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Via E-Mail [blm_nv_wdo_gerlach_geothermal@blm.gov]

Tia Subia
Project Manager
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5100 E. Winnemucca Blvd.
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Re: Draft Environmental Assessment -
NV088151X
3260 (NVWOI 0.28)
DOI-BLM-NV-W030-2022-000I-EA
Ormat Gerlach Geothermal Exploration Project

Dear Ms. Subia & Mr. Hall:

Burning Man Project (“BMP”) submits the following comments regarding the Bureau of Land Management (“BLM”) Draft Environmental Assessment (“Draft EA”) of Ormat’s Gerlach Geothermal Exploration Project referenced above (the “Project”). The Draft EA adopts Ormat’s Project submittal as the “Proposed Action”, with delineated BLM-required stipulations. BMP’s comments highlight areas of concern in the Draft EA and the public process provided. Specifically: (1) The schedule for comments does not support a robust public process by the affected community and stakeholders; (2) The BLM did not address legitimate alternatives to the Project; (3) The BLM did not analyze the Project under an EIS process, which amounts to unlawful segmentation of the NEPA process; (4) The BLM did not account for the relevant environmental effects and failed to require the necessary protections for the environmental, cultural, and recreational attributes of the Gerlach/Empire region.

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Public Process:

BMP and other concerned stakeholders submitted comments to the BLM during the pre-scoping period in January 2022. On August 19, 2022, the BLM released the Draft EA and eight additional supporting documents to the public. These documents include a 74-page public scoping report dated five months earlier - March, 2022 - wherein the BLM lists 283 substantive comments without discussion. As with the pre-scoping comment period (which ran over the holiday season), the comment period for the Draft EA was scheduled inconveniently to coincide with the Burning Man Black Rock City event (the "Event"), making it quite challenging for the citizens most affected by the Project to engage in a robust public discussion. We understand timelines must be adhered to whenever possible, but the comment period here runs over the period of the Event, which brings some 80,000 people to the region and the communities of Empire and Gerlach. The Event affects each of the stakeholders involved in this Project in some way. Due to the unfortunate timing and the local communities impacted by the Event, it would be prudent and community-minded to extend the public comment period by two to four weeks so that the concerns and potential impacts from the Project - from the perspective of those impacted most directly - can be more fully understood.

The EA Is Based on an Inadequate Analysis of the Proposed Action and Alternatives:

Pursuant to NEPA, agencies are required to take a "hard look" at the proposed action and its effects. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences and take actions that protect, restore, and enhance the environment. An Environmental Assessment must include (1) a description of alternatives to the proposed action (2) any adverse environmental effects that cannot be avoided should the proposal be implemented; and (3) any irreversible and irretrievable commitment of resources that would be involved in the proposed action should it be implemented. The adoption of the purpose and need statement is one of the most consequential decisions that the lead agencies make in the NEPA process, because the purpose and need provides the foundation for determining which alternatives will be considered and for selecting the preferred alternative.

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As described in the BLM's NEPA Handbook, "[i]t is the BLM purpose and need for action that will dictate the range of alternatives and provide a basis for the rationale for eventual selection of an alternative in a decision." NEPA Handbook at 35. Even under an EA, the regulations require a "brief discussion of the need for the proposal." 40 C.F.R. 1508.9(b). The purpose and need for the proposed action cannot be defined so narrowly as to avoid assessing a wider range of alternatives, and it cannot be defined in a manner that can only be accomplished one way. Colorado Environmental Coalition v. Dombeck, 185 F.3d 1162 (10th Cir. 1999).

Here, the Draft EA broadly defines the purpose and need as responding to Ormat's application for exploration of geothermal resources, including construction of geothermal power exploration wells and associated facilities, under the BLM's authority. See Draft EA at pg. 1.3. This appears to be a circular definition of purpose and need. The Draft EA does not describe how the project purpose and need affects the size, location, or scope of the Project. Yet, the BLM attempts - erroneously we believe - to narrow the purpose and need through the extremely limited range of alternatives. The lack of a properly defined purpose and need affects the entire NEPA process.

