

~~On Page 2 Lines 11 to 24 Ms Guthrie states that her team completed the Visual Impact Assessment for the ASC while SWCA completed the visual impact assessment to the DEIS and SEPA Process. "My team was only responsible for providing data to the SEPA Process through formal data requests.~~

~~This response makes the use of the visual analyses in the ASC and the DEIS even more confusing. The EFSEC assessment conducted on contract by SWCA used the flawed information provided by TetraTech. The quality issues with the TetraTech visual data cascade directly into the DEIS and render the visual assessments in both the adjudication and SEPA processes highly questionable, unreliable and of doubtful utility.~~

~~On Page 3 lines 18-19, Ms Guthrie states "there are a number of reasons why Scout's visual simulations contain atmospheric haze."~~

~~As an avid photographer, I would also suggest that the settings on the original camera are critical, as well as the resolution of each computer image that is used to create the drawings in the visual simulations. The fuzzy turbines may not be due to atmospheric conditions as much as the image dpi.~~

~~On Page 4 lines 6 to 9, Ms. Guthrie seeks to explain some haziness may be dues to Kennewick's average humidity, which she presents as around 60 percent.~~

~~I have lived in Kennewick since 1983 and the humidity rarely is high enough to create a haze that will interfere with the visibility of turbines at six to eight miles. The only times the Nine Mile turbines cannot be seen is when the humidity is near 100 percent and the mountains are encased in clouds.~~

~~The Iowa State University Mesonet site was used to create an hourly database of relative humidity and visibility from the dates August 2018 to June 30, 2023 at the weather station in Pasco.~~

~~http://mesonet.agron.iastate.edu/request/download.phtml?network=WA_ASOS~~

~~The data shows that visibility is ten miles consistently regardless of the relative humidity and indicates that relative humidity in the sixty percent range will have little to no impact on visibility.~~

~~Page 4 Lines 12-14 Ms. Guthrie states Finally, Scout's consultant prepared a series of additional visual simulations in 2021 at the request of local stakeholders, including the Yakama Nation and winery operators.~~

~~If this work has indeed been completed, these visual simulations do not appear to have been incorporated into the ASC and made available to the public. There are no~~

~~computer visual simulations provided in the ASC that are identified as stakeholder requested Key Observation Points Representative Viewpoints near any of the wineries near Benton City or on Red Mountain.~~

~~On Page 6 and Page 7 through line 13, Ms Guthrie responds to Mr. Apostol's comments on the adequacy of the Visual Assessment selection of viewpoints.~~

~~It is doubtful to me that Ms. Guthrie has visited the Tri-Cities area enough to see, realize and fully understand how the list of the 23 KOPs used by TetraTech in the ASC failed to reasonably or adequately address and satisfy the very criteria she identifies.~~

~~The ASC does not contain any maps or GPS coordinates that accurately locate the wind turbine locations. It is not exactly clear what turbine locations the visual simulations use.~~

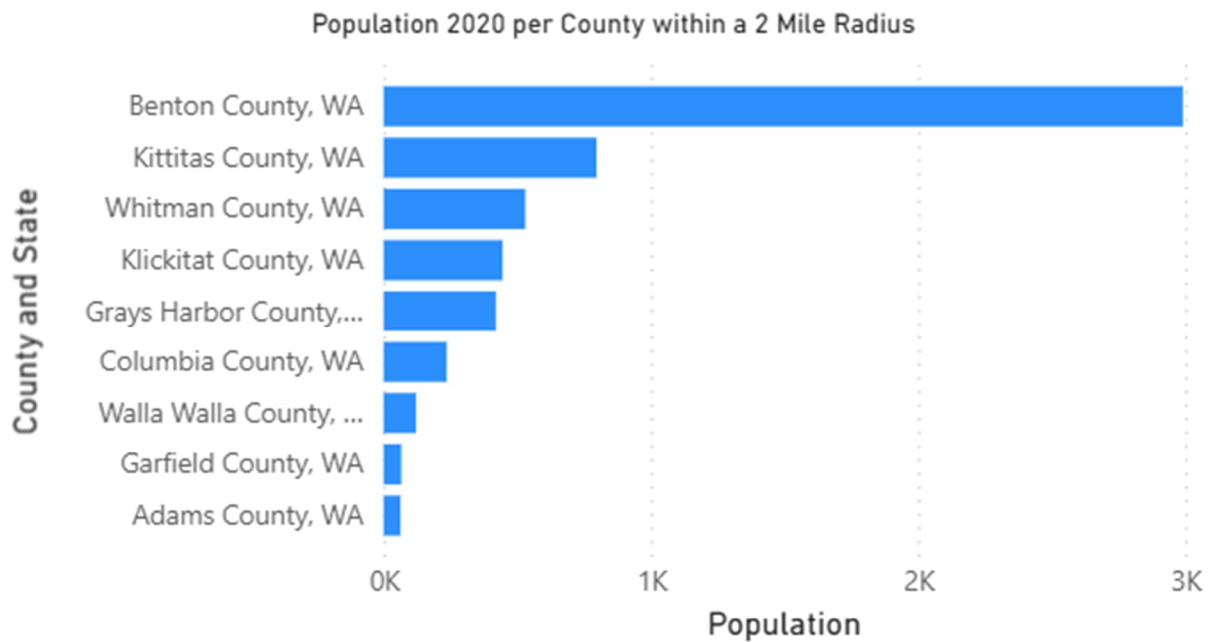
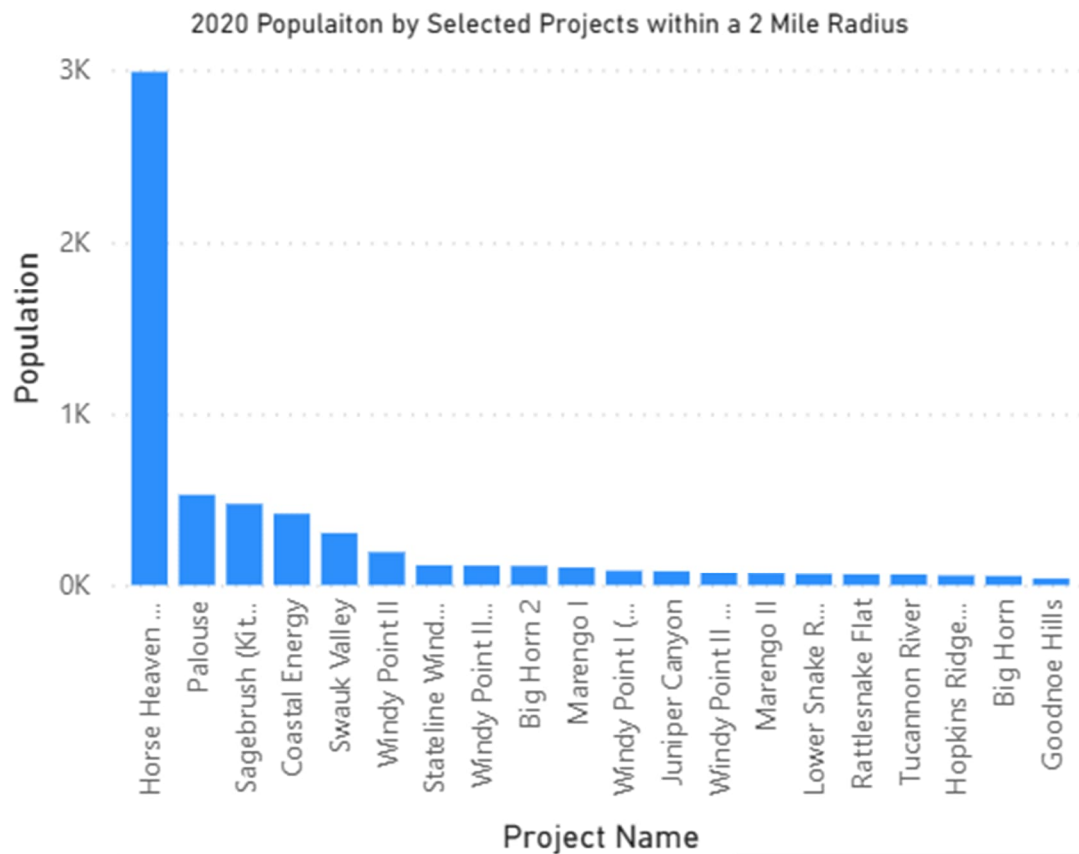
~~It is noteworthy that neither Ms. Guthrie nor Mr. Poulos made any use of and did not analyze the US Census data in their analyses of the project. Poulos waxes eloquently about projects in California in six to ten miles of Altamont Pass and but fails to state that there is intervening topography that blocks the views of the turbines so that the visual impacts are minimized.~~

The US Census data shows that over 100,000 people live within six miles of the northern boundary of the project and that over a quarter of a million people live and drive each day within ten to 15 miles of the project.

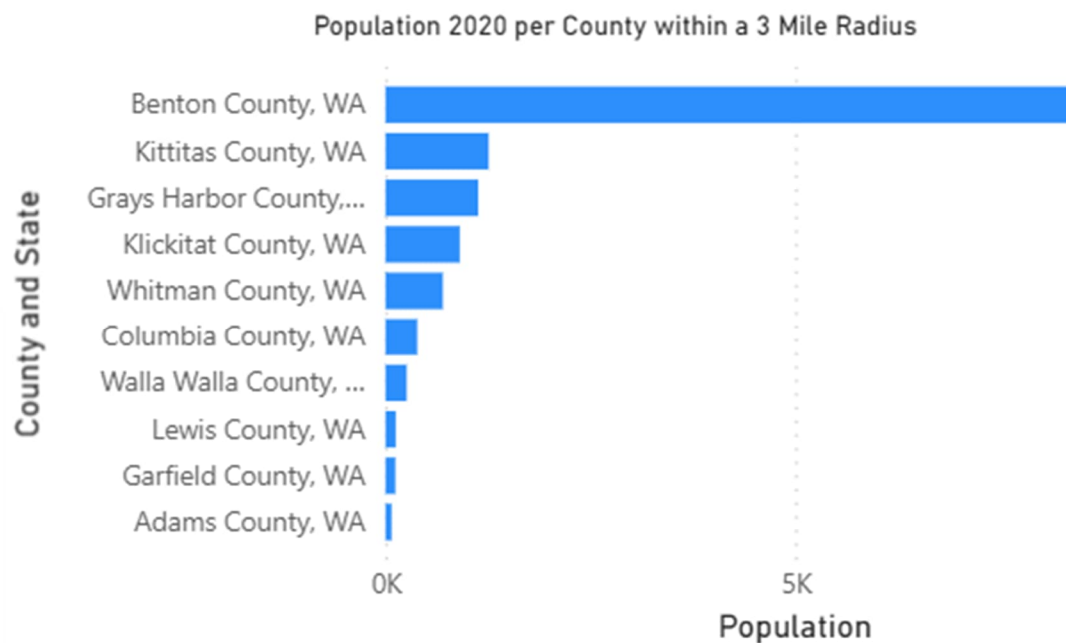
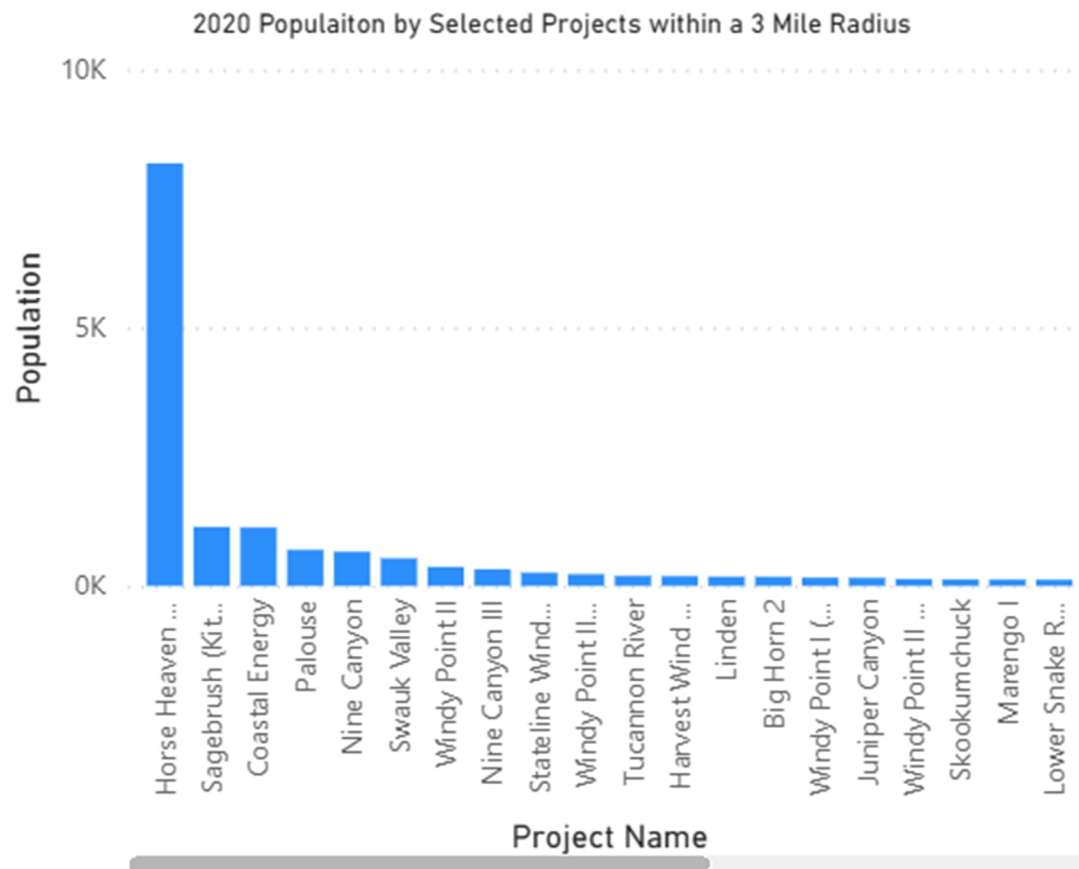
Ms Guthrie and Mr Poulos fail address the shortcoming in the ASC to address the disproportionate impact the HHH project will have on the Tri-Cities and on Benton County.

