the risks of damage and harm from Ice Throw. The formula adds the hub height plus the rotor diameter times 1.5 and then adds in the wind. which in our th case of the wind varies, but can be documented using the applicant's met tower data.~~

~~Using what is known, this yields 499 + 250 x1.5 = 1150 feet plus the wind. The shape of the ice and weight also make a difference. A piece of ice thrown from 499 feet in a 45 miles an hour wind could easily blow into cars on the highway.~~

~~It means that the proposed turbines on either side of Highway 395 can be a real hazard to anyone driving from ice bombs travelling at 50 to 75 mph. Here's a reference from General Electric.~~

~~Ice Shedding and Ice Throw – Risk and Mitigation~~

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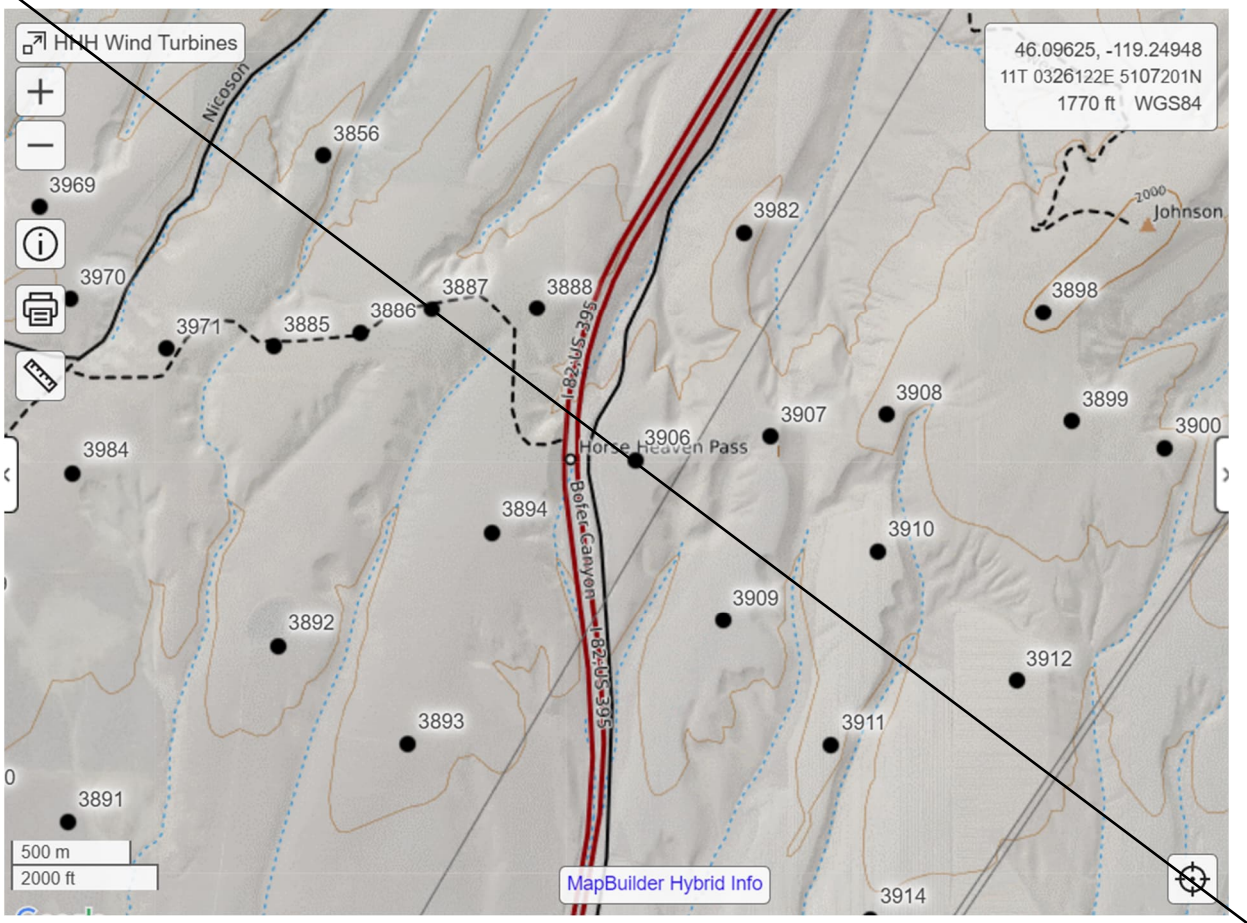
~~https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:3537e60e-48e9-4077-a7dd-d6a012faaffc~~