NEPA requires agencies preparing an EA to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources." See Sec. 102(2)(E); 40 C.F.R. 1508.9(b). "The identification and evaluation of alternative ways of meeting the purpose and need of the proposed action is the heart of the NEPA analysis. The lead agency or agencies must, 'objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.'"¹ The Draft EA's Proposed Action is the Final Operations Plan of Ormat. Here, the applicant proposes to consider three action alternatives (A, B, C) and one no-action alternative (D). However, the only differences between the three action alternatives are slight deviations in access points of +/- 1 mile and proposed surface disturbance of +/- 3 acres. The alternatives do not contemplate actual differences in the proposed action -- e.g. different geographic locations, layouts, sizes, number of geothermal exploration wells -- but rather seem to try and satisfy the alternatives requirement by making insignificant changes to an ancillary feature (i.e. access points) of the proposed action. This does not illustrate consideration of a

¹ A Citizen's Guide to NEPA (2007) at 16, citing 40 C.F.R. § 1502.14. This sentiment remains the same in the 2021 revision. See page 13.

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reasonable range of alternatives to explore alternative means of meeting the purpose and need for the proposed action while minimizing environmental effects as required under NEPA.

Likewise, the proposed alternatives are not meaningful for consideration by the public, given the location of the Project and reasonably foreseeable geothermal generation plant facility that will arise should the exploration wells be commercially viable. The project proponent should be required to analyze alternatives that result in less environmental effects including for example (1) fewer wells; (2) wells in different locations within the 2,724-acre area of interest; and (3) other, off-site locations that might result in lesser overall environmental impacts.

Furthermore, the range of alternatives must address unresolved conflicts concerning alternative uses of available resources, which exist if there is a lack of consensus based on input from interested parties or if there are reasonable alternatives that are substantially different in design or effect. See NEPA Handbook at 79. Here, there is no consensus on the alternatives given that public comments submitted during the scoping process asked Ormat to consider alternative locations and layouts of the proposed action, which it did not address or incorporate into its Draft EA.

Occasionally courts may view alternatives that were rejected earlier in the NEPA process as evidence that a reasonable range of alternatives was considered. The Draft EA addresses only one commenter's request to move the Project east of Gerlach and rejects it based upon a lack of geothermal resources. Draft EA at 2-9. The Draft EA fails to examine other areas that do have geothermal resources and Ormat leases, despite noting that several groundwater basins north and west of the AOI have connectivity. This lack of examination of viable alternatives further supports finding that the alternatives analysis is inadequate.

Unlawful Segmentation of NEPA:

BMP supports the expanded use of renewable energy in the resource mix for Northern Nevada, and understands that geothermal resources are an important, viable source in the arid West. We also believe that adequate, consistent, and fair planning practices must be utilized in all projects of such importance in order to avoid unintended consequences. The proverbial "devil is in the details."

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NEPA does not permit a project to be segmented and analyzed as individual components if there is a logical connection between them. The United States Supreme Court has long held that proposed actions “that will have cumulative or synergistic environmental impact upon a region . . . must be considered together.”² Under NEPA, the federal agencies may not artificially divide a major federal action into smaller components to avoid proper review. Connected actions, cumulative actions, and similar actions must be considered together under one NEPA analysis in order to ensure meaningful evaluation of alternatives and to avoid commitments to larger projects before they are fully evaluated.³ “Connected actions” include “interdependent parts of a larger action [that] depend on the larger action for their justification.”⁴ The likely effects of the entire project must be considered so that the agencies may propose alternatives as well as necessary terms and conditions to mitigate harm. In 2020, the United States District Court for the District of Columbia addressed the NEPA process conducted for the Dakota Access pipeline. The Court noted, significantly, that when it comes to NEPA, “it is better to ask for permission than forgiveness: if you can build first and consider environmental consequences later, NEPA’s action-forcing purpose loses its bite.”⁵ Therefore, this NEPA analysis has to be redone to include the “withdrawn” utilization plan and plan of development.

At its core, NEPA requires agencies to analyze the reasonably foreseeable direct, indirect and cumulative effects of the agency action. See 40 C.F.R. 1508. This is broadly defined to include just about any changes caused by a project. If there are significant effects that cannot be mitigated then an EIS is required. Other factors that trigger an EIS include the degree to which the environmental effects are likely to be

² *Kleppe v. Sierra Club*, 427 U.S. 390, 410 (1976). Moreover, the Supreme Court has cautioned that agencies are expected to take a “hard look” at the proposed action in order to “ensure that important effects will not be overlooked or underestimated only to be discovered after resources have been committed or the die otherwise cast.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). Hence, there is a clear prohibition against segmenting a large project with significant effects into smaller segments in order to evade review.

³ 40 C.F.R. § 1508.25; *Delaware Riverkeeper Network v. FERC*, 753 F.3d 1304, 1313 (D.C. Cir 2014) (“An agency impermissibly ‘segments’ NEPA review when it divides connected, cumulative, or similar [] actions into separate projects and thereby fails to address the true scope and impact of the activities that should be under consideration.”)