The TCC Power Data Tool graphically depicts the US Census Data and shows the impact of the HHH project as compared to the other wind projects in the state of Washington at 2, 3, 4, 5, and 6 miles distance from the projects.

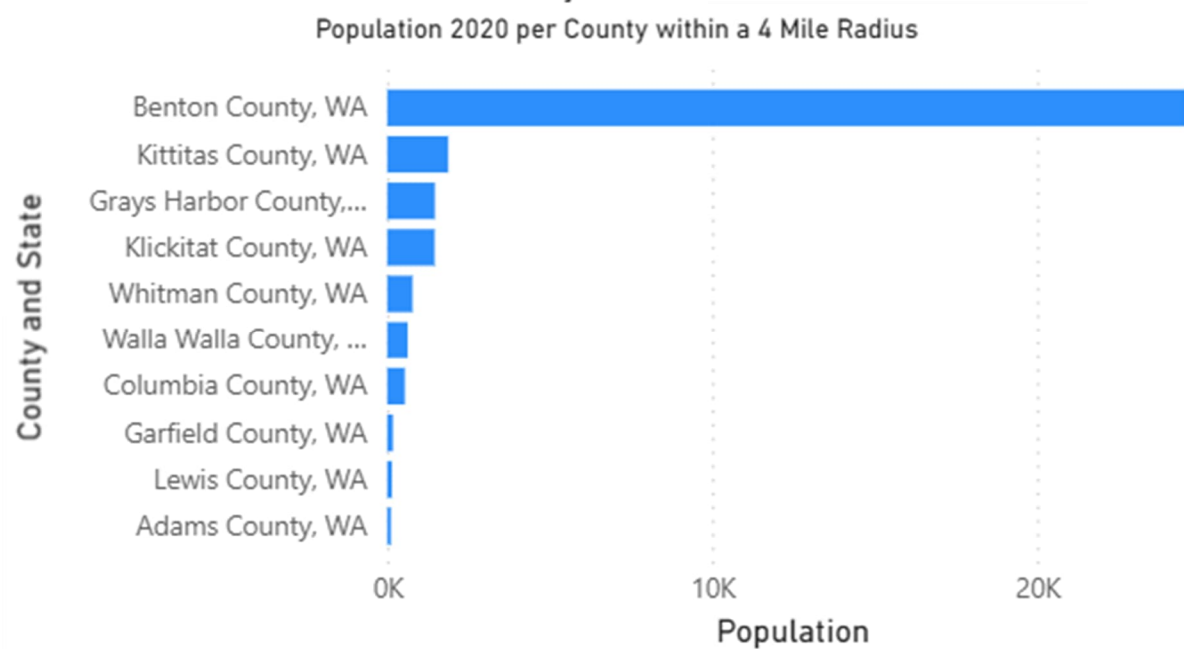
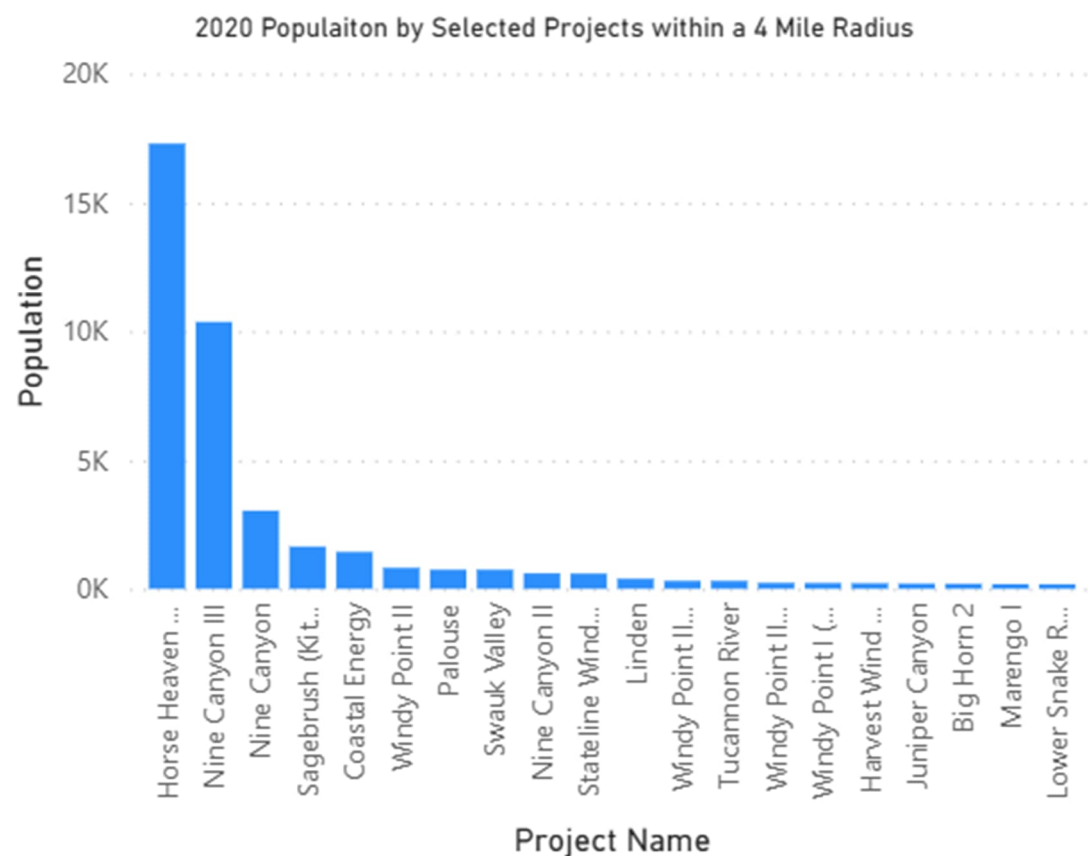
Two Miles