~~https://www.ge.com/.../ger-4262-ice-shedding-ice-throw...~~



~~Here is a photograph taken on the Nine Mile turbines road near Jump Off Joe in Kennewick.~~

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~~The applicant has not presented any documentation or analysis of the hazards to people from falling ice and throwing snow and has identified no mitigation measures. These turbines must be eliminated or relocated.~~

~~The Horse Heaven Hills Project in some respects is very similar to the Whistling Ridge Project, where a hotly contested issue involved in the application with the greatest~~

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degree of public concern and intervenor attention was the aesthetics, in particular, the visual impacts.

In Council Order No. 868, the Whistling Ridge Final Adjudicative Order on page 23 of 52 provide the Table 1 Viewing Site Analysis identifies three options with varying numbers of turbines along with turbine number designations and the selected Option 3, which had been presented by the Council of the Environment as a means to resolving the contested issues.

Reference:

https://www.efsec.wa.gov/sites/default/files/096000/02560/20111006_868.pdf

The following is presented to provide a basis for a comparable method and process that can be utilized for the Horse Heaven Hills project in the adjudication process to reduce and narrow the contestable issues and provide a foundation for the FEIS. The objective is to create a rational basis for the determination of allowable wind turbine visibility. It is based upon an analysis of the wind turbine views from key representative viewpoints, particularly residential communities with large significant populations of residents, including and recognizing the maps, photography, and testimony of experts during the adjudication, along with the other documentation in the record. This method provides a means to mitigate adverse impacts to an acceptable degree and through a fair and reasoned process utilizing the information and record available. It is recognized that the degree of reduced visibility is not a mathematical