⁴ 40 C.F.R. § 1508.25(a)(1)(iii)

⁵ *Standing Rock Sioux Tribe, et al. v. U.S. Army Corps of Engineers*, U.S. Dist. D.C., Case No. 16-1534 (JEB) (2020) at 10.

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highly controversial, the degree to which the possible environmental effects are highly uncertain or involve unique or unknown risks, and whether the action is related to other actions with individually insignificant but cumulatively significant impacts.⁶ All of these factors appear relevant here.

The Proposed Action allows the installation of up to twenty exploration wells, with an overall disturbance area of 51.5 acres. See Section 2.4, Table 2-6. Each of the twenty well pads takes over two acres of land. See Final Operations Plan, February 1, 2022. The Proposed Action Area of Interest ("AOI") surrounds Burning Man Project's property, 360 acres that straddle State Route 34 (the "360 Property") and include hot springs that Burning Man Project is in the process of developing for recreational use.⁷ The Proposed Action would allow for the drilling of well pads that abut the 360 Property to the north, and lie closely to the south, both of which are in close proximity to the Ditch Spring and others that fall within this private property.

BMP has significant concerns, given repeated, severe, and possibly permanent, impacts to springs caused by existing geothermal generation facilities in the western United States, that similar impacts are likely to occur at the 360 Property upon the ultimate operation of a generating plant. The AOI also lies approximately one mile outside of Gerlach proper, and even closer to individual homes of Gerlach residents. Each well pad will be constructed by drilling 24 hours a day/7 days a week for up to 45 days. The Proposed Action thus allows constant, continuous drilling for approximately two and a half years, including wells that abut private property, commercial enterprise, and residential homes. While representatives of Ormat have stated in public meetings that they "will never drill all twenty wells", they have simultaneously declined to take any proposed well site out of the Operations Plan, including those that abut or are in proximity to private property. They have also stated that they will not allow the community to provide input into which well sites should be drilled first to minimize future impacts. The Proposed Action allows each well to be drilled at depths between 1,500 and 7,000 feet and may include directional drilling to intercept geothermal targets under private property, including the 360 Property.

⁶ *Bark v. U.S. Forest Service*, 958 F.3d 865 (9th Cir. 2020).

⁷ Attached to these comments is Burning Man Project's Master Plan for development of the 360 Property.

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NEPA allows the agencies to consider mitigation in assessing whether an action will have a "significant" environmental impact. "Mitigation measures may be relied upon to make a finding of no significant impact" and obviate the need for an EIS, where such measures are "submitted by an applicant or agency as part of the original proposal. In order to ensure the adequacy of mitigation: (1) proposed mitigation measures should be considered throughout the NEPA process (2) a monitoring program should be in place to ensure mitigation measures are implemented and effective; and (3) public participation and accountability should be supported through proactive disclosures of and access to agency mitigation monitoring reports and documents. Here a more robust mitigation and monitoring plan is required to avoid these obviously significant effects.

Section 3.3.7 of the Draft EA addresses cumulative effects pursuant to 40 CFR 1508.7 CEQ 1997. BLM is required to address reasonably foreseeable future actions "regardless of what agency (federal and non-federal) or person undertakes such other actions." *Id.* BLM fails to analyze *the most likely future action* to occur after the Proposed Action is completed: The development of a geothermal generation plant and related distribution and transmission facilities in the Gerlach/Empire region. Should the Proposed Action reveal a viable geothermal resource, many of the exploration wells, and likely additional wells, would be used to support plant operations. This obvious future action is only mentioned once in the Draft EA, noting that Ormat "withdrew its utilization plan and plan of development" scoping period. See Draft EA at page 1.1. Thus, it begs the question of why BLM would approve the drilling of up to 20 wells, granting only partial reclamation of each, if it is unknown whether the ultimate use of those wells to support a generation plant would cause irreparable damage to the region's environmental and cultural resources. Moreover, the approval of the Project through only an EA makes the approval of construction of a geothermal generation facility significantly easier than if the necessary analysis was completed up front, as the proverbial damage will have already been done. Put another way, if resources are found in this location, then a generation plan is inevitable - the alternatives are set. However, NEPA does not allow pre-decisional action by the BLM that will limit future consideration of a related project. Hence, the entire utilization plan and plan of development must be considered at this stage.