Three Miles

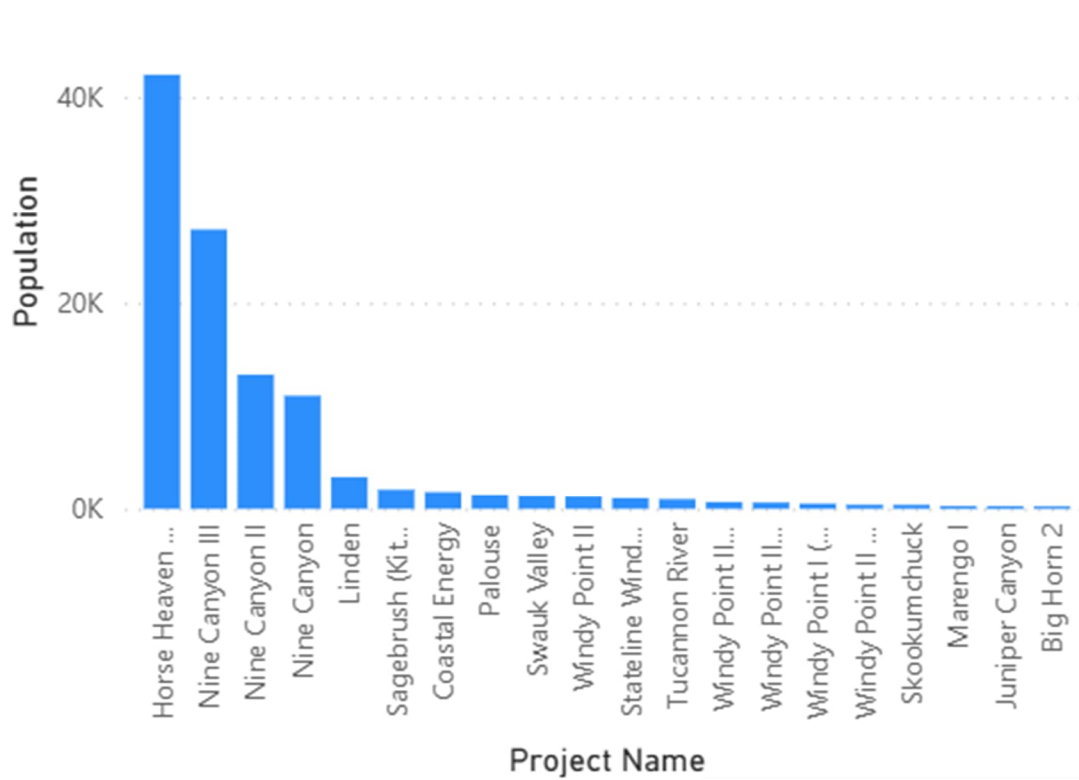


Four Miles

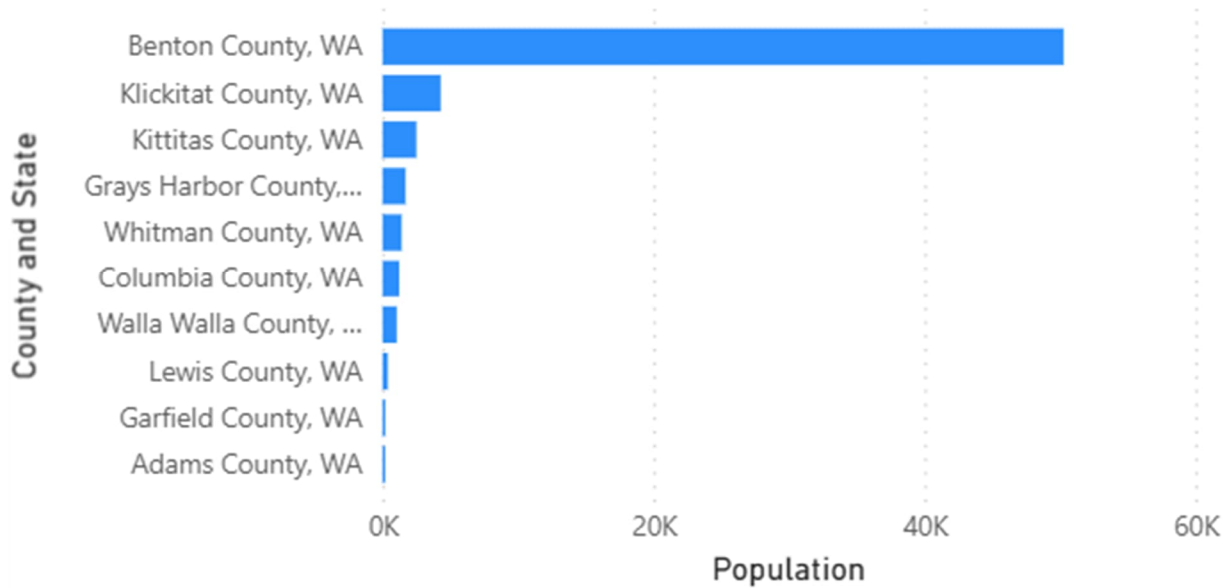


Five Miles

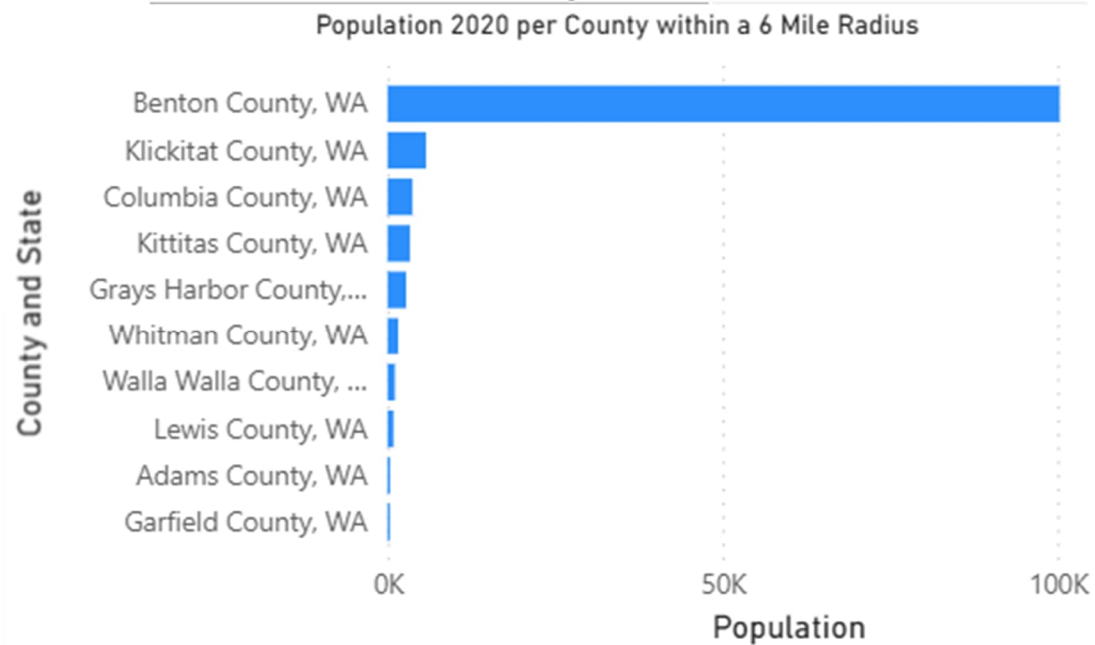
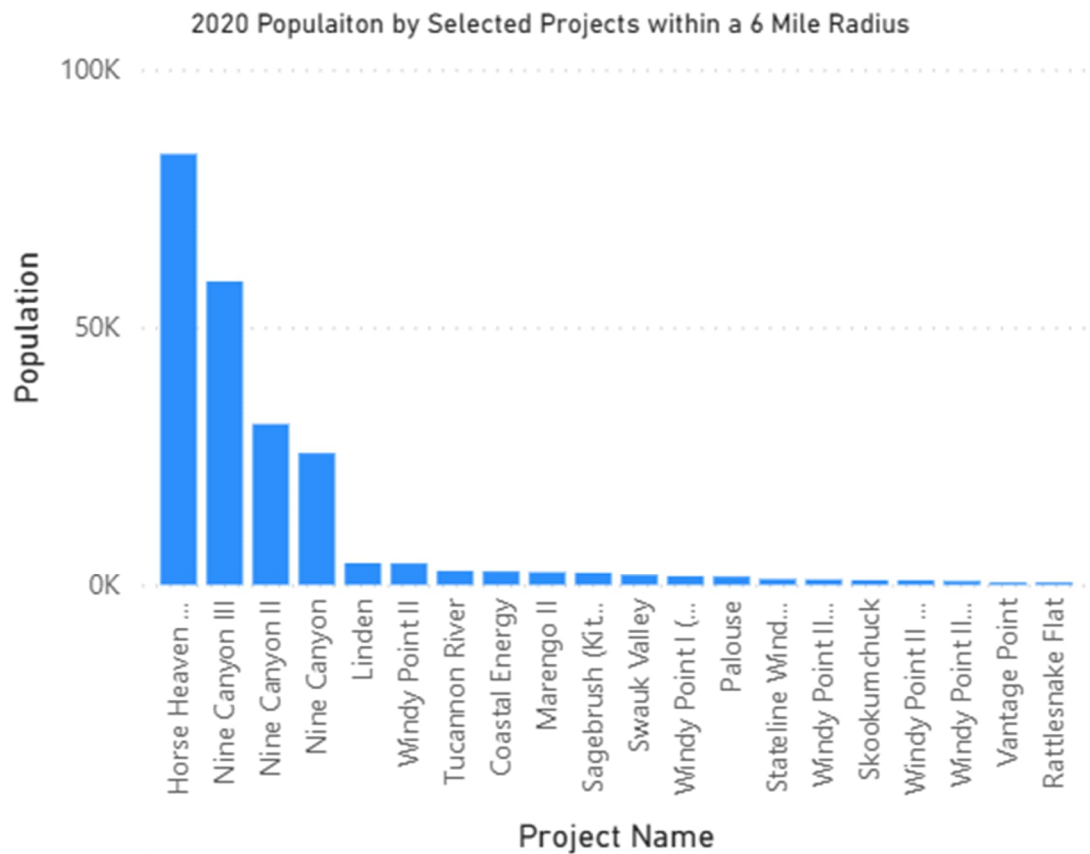
2020 Population by Selected Projects within a 5 Mile Radius



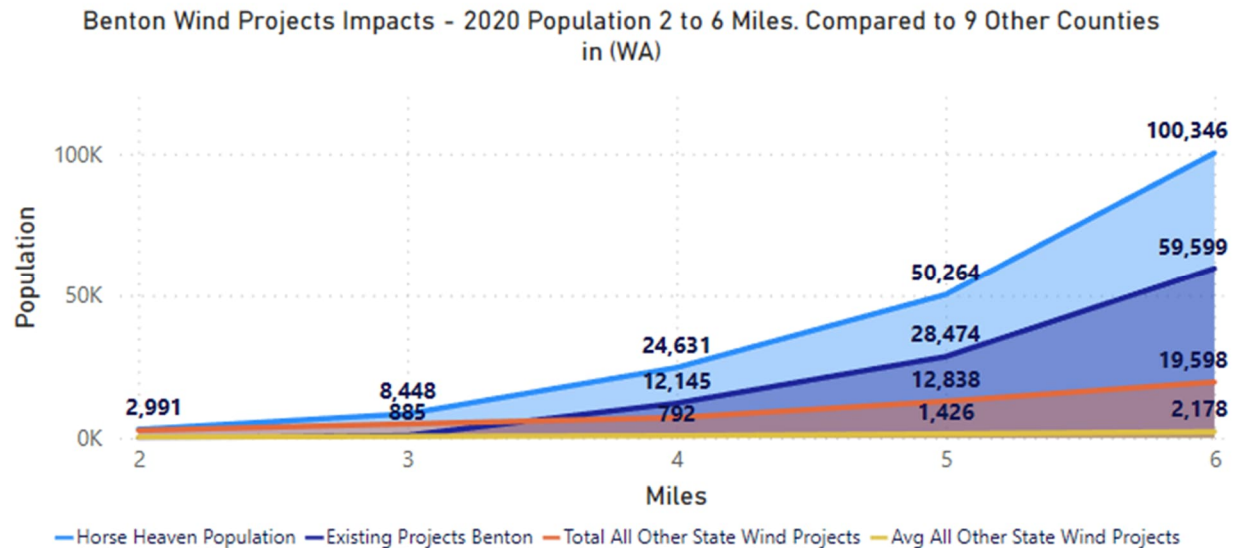
Population 2020 per County within a 5 Mile Radius



Six Miles



Summary Chart



~~The ASC and the Visual Assessments fail to adequately sample and represent the main highways and junctions, the many key residential areas, and the wineries on Red Mountain, all of which will be in plain view of 100 to 244 wind turbines.~~

~~The digital geographic mapping system Cal Topo was used to create viewsheds from over a dozen locations that do identify representative viewpoints where large numbers of people in Tri-Cities will see the proposed wind turbines each and every day.~~

~~These are provided in the attached **Exhibit EXH**~~

~~So people can see the face of the spinning turbine blades these maps aim at the base of the 400 foot high turbines using the GPS coordinates in the DoD Agreements that were posted to the Federal Activities section of the EFSEC website.~~

~~Please note that the ground truth activities that were done by TCC members to validate the CalTopo maps indicate that the viewsheds depicted are probably conservative, and likely underestimate what is truly likely to be seen by on the ground observers.~~

~~The Cal Topo Viewshed graphics present numerous high visibility impact locations.~~

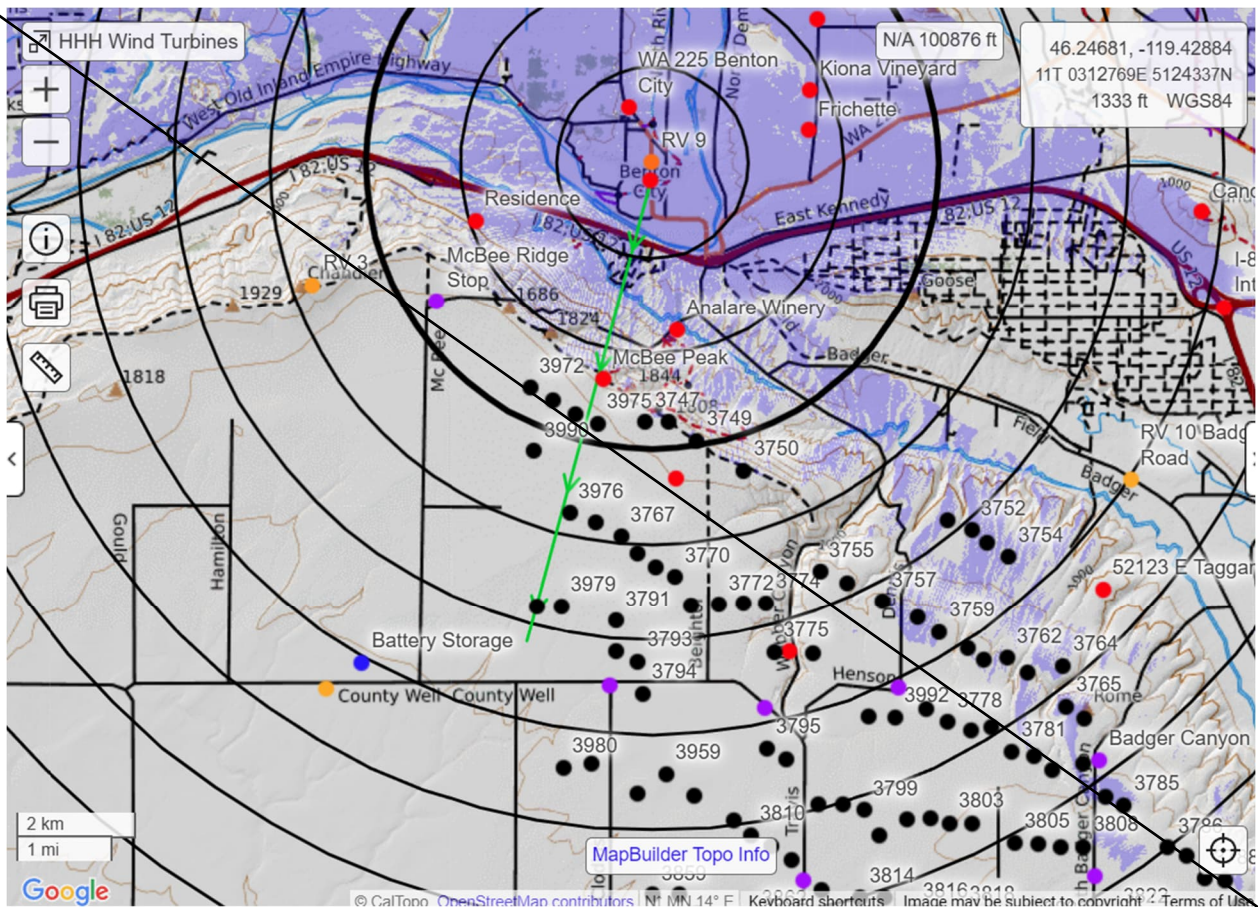
~~Here is a graphic for Figure 13 RV 9 in the Updated ASC Appendix Q to demonstrate and illustrate what is on each of the following graphics,~~

~~The legend states:~~

- ~~• The black dots on the maps show the gps location of the wind turbines.~~
- ~~• Black dot on purple means the foundation (cement) base of the wind turbine is visible.~~

- ~~Black on gray means the view is partial (up to the wing tip) or is not visible at all due to intervening topography.~~
- ~~The Range rings show the distance to the wind turbines from each location in one mile increments from one mile to nine miles or more.~~

~~The Galtopo Graphic for RV 9: with the green bearing line set at 195 degrees to match the visual simulation in Appendix Q.~~