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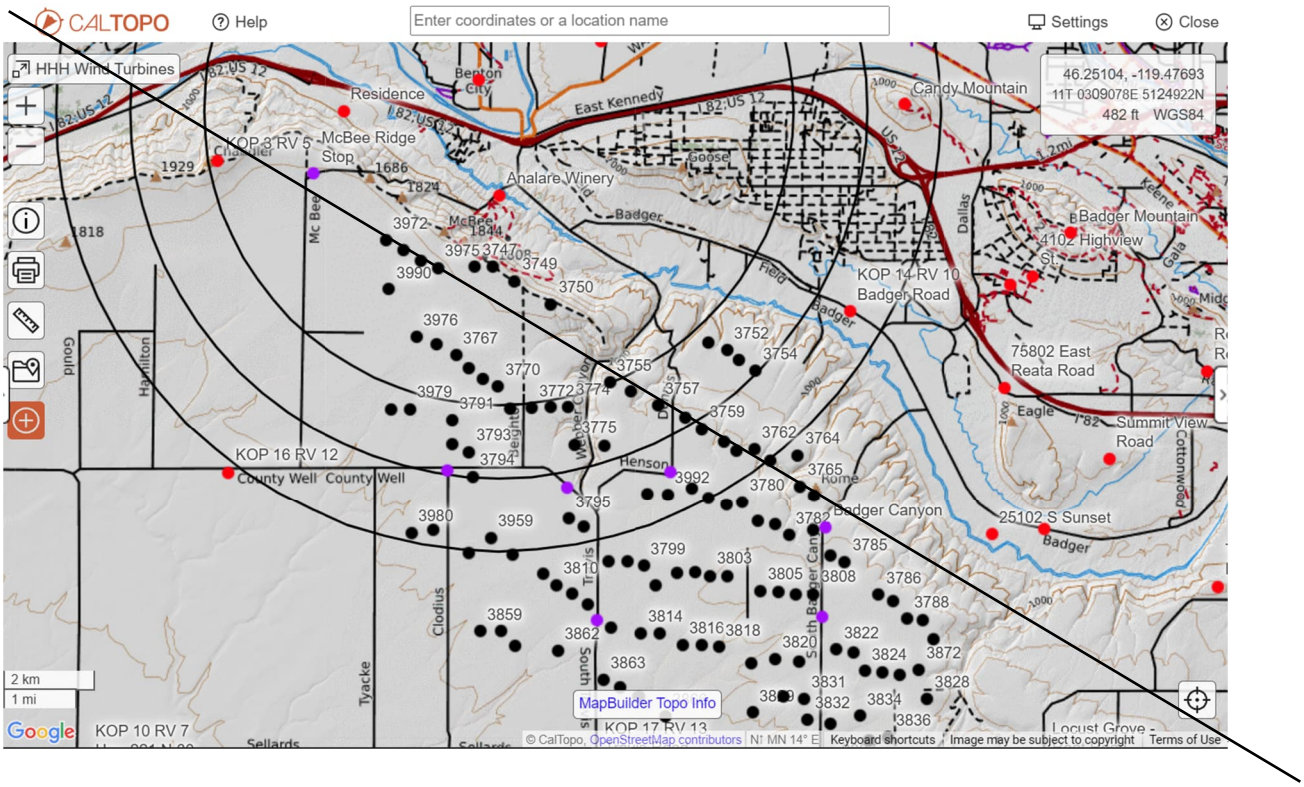
~~formula, but is rather based on the EFSEC Counsel's subjective decision to mitigate adverse effects of wind turbines to an acceptable degree.~~

~~To further that objective and expedite the adjudication process we offer the following graphics.~~

~~This graphic contains 4-mile, 5-mile, and six-mile range rings around the KOP 13 in Benton City.~~