~~The Updated ASC Appendix Q Visual Simulation for RV 9 gas station sign and trees off to the right blocking the view of the ridgeline and turbines.~~

Project Simulation Option 1
244 WTG



~~These CalTopo Map Attachment in EXH includes locations that TCC selected as truly representative viewpoints and the few relevant RV's from the ASC. These locations are provided as follows (with comments):~~

- ~~• McBee Peak/McBee Hill Popular Hiking Trails with a magnificent view of the valleys and the Cascade volcanoes no visual simulation provided. Not included in the ASC. 80 to 100 turbines will be visible (mostly full some partial) from 1 to 8 miles.~~
- ~~• Washington 225 Highway Benton City well-trafficked residential access road north of downtown. Not included in the ASC. 15 to 20 turbines will be visible (mostly partial) from 3 to 8 miles.~~
- ~~• Anelare Winery and Recreational Trail Head on BLM Land. Popular destinations for Tri-City residents and tourism. Not included in the ASC. 19 to 15 turbines will be visible (partial or full) from to 7 miles.~~
- ~~• RV 9 Benton City (this RV needs to be moved to eliminate the signs and trees that obstruct the view in the computer simulation. 10 to 15 turbines will be visible (partial) from one to 8 miles.~~
- ~~• Fidelitas Winery just one of a dozen wine tasting rooms along Sunset Road in the Red Mountain AVA. Not included in the ASC. 20 to 30 turbines (partial and full) will be visible from 4 to 9 miles.~~
- ~~• RV 10 Badger Valley Road a poorly selected RV, valley bottom location with significant intervening topography. 5 to 10 turbines (mostly partial) will be visible from to 4 miles.~~
- ~~• RV 5 Badger Mountain the visual simulations fail to show the whole panorama and the scale size of the turbines is questionable. Highest viewpoint in the region popular hiking trail, over 200,000 people per year. 75 or more turbines visible (mostly full view or partial) at 4 to 10 miles.~~

- ~~Badger Mountain South~~ a growing residential community at the south base of Badger Mountains filled with view properties. Not included in the ASC. 35 to 50 turbines visible (mostly full some partial) at 4 to 7 miles.
- ~~RV 11~~ ~~Finley Elementary School~~ ~~RV 11~~ the simulation is not properly aimed at the areas where the closest turbines will be built. 12 to 15 turbines visible (mostly full view or partial) at 2 to 4 miles.
- ~~RV 8~~ ~~Canyon Lakes~~ the simulation does not appear to accurately depict the number of turbines that will be visible. 25 to 40 turbines visible (some full view or some partial) at 4 to 8 miles.
- ~~Thompson Hill Residences~~ several dozens of newly constructed view properties. Not included in the ASC. 20 to 30 turbines visible (mostly full view or partial) at 5 to 8 miles.
- ~~RV 2~~ ~~Tripple Vista~~ this is a small residential development with a prominent view, that is not truly representative of the Tri Cities. turbines visible (mostly full view or partial) at 4 to 10 miles. 25 to 35 turbines visible (mostly full view or partial) at 3 to 7 miles.
- ~~Leslie Road~~ this is another highly trafficked gateway to Kennewick off Interstate 82. Not included in the ASC. 25 to 40 turbines visible (full or partial) at 5 to 8 miles.
- ~~Reatta Homes Residential Area~~ this is another are filled with view properties from an elevated hillside that will be impacted by views of hundreds of wind turbines. Not included in the ASC, 35 to 40 turbines visible (full or partial) at 4 to 10 miles.
- ~~Summit View Homes~~ this is another moderate sized residential community with viewshed properties that look right up at and will be severely impacted by the wind turbines on the Horse Heaven Hills. Not included in the ASC. 35 to 45 turbines visible (full or partial) at 3 to 10 miles.
- ~~The I 82 Hwy 395 Intersection~~ (the two busiest highways and the gateway to Tri Cities. Not included in the ASC. turbines visible (mostly full view or partial) at 4 to 10 miles. 25 to 35 turbines visible (full or partial) at 4 to 10 miles.
- ~~Queensgate~~ this is another moderate sized residential community with viewshed properties that look right up at and will be severely impacted by the wind turbines on the Horse Heaven Hills. Not included in the ASC. 30 to 45 turbines visible (full view or partial) at 6 to 8 miles.

~~To review all the Cal topo Graphics use EXH~~

Attachment Cal Topo Viewsheds

~~Page 9 line 24 to Page 10 line 2.~~ Ms Guthrie states. "With regard to Mr. Apostol's opinion that the wind turbine layout design should "Increase the distance from most viewers to the nearest turbine" I would direct reviewers to the established precedent by EFSEC that turbines be located away from neighboring receptors an equivalent distance of at least four times the structure height. The Project exceeds this standard.

~~Ms. Guthrie mis characterizes and inappropriately uses the EFSEC receptor guidance. It is not intended that this receptor distance be used to identify whether wind turbines are unacceptable from a visual standpoint. The are used to measure and assess the visual impact data. Her comment has no value whatsoever when calculating the impacts of wind turbines on people in their homes and residential neighborhoods.~~

~~Robert Sullivan et al 2017 provides research on the siting of wind turbines in high scenic value locations. This document was not referenced in the ASC.~~

~~The siting of wind facilities to minimize visual impacts to high value scenic resources presents a major challenge for land management agencies in the western United States. The visibility and potential visual contrasts associated with utility scale wind facilities are dependent on complex interactions of a variety of factors, but little systematic study of visibility in real landscape settings has been conducted.~~

~~In a study sponsored by the United States Department of the Interior Bureau of Land Management, 377 observations of five wind facilities in Wyoming and Colorado were made under various lighting and weather conditions. The facilities were found to be visible to the unaided eye at >58 km (36 mi) under optimal viewing conditions, with turbine blade movement often visible at 39 km (24 mi).~~

~~Under favorable viewing conditions, the wind facilities were judged to be major foci of visual attention at up to 19 km (12 mi) and likely to be noticed by casual observers at >37 km (23 mi).~~

~~A conservative interpretation suggests that for such facilities, an appropriate radius for visual impact analyses would be 48 km (30 mi), that the facilities would be unlikely to be missed by casual observers at up to 32 km (20 mi), and that the facilities could be major sources of visual contrast at up to 16 km (10 mi).~~

~~Reference:~~

~~**Wind Turbine Visibility and Visual Impact Threshold Distances in Western Landscapes** by Robert G. Sullivan, Program Manager/Coordinator, Environmental Science Division, Argonne National Laboratory, Argonne, IL~~

~~At the end of his research paper, Mr. Sullivan highlights the implications of his research, when he states:~~

~~*“In the authors’ judgment, based on the many observations for this study, and comparison of the corresponding photographs and narrative records from the observations, the photographs consistently under represent the degree of visibility observed in the field. While true to some degree for all of the photographs, this is particularly true for photographs of the facilities taken from longer distances.”*~~

~~Sullivan's research documents that the computer simulation photographs consistently under represent what people really see in the field. Reliance on the use of the visual photo simulations in the ASC is detrimental and will not replicate the actual human experience.~~

~~The CalTopo Maps in the Attachment Exhibit, use USGS maps and aerial photos, and can be used to identify turbines that should be removed from consideration due to the severity of the visual impact.~~

~~Sullivan's research shows that wind turbines will be very noticeable to casual observers 12 to 26 miles away.~~

~~Each of the Cal Topo Viewshed maps show that the Horse Heaven Hills wind turbines will produce severe visual impacts to numerous residential communities with over 100,000 residents and more one to ten miles away or more.~~

~~The TCC testimony submitted by James Sanders, Richard Hagar, and Kurt Kielisch all document the reductions in property values in proximity to wind turbines, transmission lines and other energy facilities.~~

~~In addition, a report submitted as testimony to the Adams County Board, Chicago Illinois McCann Appraisals documents that residential property values are adversely and measurably impacted by the proximity of industrial scale wind turbine projects.~~

~~Reference~~

~~https://docs.wind-watch.org/McCann_Setbacks_property_values.pdf~~

~~The ASC and the testimony of Ms. Guthrie, Ms. McLain and Mr. Poulos fails to identify and adequately evaluate the visual impacts the Horse Heaven Hills Wind Turbines will have on people who live in the Tri-Cities.~~

~~The CalTopo Graphics in the Attachment indicate that between 100 and 244 turbines will be visible from numerous residential communities with hundreds if not thousands of homes.~~

~~The visual impacts are severe and will produce unacceptable property value losses to more than a quarter of a million people in Tri-Cities and Benton County.~~

~~The report attributes this reduction to the serious impact to the "use and enjoyment" of the properties due primarily to the visual proximity of the turbines. The report contends that the visual impacts constitute a physical invasion — an industrial easement in the neighboring properties, that constitutes an inverse taking that impacts the property values and the rights of the neighbors to the quiet enjoyment of their property.~~

~~The CalTopo graphics can be used to identify turbines that should be considered for removal in the adjudication and by EFSEC.~~

~~Using the graphics for the following residential locations, if the black turbine is on the purple, the whole turbine is visible and should be removed from consideration.~~

- ~~• McBee Peak/McBee Hill~~
- ~~• Washington 225 Highway Benton City~~
- ~~• Anelare Winery and Recreational Trail Head~~
- ~~• RV 9 Benton City~~
- ~~• Fidelitas Winery~~
- ~~• RV 10 Badger Valley Road~~
- ~~• RV 5 Badger Mountain.~~
- ~~• Badger Mountain South~~
- ~~• RV 11 Finley Elementary School RV 11~~
- ~~• RV 8 Canyon Lakes the simulation does not appear to accurately depict the number of turbines that will be visible.~~
- ~~• Thompson Hill Residences several dozens of newly constructed view properties. Not included in the ASC.~~
- ~~• RV 2 Tripple Vista this is a small residential development with a prominent view, that is not truly representative of the Tri-Cities.~~
- ~~• Leslie Road this is another highly trafficked gateway to Kennewick off Interstate 82. Not included in the ASC.~~
- ~~• Reatta Homes Residential Area this is another are filled with view properties from an elevated hillside that will be impacted by views of hundreds of wind turbines. Not included in the ASC,~~
- ~~• Summit View Homes this is another moderate sized residential community with viewshed properties that look right up at and will be severely impacted by the wind turbines on the Horse Heaven Hills. Not included in the ASC.~~
- ~~• The I 82 Hwy 395 Intersection (the two busiest highways and the gateway to Tri-Cities. Not included in the ASC.~~
- ~~• Queensgate this is another moderate sized residential community with viewshed properties that look right up at and will be severely impacted by the wind turbines on the Horse Heaven Hills. Not included in the ASC.~~

~~**On Page 5 lines 19 to 22,** Ms McClain quotes the Council Orders on the Scout Application and states:~~

~~(3) The matter shall be set for an adjudication to consider any conditions which might be required for the construction, operation and maintenance of the Facility in the GMAAD, consistent with Benton County's conditional use criteria in effect at the time the application for site certification was filed with EFSEC. The adjudication may be held concurrent with, or separate from the adjudication related to the application for site certification under RCW 80.50.090(3).~~

~~This adjudication is being held pursuant to this order and has the objective to consider any conditions which might be required for the construction, operation and maintenance of the facility.~~