~~The turbines within the six-mile radius should be removed from consideration in the project and deemed to close and intrusive to people due to the visual impact.~~



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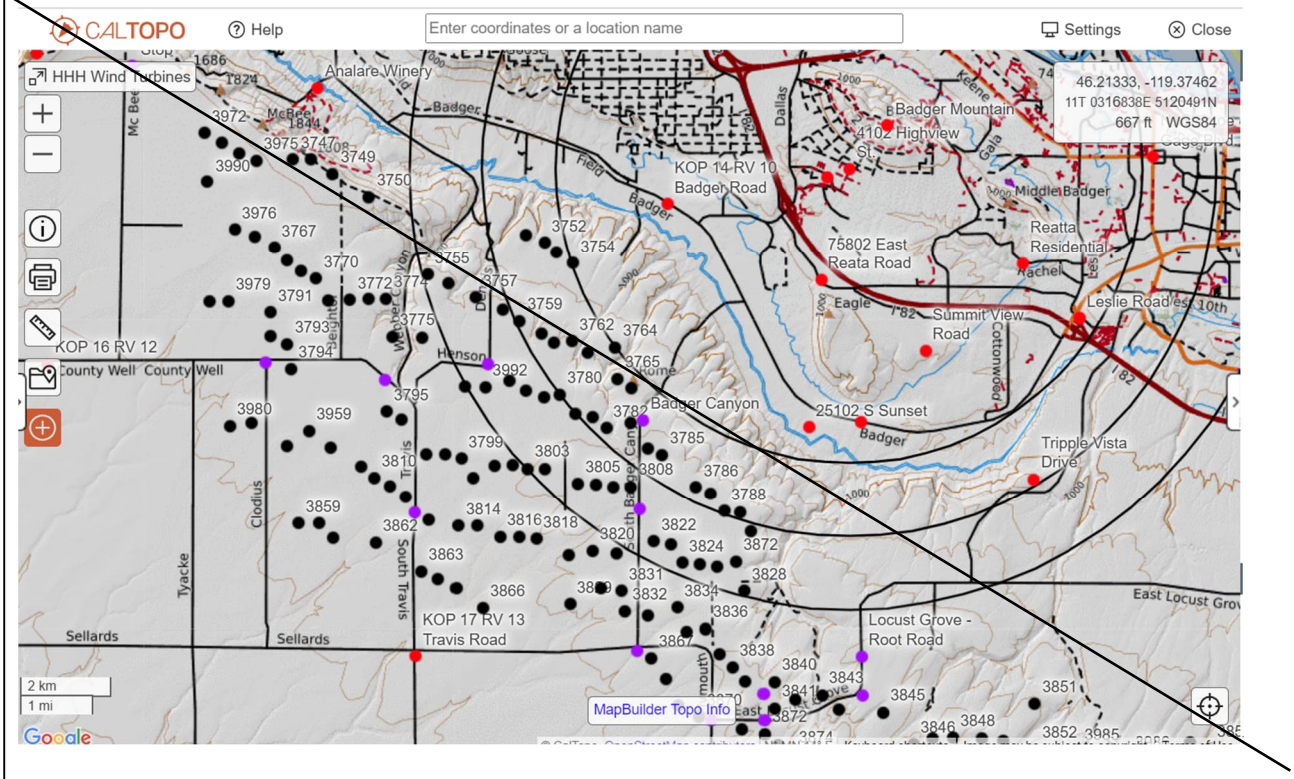
~~This graphic contains 4-mile, 5-mile, and six-mile range rings around the residential Badger Mountain Estates residential community from 4102 Highview Street.~~

~~The turbines within the six-mile radius should be removed from consideration in the project and deemed to close and intrusive to people due to the visual impact.~~



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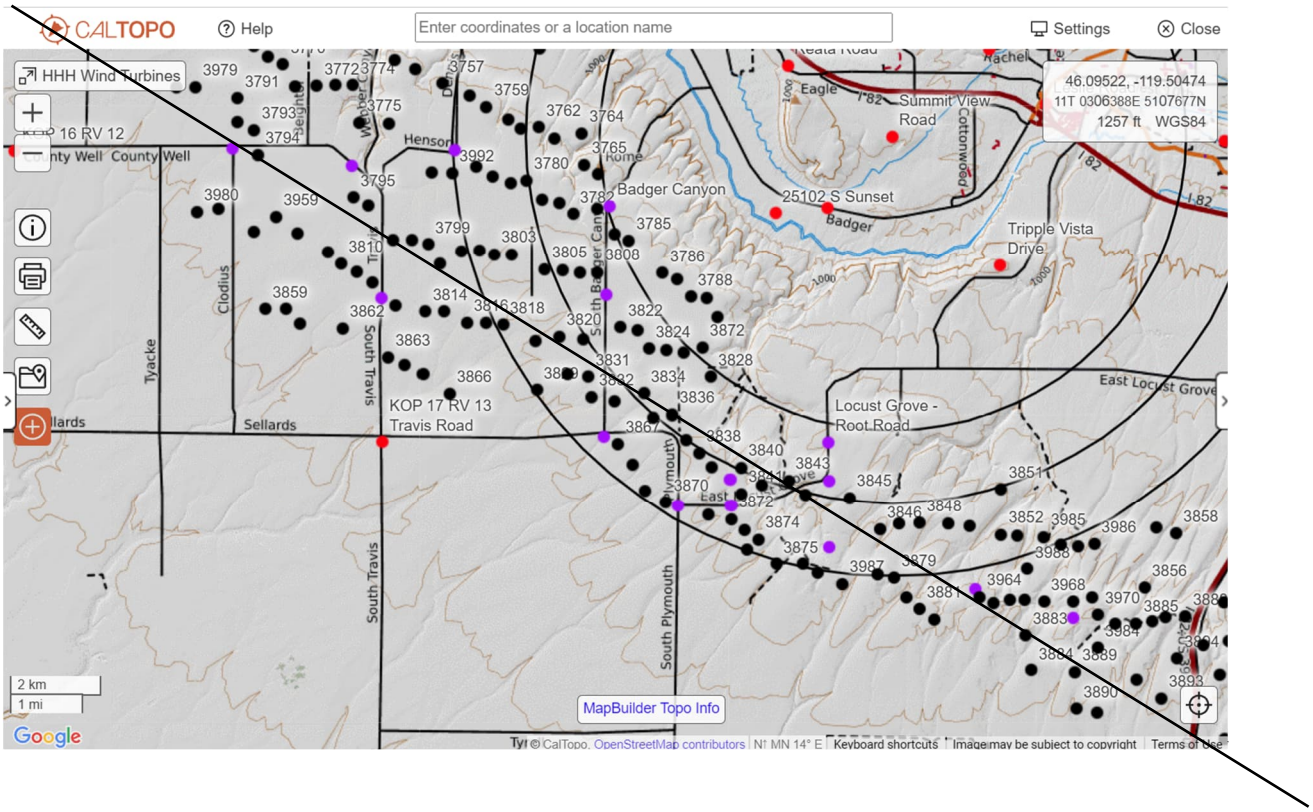
~~This graphic contains 4-mile, 5-mile, and six-mile range rings around the residential the Summitview residential community from 40197 Summit View Road.~~