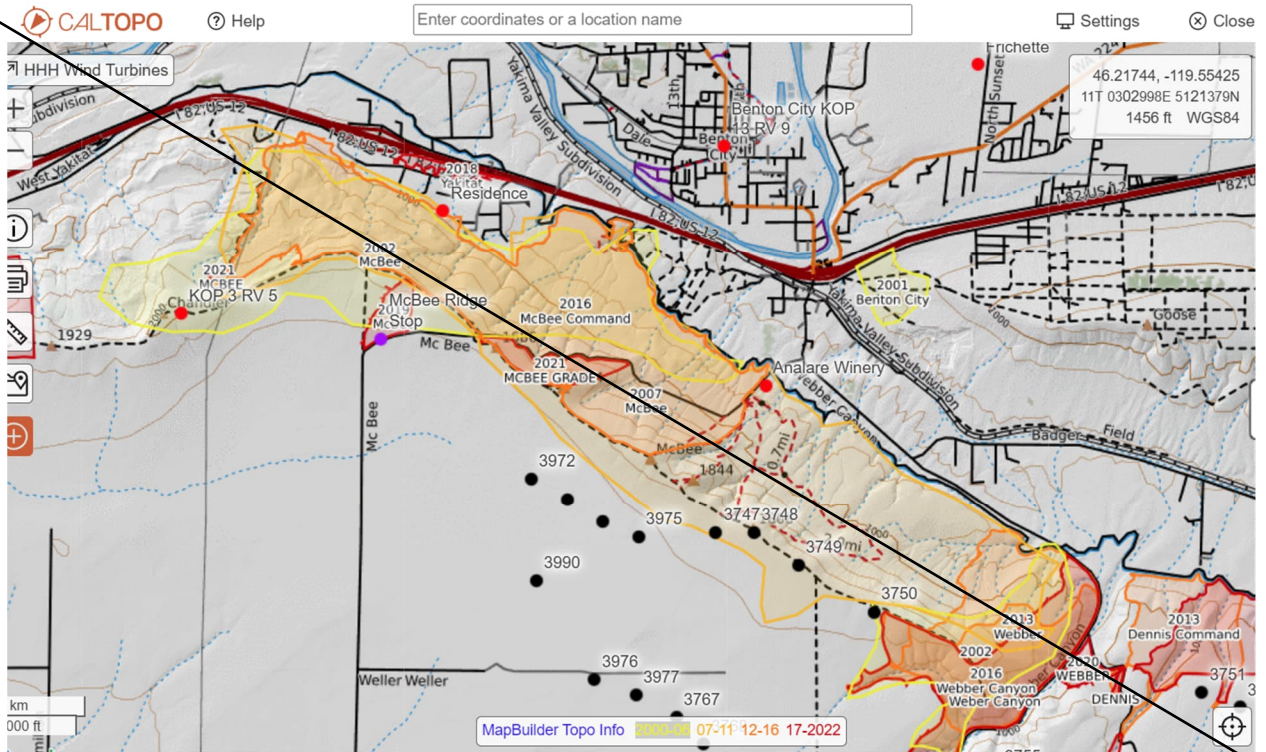
~~**Page 11 lines 10 to 12,** Ms. McLain states: 3. Capacity of Benton County Fire District 1, including road and water access: The ASC includes analysis of fire risk and the environmental review indicates that the risk is considered low.~~

~~The ASC in general has failed to properly identify and evaluate structures on and within the property boundary, but has also failed to adequately and properly identify and evaluate the risks and dangers posed to the adjacent properties nearby the property boundary.~~

~~Ms. McLain fails to recognize, address and evaluate the repeat fire hazards and history associated with the northern boundary of the project area.~~

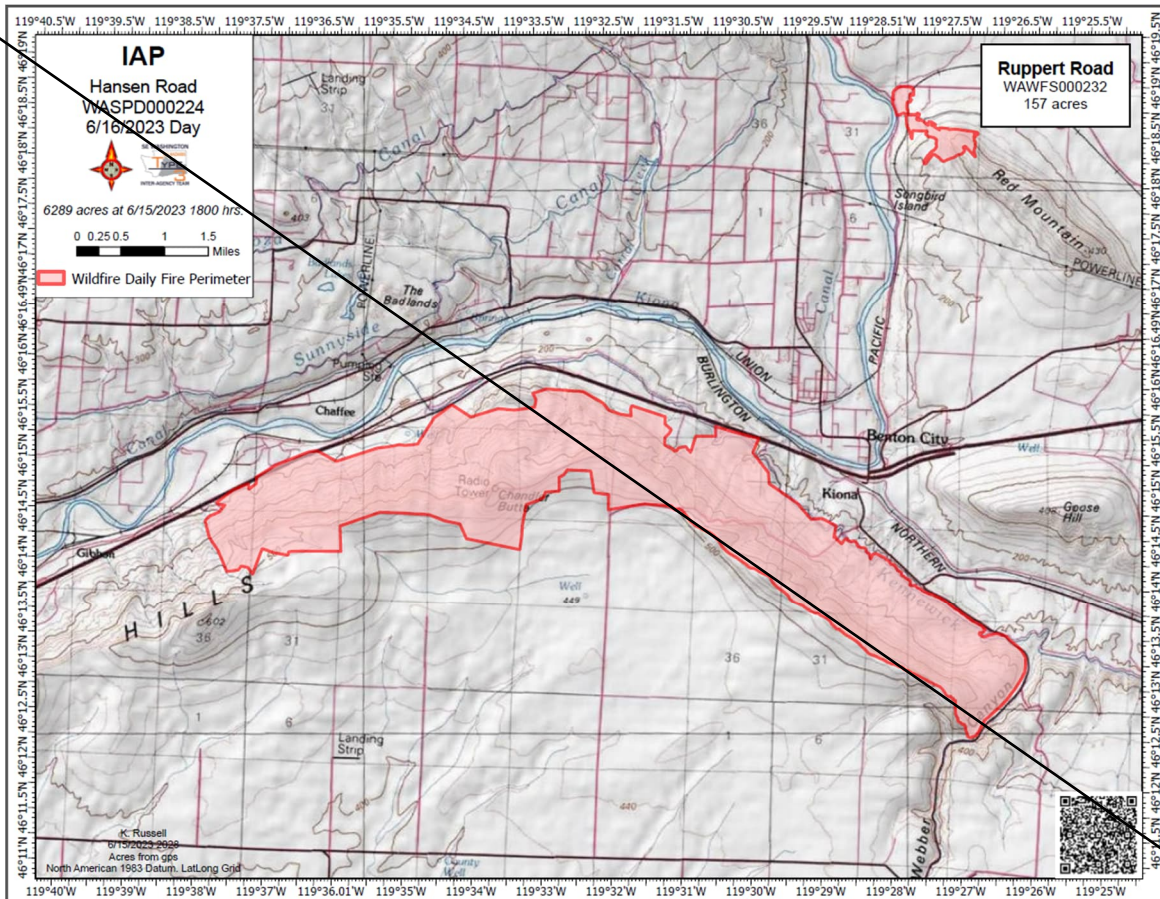
~~CalTopo is a digital interactive mapping program.~~

~~The CalTopo digital GIS map shows the fire history of the area south of Benton City.~~



~~On the next page is the fire map provided to TCC by the Benton Fire Marshal by the Interagency Action Plan (IAP) for June 18, 2023,~~

~~Followed by a photo showing the DC 10 dropping fire retardant on Red Mountain the same day of the McBee Grade Fire.~~



~~Here is an aerial photo taken from an aircraft looking down at the McBee Grade Fire area on June 18, 2023. DC 10 is flying 150 feet above the ground.~~



~~The aerial photo taken on June 18, 2023 of the McBee Grade Fire shows the effectiveness of the fire line created along the ridgeline and the containment zone achieved by the aerial firefighters. .~~



~~A video of the fire retardant drop on Red Mountain taken by Dr. Brian Lawenda (with permission) is available here:~~

~~<https://www.facebook.com/brian.lawenda/videos/152777494464423>~~



Cal Topo (www.CalTopo.com) was used to create a series of Fire History Maps that are used in the next section. CalTopo is a powerful and easy to use digital interactive geographic mapping platform enables the ready creation of digital map graphics to illustrate and help people interpret environmental data and social information.

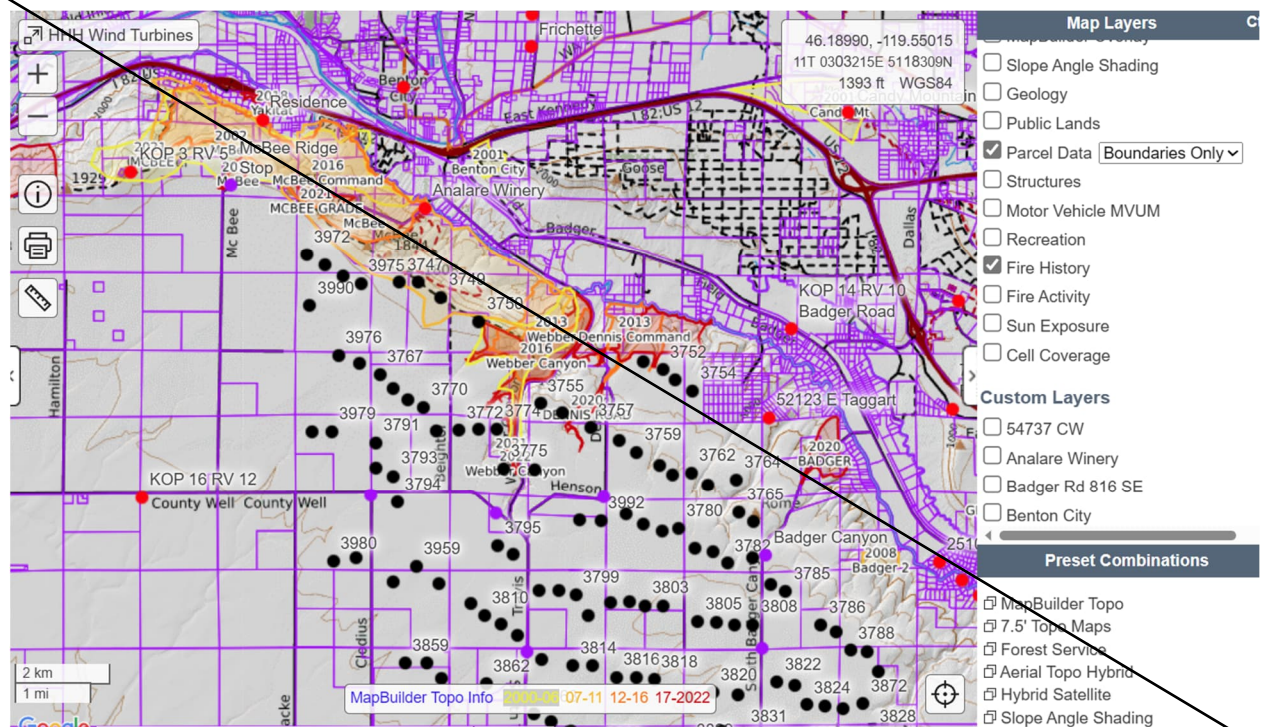
The following map shows the fire history map near Benton City in yellow with the property ownership parcels in pink. The black dots are the turbine locations with turbine numbers based on the GPS coordinates in the DoD Agreement on the EFSEC websites under Federal Activities. These locations are not provided in the ASC.

Reference:

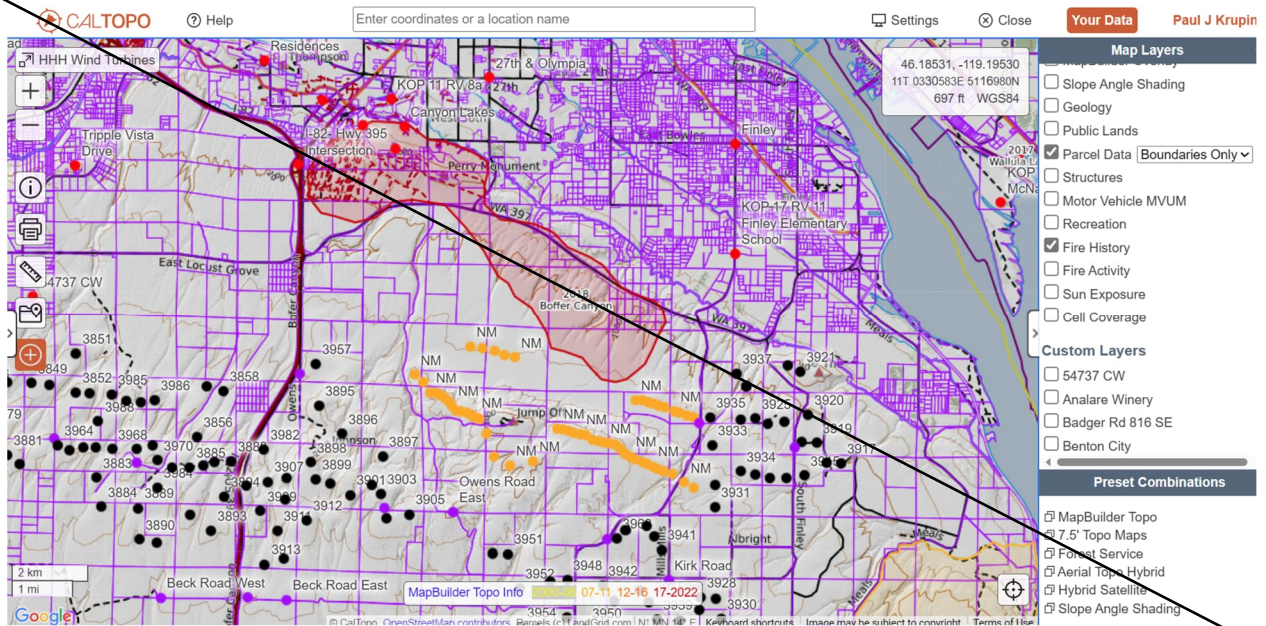
Horse Heaven Hills DoD Approval agreement between the Department of Defense and Scout Clean Energy for the Horse Heaven Hills protecting the military airspace corridor along the Columbia River

https://www.efsec.wa.gov/sites/default/files/210011/001/20210709_DODMitAgrmnt.pdf

https://www.efsec.wa.gov/sites/default/files/210011/001/202105_DODMitAgrmntMAP.pdf



Fire History Map near Benton City and south Kennewick



Fire History Map near south Kennewick and Finley

The key issue is this: Aerial firefighting cannot take place near the northern boundary of the project with 499 foot high obstruction in the flight path of the aircraft.