~~The turbines within the six-mile radius should be removed from consideration in the project and deemed to close and intrusive to people due to the visual impact.~~



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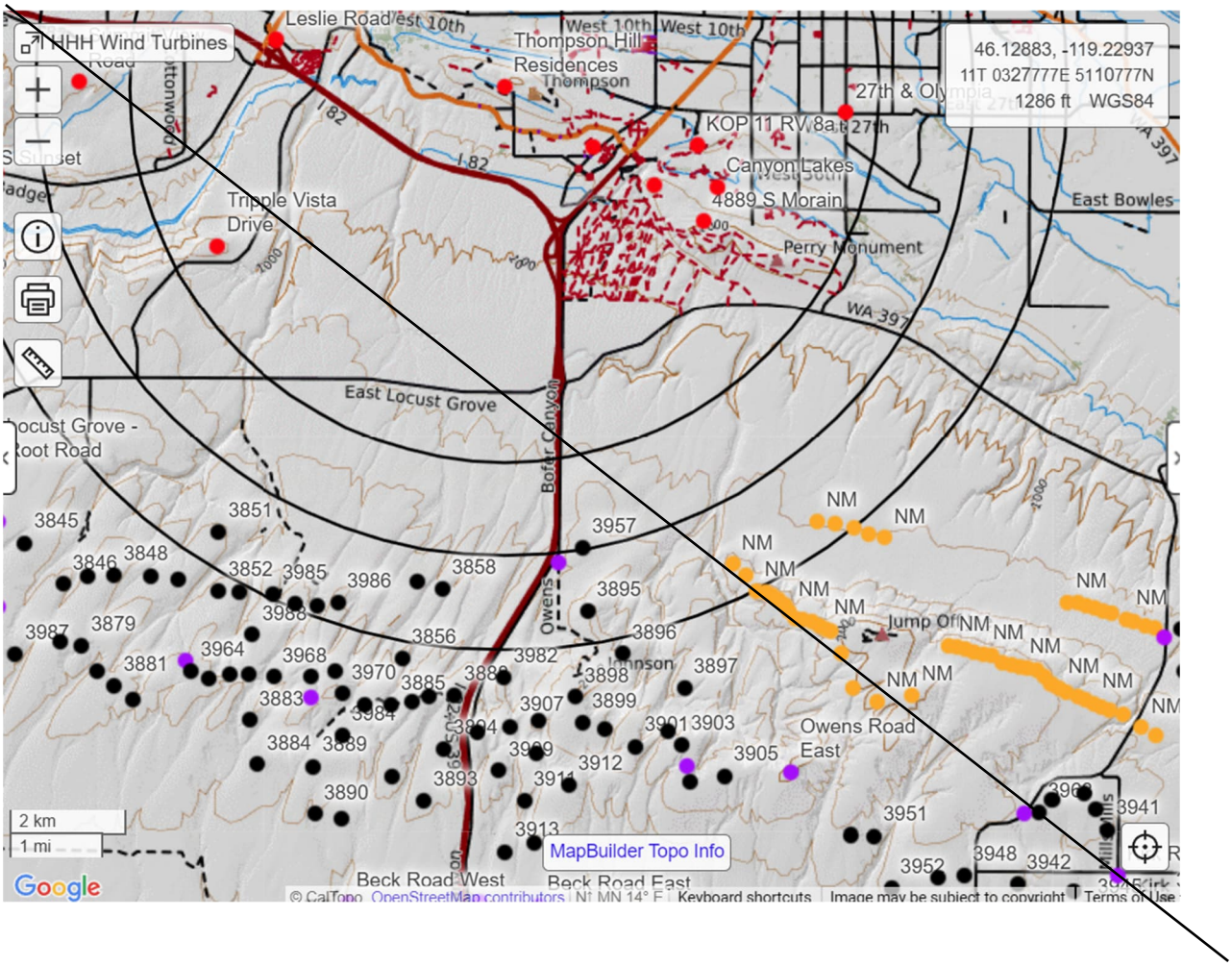
~~This graphic contains 4-mile, 5-mile, and six-mile range rings around the residential the Symphony Ridge Development on Thompson Hill residential community from South 26th St.~~