Tall obstructions in near proximity to required airspace, pose a serious danger to aerial firefighters.

The question is what is the distance needed between the aircraft and the obstructions in order to keep the pilots safe.

Fires cannot be fought using aircraft if there are obstructions in the flight paths required for safe and effective aerial firefighting.

Wind turbines and other tall obstructions must not be sited in locations that pose a danger to the airspace required for aerial firefighting. Wind turbines and other obstructions must not be located and constructed in a manner that poses a danger to aerial firefighting airspace requirements.

Wind project and obstruction developers must provide notice and receive the approval of local government officials before commencing construction. The approvals need to include the description, need and purpose for the proposed structures and the location and GPS coordinates.

Possible distance criteria using FAA 14 CFR Part 77.9 as an guide which states in pertinent part:

Obstructions must not be located within 20,000 feet of the airspace perimeter needed to conduct aerial firefighting safely.

20,000 feet is 3.78 miles.

The actual distance required for proposed structures will vary based on a number of factors including the number of obstructions, proximity to growth management areas and populations of people, fire history perimeters, elevation and height of topography, etc.

Reference:

<https://www.ecfr.gov/current/title-14/chapter-I/subchapter-E/part-77#77.9>

The importance of locating obstructions away from aerial firefights is documented in the statistics for Aerial Firefighting Fatalities in the US

“...78 deaths occurred during 41 separate events involving 42 firefighting aircraft; 23 (55%) aircraft were fixed wing, and 19 (45%) were helicopters. ...[]... Twenty events involved multiple (range = two to nine) wildland firefighter fatalities. Ten (24%) fatal aircraft crashes resulted from structure or component failure, 10 (24%) from pilot loss of control; **eight (20%) from failure to maintain clearance from terrain, water or objects;**

Reference Aviation Related Wildland Firefighter Fatalities

<https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6429a4.htm#:~:text=The%2078%20deaths%20occurred%20during,were%20involved%20in%20midair%20collisions.>

FAA Obstruction Requirements requires that obstructions structures above 499 feet are not located less than 20,000 feet from the end of the runway nationwide so that they do not pose a hazard to aircraft.

The FAA Obstruction Standards Update from December 8, 2015 states:

Among the Federal Aviation Administration's (FAA) main priorities is to keep all users of our national airspace safe. To maintain the safest aerospace system in the world, the FAA must make sure the national airspace is navigable and free of obstructions.

~~When anyone proposes new construction or proposes to alter existing structures near airports or navigational aids, the FAA determines how the proposal would affect the airspace.~~

~~These FAA determinations about the appropriate height of buildings, wind turbines and meteorological towers near airports, and how they are lighted and marked, contribute to the safe navigation of our skies.~~

~~<https://www.faa.gov/newsroom/faa-updates-airspace-obstructions-standards>~~

~~Aircraft landing and taking off of runways fly at nearly the same speeds and altitudes as aerial firefighting aircraft fly when dropping fire retardant.~~

~~Firefighting aircraft, capable of dropping water or fire retardant on wildfires, fly 150 to 200 feet above the ground, just above stalling speeds, at 140 mph to 380 mph. This is the same speed and elevation as aircraft landing and taking off at runways in airports nationwide.~~

~~<https://gacc.nifc.gov/swcc/dc/azpdc/operations/documents/aircraft/links/Aircraft%20Recognition%20Guide.pdf>~~

~~The NIFC Guide describes the aircraft that are use for aerial firefighting.~~

~~This table the minimum drop heights for the aircraft used.~~

~~A DC-10 and helicopters with water scoopers were utilized on June 18, 2023.~~

Retardant and Suppressant Use Reminders

- Suppressant (water, foam, or water enhancer) = Direct attack with close ground support.
- Retardant = Indirect attack, point protection, and direct attack ahead of ground support.
- Retardant use should coincide with ground support within 24 hours.

Minimum Drop Heights for Airtankers and Water Scoopers

- SEAT/Amphibious SEAT = 60' (optimum 90') above the vegetation
- LAT = 150' above the vegetation
- VLAT = 200' above the vegetation
- Water Scooper (CL 215/415) = 150' above the vegetation

ATGS = Air Tactical Group Supervisor

ASM/LP = Aerial Supervision Module/Lead Plane

Type 3 Airtanker = 800-1,799 gallons (S-2T, SEAT)

Type 2 Airtanker = 1,800-2,999 gallons
(Convair 580, Q-400)

Type 1 or Large Airtanker (LAT) = 3,000-5,000 gallons
(BAe-146, RJ85, MD87, C-130)

VLAT = Very Large Airtanker = >8,000 gallons (DC10, 747)

IRPG – Aviation (Blue)

76 of 120

~~Firefighting aircraft can drop fire retardant from heights as low as 150 to 200 feet above the ground level depending on the type of aircraft. The acronyms are explained as follows.~~

~~VLAT = Very Large Airtanker~~

~~These airtankers, also referred to as VLATs, can deliver thousands of gallons of fire retardant at one time. Because of their size, they are less maneuverable than smaller airtankers.~~

~~VLATs drop fire retardant at least 250 feet above the top of the vegetation.~~

~~Two VLATs used to support wildland firefighters on the ground are the DC-10 and the Boeing 747. The DC-10 can deliver up to 9,400 gallons of fire retardant at one time. The Boeing 747 can carry 17,500 gallons of fire retardant. The U.S. Forest Service is responsible for managing the VLAT contracts.~~

~~LAT = Large Airtanker~~

Large airtankers are sometimes referred to as “Next Gen” airtankers. They carry between 2,000 to 4,000 gallons of fire retardant or water in support of wildland firefighters on the ground. These aircraft are smaller than the VLAT and are more maneuverable.

SEAT = Single Engine Airtanker

A single engine airtanker, or SEAT, is the smallest airtanker. These aircraft can deliver up to 800 gallons fire retardant or water to wildland firefighters on the ground. They are ideal for wildfires in lighter fuels like grasses and sagebrush.

Water Scoopers

Water Scoopers are amphibious aircraft that skim the surface of a body of water and scoop water into an onboard tank and then drop it on a wildland fire.

Some Water Scoopers can hold up to 1,600 gallons of water. It can take as little as 12 seconds to fill the tank to capacity. The aircraft can scoop from water sources that are about 6.5 feet deep and 300 feet wide. Scoopers usually use lakes but can also scoop from rivers.

Scoopers are capable of dropping water on wildland fires from a height of about 100 to 150 feet above ground level.

Reference:

<https://www.nifc.gov/resources/aircraft/airtankers#:~:text=Very%20Large%20Airtanker&text=VLATs%20drop%20fire%20retardant%20at,fire%20retardant%20at%20one%20time.>

Wind turbines and other obstruction (radio towers and meteorological towers) represent a danger to airspace needed for aerial firefighting if they are located too close to fire zone perimeters.

The proximity of obstructions, in particular in brush and forest fire situations where there is steep terrain, is particularly important.

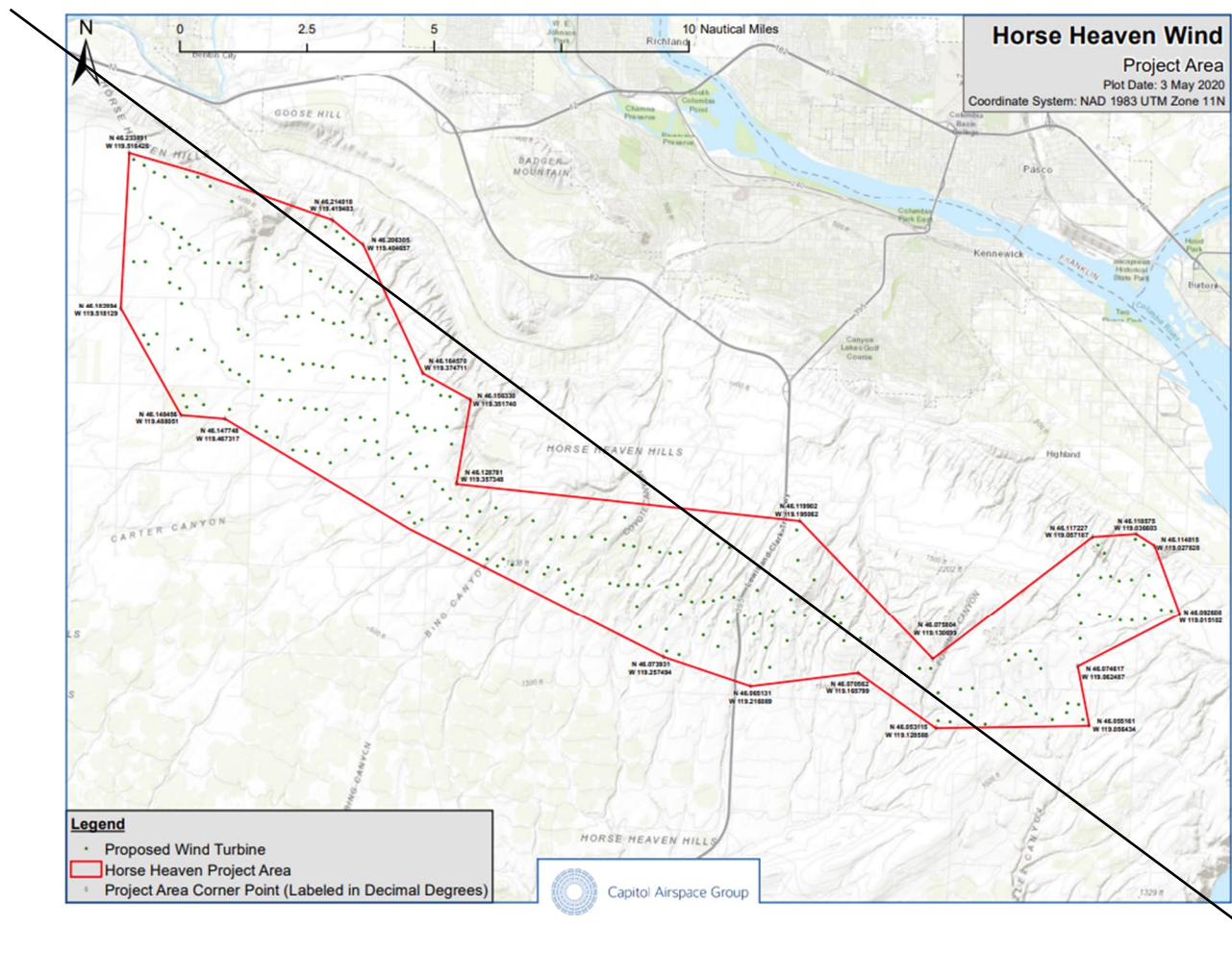
Aircraft need to be able to safely approach, complete a fire retardant drop, turn and bank, and then safely climb away.

The documented historic fire zones should be used to identify the distances needed to safely site obstruction (wind turbines and met towers) to ensure adequate airspace protection for aerial firefighting purposes.

~~Scout and the Department of Defense negotiated and signed agreements that limited the turbine sites and locations along the southern boundary of the project.~~

~~To the best of our knowledge, fire perimeters have not been identified and utilized yet for the northern turbine sites and location.~~

~~However, an agreement and map similar to that incorporated into the DoD Agreement with Scout should be created and used to restrict the location and siting of wind turbines and met towers for the project o—in order to ensure that the airspace is restricted to protect firefighting aircraft.~~



~~Reference: FAA requirements for Obstruction Evaluation / Airport Airspace Analysis~~

~~In accordance with [14 CFR Part 77.9](#), if you propose any of the following types of construction or alteration, you must file notice with the FAA at least 45 days prior to beginning construction:~~

- ~~any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:~~

- ~~100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway of each airport described in 14 CFR 77.9(d) with its longest runway more than 3,200 ft. in actual length, excluding heliports~~
- ~~50 to 1 for a horizontal distance of 10,000 ft. from the nearest point of the nearest runway of each airport described in 14 CFR 77.9(d) with its longest runway no more than 3,200 ft. in actual length, excluding heliports~~
- ~~25 to 1 for a horizontal distance of 5,000 ft. from the nearest point of the nearest landing and takeoff area of each heliport described in 14 CFR 77.9(d);~~
- ~~OR any highway, railroad, waterway or other traverse way for mobile objects, of a height which, if adjusted upward as defined in 14 CFR 77.9(c) would exceed a standard of 14 CFR 77.9 (a) or (b);~~
- ~~OR your structure will emit frequencies, and does not meet the conditions of the [FAA Co-location Policy](#);~~
- ~~OR your proposed structure will be in proximity to a navigation facility and may impact the assurance of navigation signal reception;~~
- ~~OR any construction or alteration exceeding 200 feet above ground level, regardless of location;~~
- ~~OR any construction or alteration located on an airport described in 14 CFR 77.9(d);~~
- ~~OR filing has been requested by the FAA.~~

~~Wind turbines and other tall obstructions must not be sited in locations that pose a danger to the airspace required for aerial firefighting.~~

~~Restriction: Wind turbines and other obstructions must not be located and constructed in a manner that poses a danger to aerial firefighting airspace requirements.~~


~~Wind project and obstruction developers must provide notice and receive the approval of local government officials before commencing construction. The approval shall include the description, need and purpose for the proposed structures and the location and GPS coordinates.~~


~~Obstructions must not be located within 20,000 feet of the airspace perimeter needed to conduct aerial firefighting safely. The actual distance required for proposed structures will vary based on a number of factors including the number of obstructions, proximity to growth management areas and populations of people, fire history perimeters, elevation and height of topography, etc.~~


~~CalTopo Maps were created to graphically depict selected fire history perimeter locations along the northern boundary of the Project.~~

~~The enlargements of the following maps are provided in the attached exhibit.~~

Legend

 Wind Turbines
GPS & Number

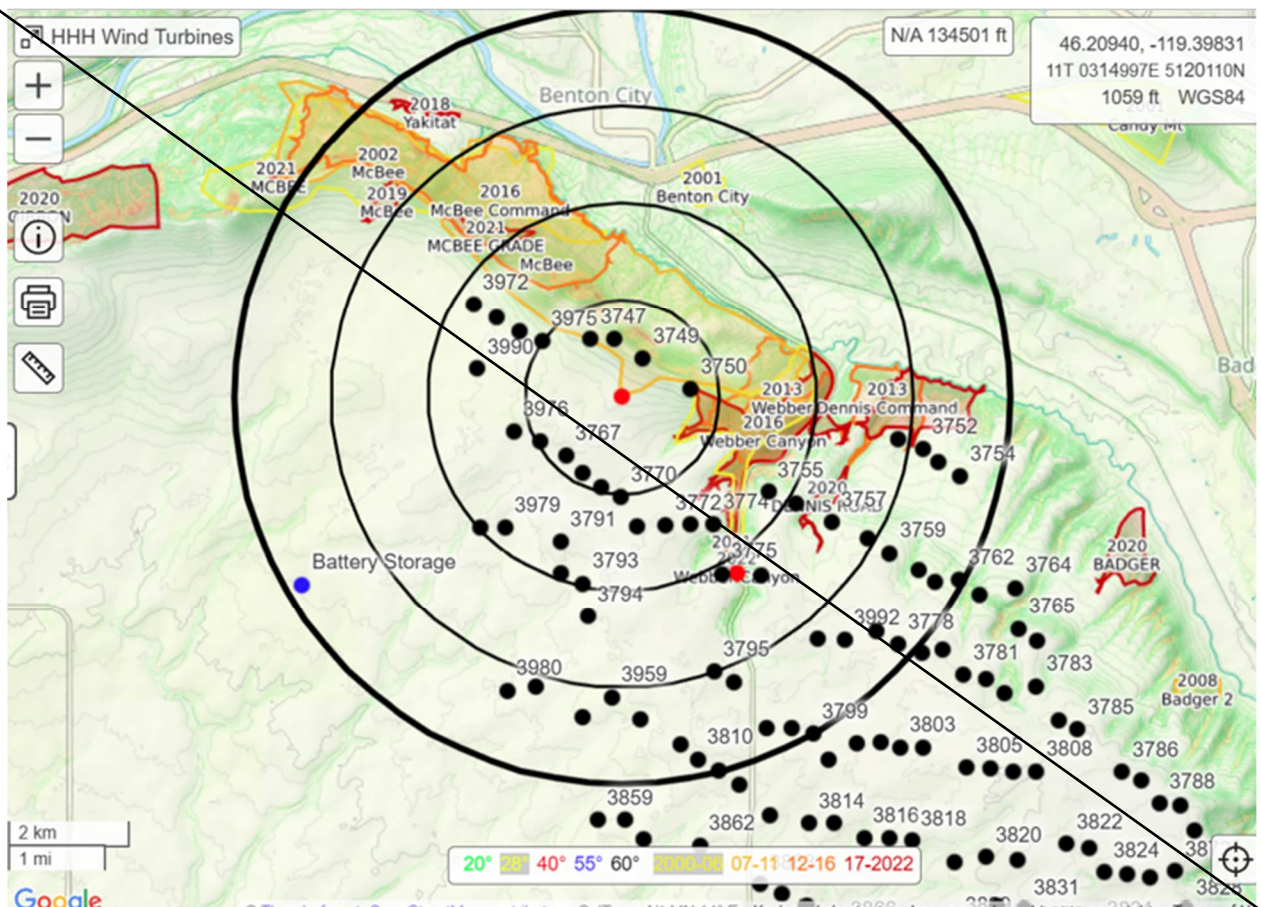
 Fire Perimeter
Center Location

 Fire Prone
Steep Slopes

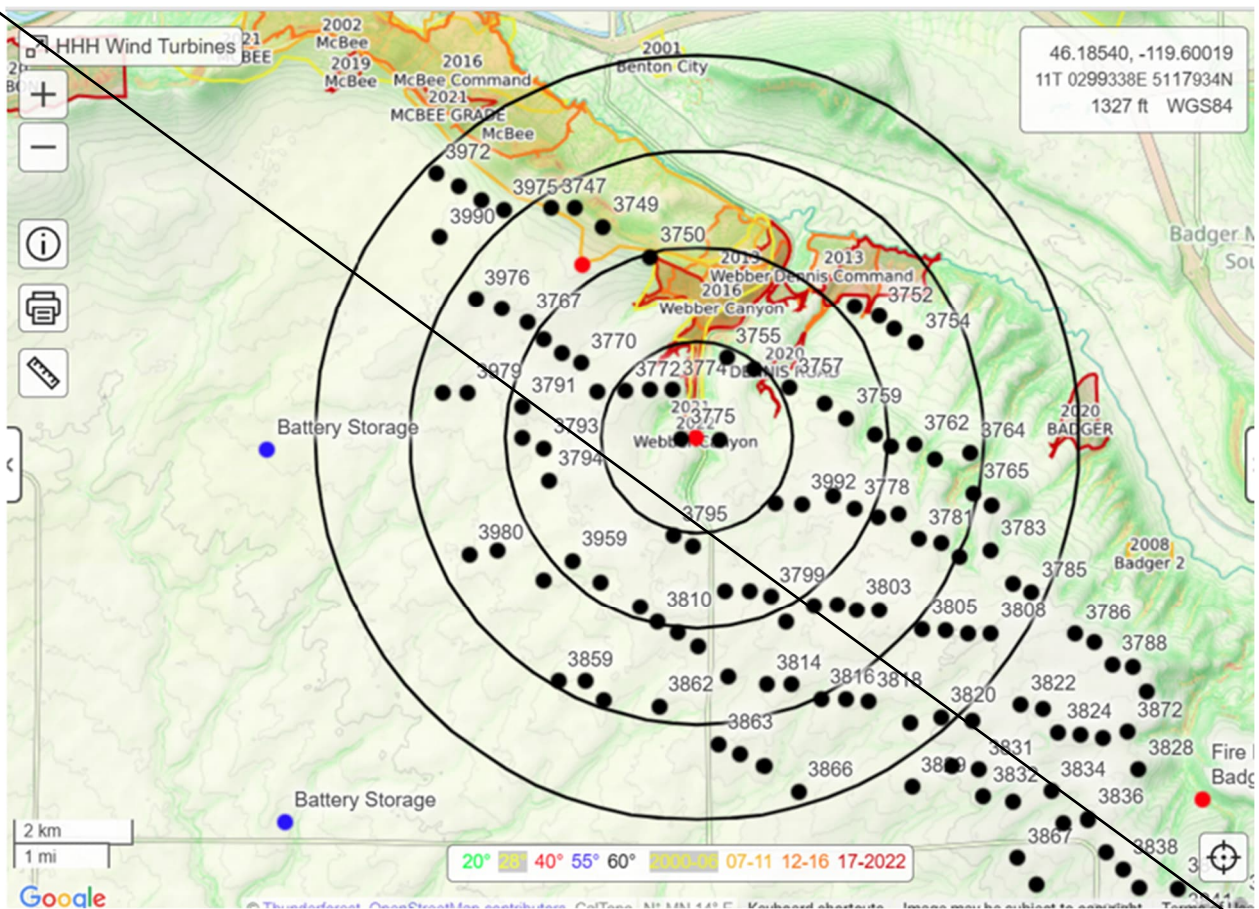
Black Range Rings
1, 2, 3, and 4 miles
from fire perimeter
center