~~The turbines within the six-mile radius should be removed from consideration in the project and deemed to close and intrusive to people due to the visual impact.~~



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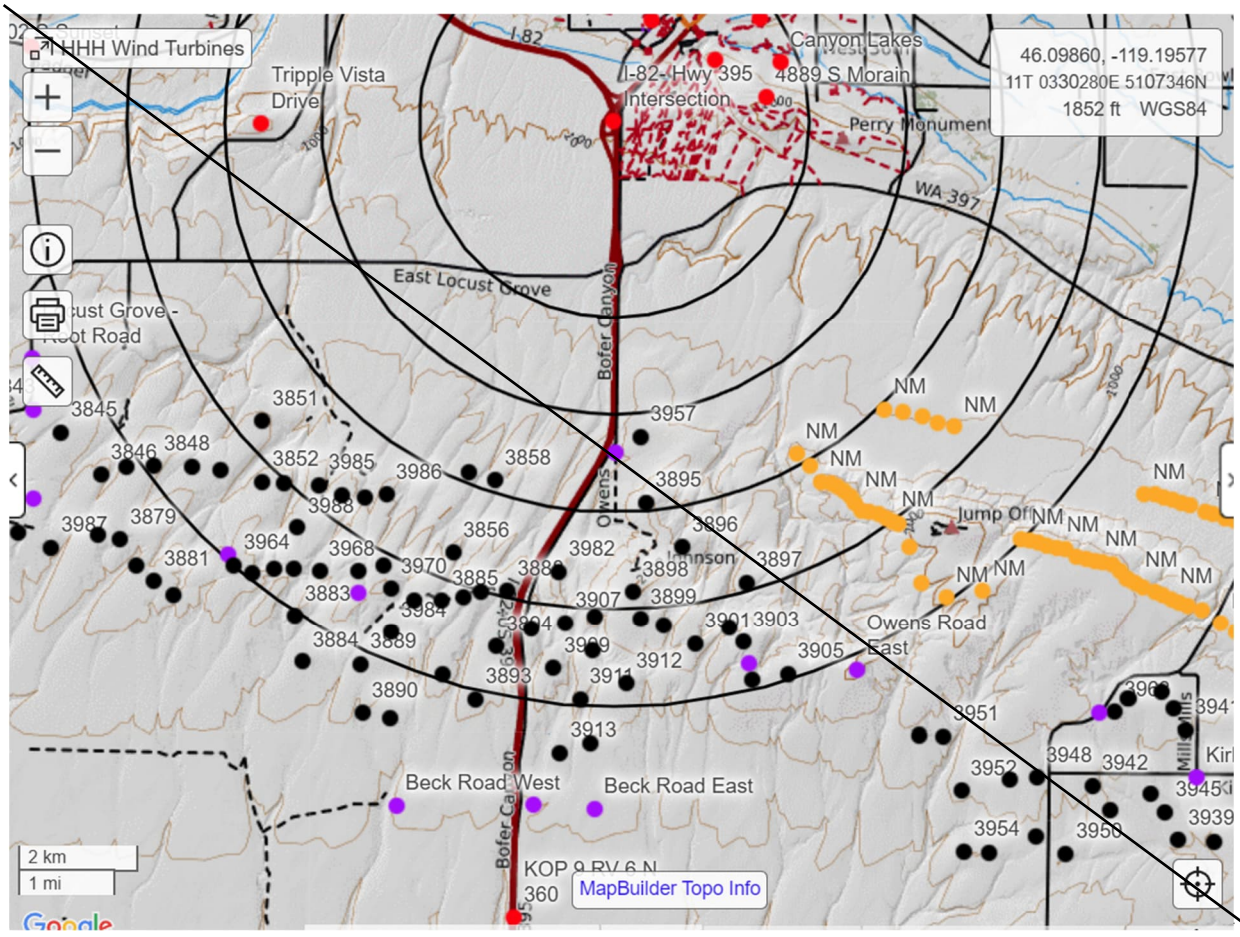
~~This graphic contains 2-mile, 3-mile, 4-mile, 5-mile, and 6-mile range rings around the residential the intersection of Interstate 82 and Highway 395.~~