~~These locations include the following:~~

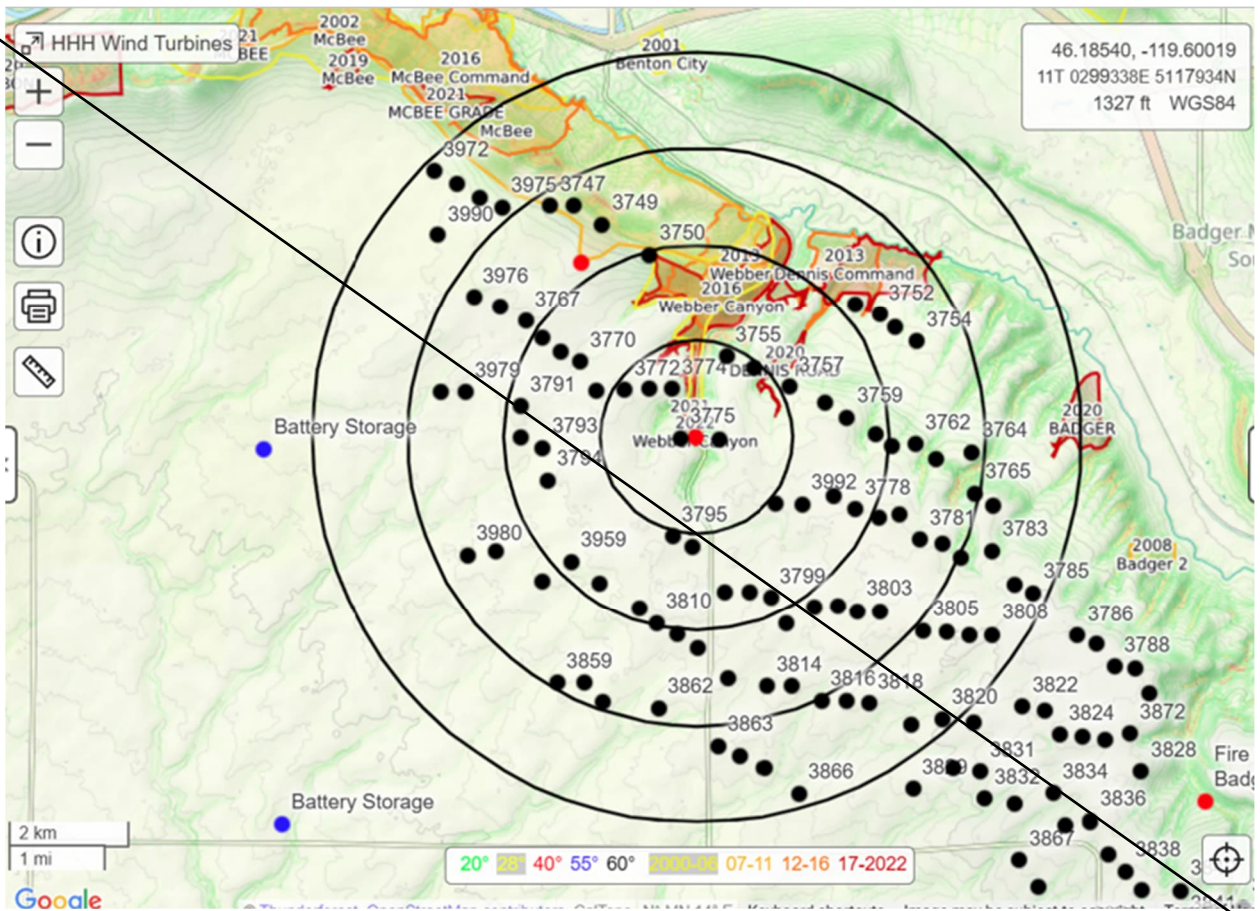
~~**McBee Ridge Fire Perimeter**~~



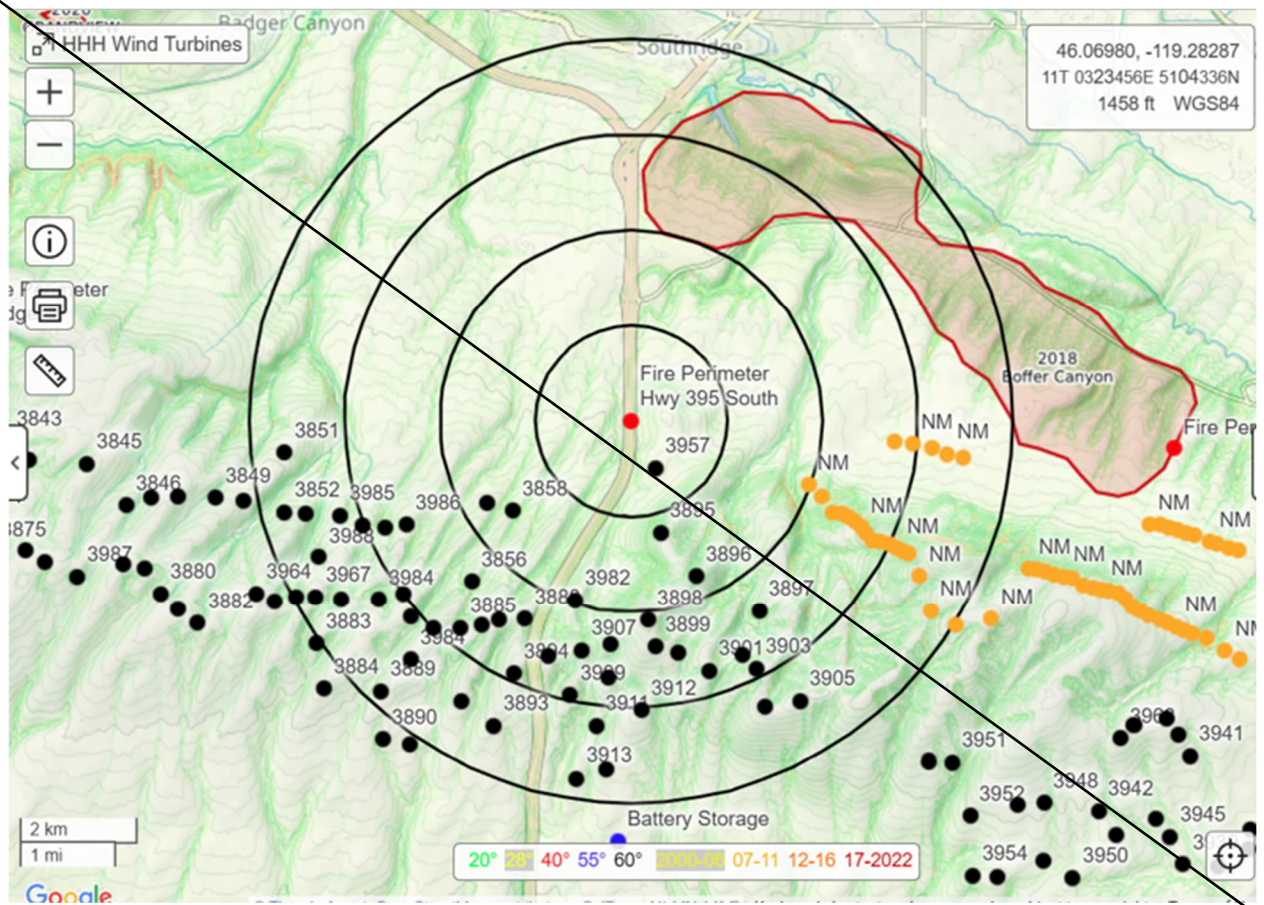
~~Webber Canyon Fire Perimeter~~



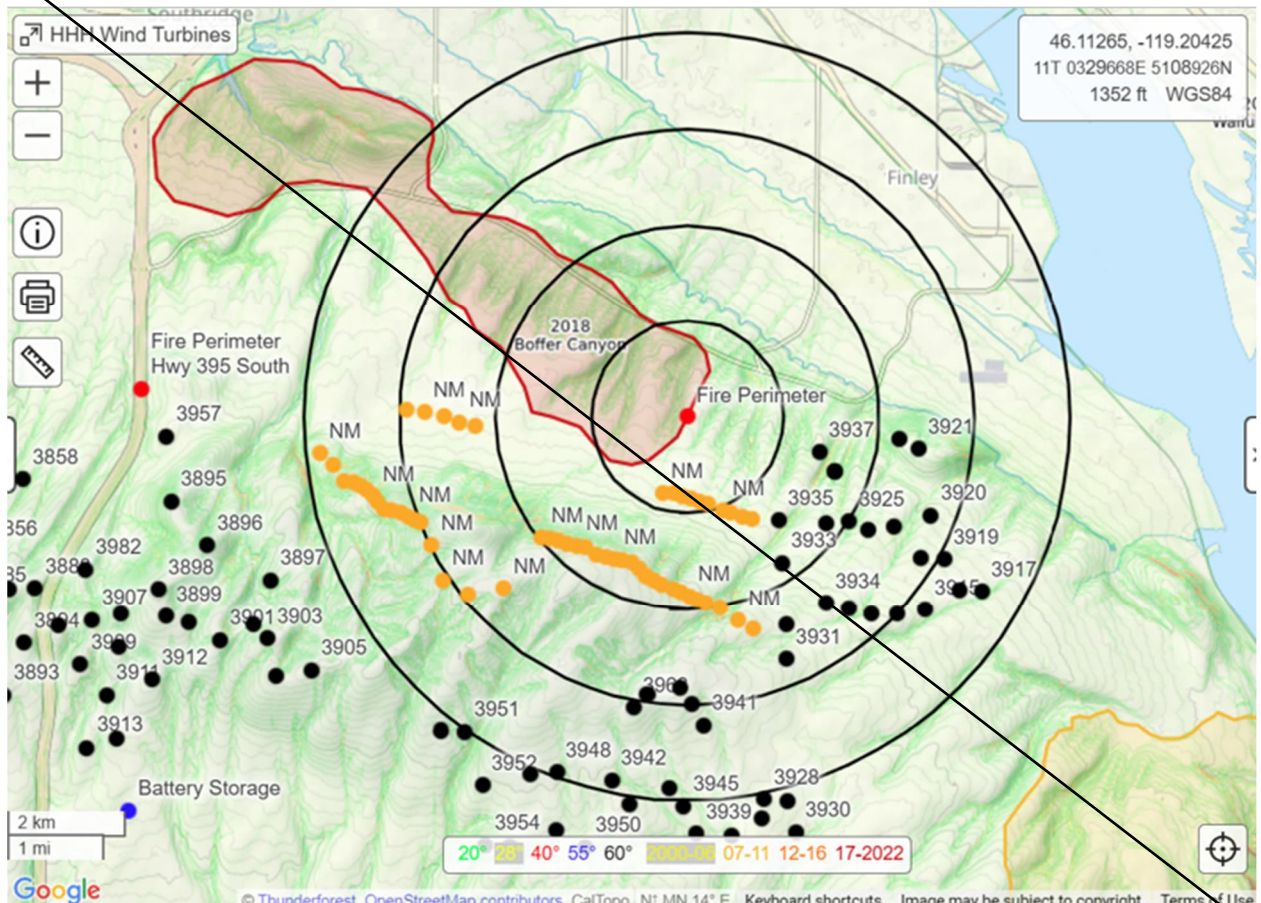
Badger Canyon Fire Perimeter



~~Highway 395 Fire Perimeter~~



Finley Fire Perimeter



~~EXH Attachment contains the enlarged complete set of CalTopo Fire Zone Maps~~

~~Range rings were placed at 1,2,3 and 4 miles increments~~

~~20,000 feet is 3.78 miles. The four-mile range-ring adds 0.25 miles to account for the height of the terrain on which the turbines are proposed.~~

~~The locations were selected to help define a boundary distance from known and potential fire zones (Badger Canyon, and Highway 395 Fire Perimeters) needing to be protected with aerial firefighting capabilities, due to the steepness and vegetation cover on the terrain.~~

~~Any turbines within four miles of these perimeter locations should be considered for removal in order to protect aerial firefighting capabilities.~~

~~These restrictions should be adopted through this adjudication pursuant to this Council order cited by Ms. McClain, consistent with the objective to consider any conditions which might be required for the construction, operation and maintenance of the facility.~~

~~Again referring to Page 11 lines 10 to 12, Ms. McLain states: 3. Capacity of Benton County Fire District 1, including road and water access: The ASC includes analysis of fire risk and the environmental review indicates that the risk is considered low.~~

~~This is mistaken specifically in reference to the battery storage facilities.~~

~~Page 2.5 of the ASC Update identifies 3 Battery Storage Facilities.~~

~~Section 2.3.5 Battery Storage Facility only states and describes two BESS facilities.~~

~~The description on Pages 2-78 to 2-79 and Pages 4-33 of the Updated ASC is inadequate given the explosive, hazardous and toxic materials present and the potential for significant emissions to the environment, and the difficulties posed by the fires, and the extreme challenges associated with fighting the fires.~~

~~Neither the Emergency Response Plan and the Updated ASC adequately and properly identify and evaluate the risks and dangers posed by the fires at BESS facilities adequately.~~

~~The draft emergency response plan addresses wind turbine fires, and contains a process that leaves it up to the Project Site Manager to call the Benton County Fire Marshall.~~

~~Employees are not told to call 911. It does not identify or address BESS lithium-ion battery fires specifically at all.~~

~~Fires at lithium-ion storage facilities are known to be problematic.~~

~~<https://www.nbcnews.com/news/exploding-problem-fires-sparked-lithium-batteries-are-confounding-fire-rcna65739>~~

~~Serious questions are posed by the challenges of fighting lithium-ion battery fires because of the byproducts of their combustion are extremely toxic presenting an elevated short and long term hazards to the long term health effects to firefighters.~~

~~The large volumes of water required for extinguishment must also be considered when there is a fire. These tens of thousands of gallons of water would definitely carry byproducts away from the fire then creating a massive potentially hazardous waste cleanup project under state and federal superfund laws. It is very possible that the batteries would be allowed to burn~~

~~naturally with an isolation and evacuation area from the toxic smoke. The plumes can travel great distances.~~

~~The ASC does not indicate that the applicant has reached out and coordinated with any of the fire districts that provide fire protection and EMS for the identified location of the project.~~

~~The BESS fires are so large and dangerous that they clearly exceed any of the risks described in the ASC and can be found on the agricultural lands comprising the project.~~

~~The fire districts do not have the resources, the equipment, and the training to fight these fires.~~

~~While it appears that sprinkler systems are required, as was installed down in Chandler, the Applicant has yet to identify a source of water that will be sufficient to combat Bess fires at these three locations.~~

~~The research literature and the guidance published by the NFPA indicates that substantial amounts of water, 2,500 gallons per minute will be required, for up to four days or more.~~

~~The Benton County Codes classify BES Facilities as Heavy Industrial Use, and the Benton County Fire Code has a requirement to demonstrate adequate fire fighting capabilities. These details are not provided in the Amended ASC.~~

~~There are new WAC regulations for the lithium ion battery storage facilities that are scheduled to go into effect statewide on October 29, 2023.~~

~~References:~~

~~State Building Code WAC 51-54A~~

~~<https://apps.leg.wa.gov/wac/default.aspx?cite=51-54A>~~

~~0322#: :text=Fire%20alarm%20systems.~~

~~[,Indoor%20storage%20areas%20for%20lithium%2Dion%20and%20lithium%20metal%20batteries,2.5%20Explosion%20control](#)~~

~~Section 907 is Fire Alarm and Detection Systems~~

~~<https://app.leg.wa.gov/WAC/default.aspx?cite=51-54A-0907>~~

~~The ASC does not contain or address the water needs for fighting lithium ion battery storage facility fires at all.~~

~~No water source is identified, the amount of water needed, or the ability to store and deliver the water needed is not described at all.~~

~~There has been no documentation supplied that indicates that the Project can even construct or operate the type of fire suppression and response systems that are being required of these facilities elsewhere in Washington state.~~

~~Since there are no provisions identified that demonstrate that an adequate fire water flow can be provided or is available, the council should reject the Bess Facilities and remove from the project.~~