~~The graphic clearly shows the distances to the existing Nine Mile Canyons and the locations of turbines that are within a comparable distance. Given the future growth and development in South Kennewick, the turbines within the six-mile radius should be removed from consideration in the project and deemed to close and intrusive to people due to the visual impact.~~



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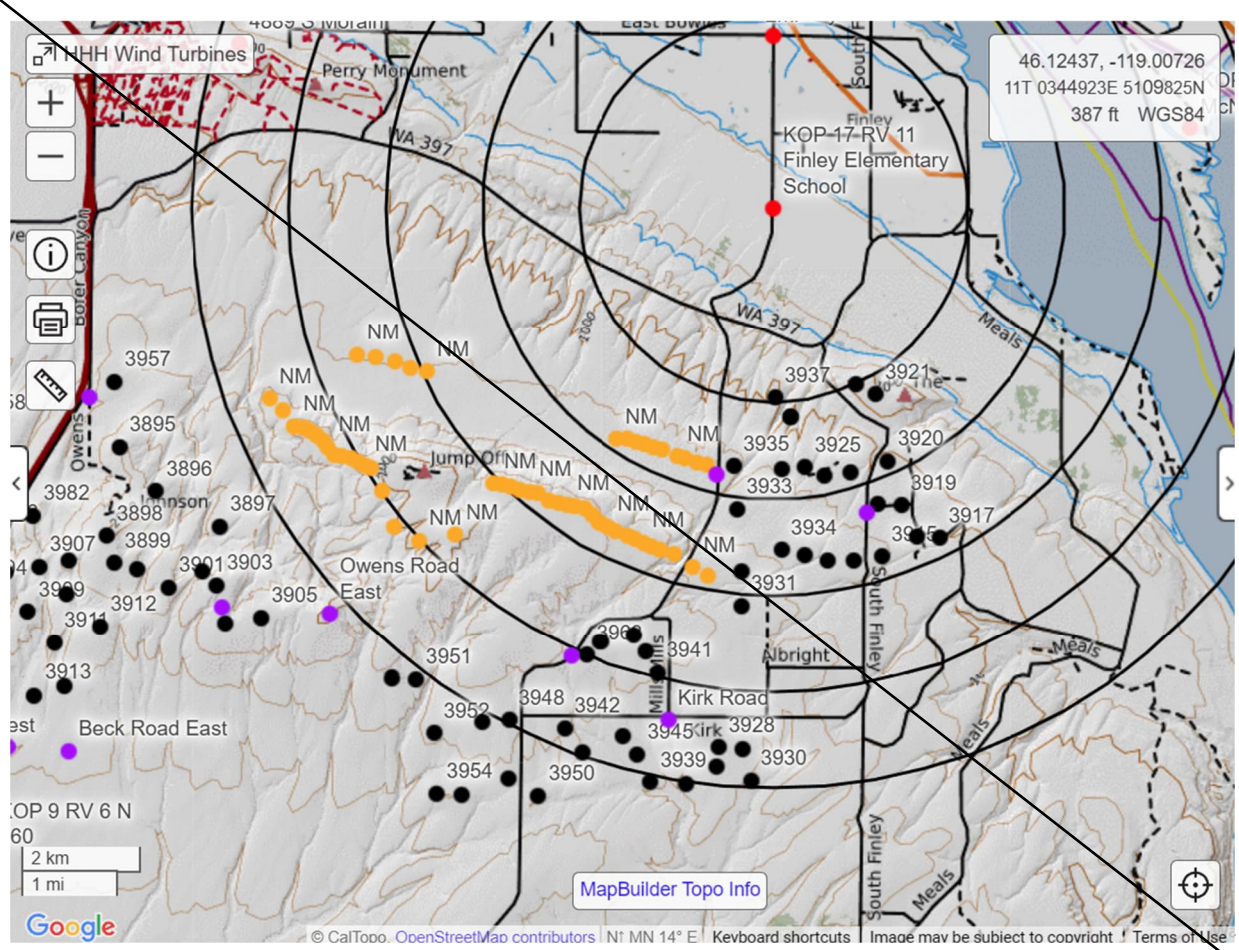
~~This graphic contains 4-mile, 5-mile, and six-mile range rings around the residential the Symphony Ridge Development on Thompson Hill residential community from South 26th St.~~

~~In this case, the turbines within the two-mile, three-mile, four-mile, five mile and six-mile radius should be removed from consideration in the project and deemed to close and intrusive to people due to the visual impact. The proposed HHWF turbines are larger, closer and more intrusive than the Nine Mile turbines. Finley should not be forced to experience increased visual impacts from the project.~~



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~~The turbines within the six-mile stance should be considered for elimination to reduce and eliminate unacceptable impacts to visual resources, property values, cultural resources, wildlife corridors, and endangered special nesting sites.~~

~~The Key Wind Turbines That Require Removal Are On the Ridgeline~~

~~This recommendation is offered as a guide that points to and describes the type of additional analysis needed to help EFSEC responsibly identify feasible alternatives that can achieve power generation needs and minimize the significant impacts on the environment and people in accordance with its responsibilities under the RCW 80.50 with language that was added by the Legislature in June 2022 as follows~~

> ~~*The legislature finds that the in-state manufacture of industrial products that enable a clean energy economy is critical to advancing the state's objectives in providing affordable electricity, promoting renewable energy, strengthening the state's economy, and reducing greenhouse gas emissions.*~~

~~Therefore, the legislature intends to provide the council with additional authority regarding the siting of clean energy product manufacturing facilities.~~

~~This identifies a method and a measure that is a priority objective of the state to provide affordable electricity creating the need for an economic and environmental review of project.~~

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~~The Application must be revised to appropriately and adequately identify and evaluate different wind turbine and solar hybrid alternatives, along with a precise identification of turbine locations that are recognized to be unsuitable for the project along with the reasons supporting these alternatives.~~

~~The reasons for turbine elimination or relocation must include wildlife migration, wildlife habitat, sensitive species, visual impacts, proximity to people, and other elements of the environment subject to significant, even permanent and irretrievable impact from the Project.~~

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