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The National Renewable Energy Laboratory has examined projects similar to the Proposed Action under applicable NEPA timelines. NREL states that drilling projects such as this can equally fall under an EA or EIS analysis: “Typical geothermal activities that would require an EIS include drilling large well fields, POUs, or controversial activities such as a proposed project location in an environmentally sensitive area.” *Geothermal Permitting and NEPA Timelines*, Young, *et. al*, GRC Transactions Vol. 38 (2014) at page 896, Table 2. BMP believes that the proposed project location warrants a full EIS analysis given its location and eventual scope. Failing to do so would amount to unlawful and harmful segmentation of the NEPA process that would allow Ormat to get halfway to its generation goal without a proper and thorough inquiry. An EA is not the appropriate vehicle to assess these potential impacts to the environmental and cultural resources, and near constant disruption to the citizens of Gerlach and Empire that could occur. While it is understood that a project may be analyzed separately where there is “independent utility” in this case the drilling and generation plant cannot be separated. There is no point in drilling twenty wells, or even five wells, if the resource will not be used and a generation plant has no utility in an area where there are no known resources. An EIS should be required.

Other “Effects” of Concern:

The Draft EA does little to alleviate the concerns identified by BMP and other stakeholders during the scoping process. The Draft EA does not examine the full range of “effects” and fails to provide meaningful mitigation and monitoring. We find the following concerns with the Proposed Action remain:

1. **National Conservation Area.** On December 21, 2000, the Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area Act of 2000 was signed into law. This important piece of legislation was decades in the making, and takes into account multiple uses and attributes therein that provide economic stability, cultural resource preservation, and significant habitat. The location of the AOI so near to the NCA is one of significant concern, as expanded upon in the following paragraphs.
2. **Rural Economy, Energy Reliability, & Environmental Justice.** The Proposed Action does not reflect any specific economic benefits to the Town of Gerlach and the surrounding region. Rather, it appears that the benefits of exploration will be

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minimal and possibly counterproductive. The BLM indicates in Table 3-2 of the Draft EA environmental justice issues are “present/not affected” based upon baseline data indicating that “minority populations and low-income populations are below the statewide averages for Nevada” in Washoe County. BMP submits that this data is inaccurate, and its use by federal agencies hinders economic development in rural communities in the West.⁸ Nevada is the 7th largest state in the Union, with only 17 counties. Washoe County is a geographically large county with one of the largest metropolitan regions in the State. Gerlach lies approximately 90 miles from the Reno/Sparks area. The socio-economic data of Gerlach residents do not match those of Reno/Sparks. Thus, this appears to be an issue of environmental justice warranting further investigation.

While Gerlach could benefit from modernized energy infrastructure, without the benefit of an EIS, it is unknown to what degree the ultimate construction of a geothermal plant would meet that demand. It is unknown if the energy generated therefrom would even remain in the State of Nevada. Without identified planning between Ormat and NV Energy to address the aging transmission and distribution of the region—which currently still utilizes glass insulators—customers of Sierra Pacific Power Company would only receive some generalized benefit from additional renewable resources coming on line in the intermountain west. Ormat should have engaged early with the community to address how any approval of a geothermal plant and associated distribution and transmission facilities would specifically bring them reliable renewable energy and foster economic growth.

The Proposed Action does not bring local jobs to the region. The Final Operations Plan indicates that approximately 10 workers will be on site for the duration of a well drilling (approximately 45 days each), and that these will be current Ormat employees or contractors who would travel to the site. Final Operating Plan at 9.

Unintended consequences of the Proposed Action could also negatively impact businesses and landowners. Geothermal development in this region has the potential for significant negative impacts by altering or stopping existing surface springs from functioning, as discussed more fully below. Such impacts can harm local businesses. Again, while exploration wells may not cause immediate impacts to springs, the Proposed Action requires the community to “wait and see” whether a generating facility will be built, all while suffering through the

⁸ This inaccurate data is used in many federal programs, including the USDA, and often leaves rural communities in large western states ineligible for federal grant monies because they lay within a county with a large municipality hours away.

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construction of 20 well pads that will never be required to be fully reclaimed. For example, should the Ditch Spring and other hot springs located on the 360 Property cease functioning, the commercial investment to develop the property as a community center would be thwarted or prevented. And, if the Great Boiling Springs, located on neighboring private land, reduce or cease functioning, this would adversely impact the Black Rock Mud Company that relies upon its proper function.

With the likelihood of the Proposed Action leading to the construction of a geothermal generation plant, considerations on how that could affect the local economy should be thoroughly addressed now.

3. **Tourism & Recreation.** Gerlach's economy significantly benefits from the tens of thousands of visitors from around the world who travel to this region year-round to experience the solitude of the vast open spaces and undeveloped vistas present in the Black Rock Desert, as well as attend numerous events and pursue a variety of recreation experiences. The COVID-19 pandemic saw a significant rise in the number of visitors to public lands, including within the Gerlach region.

As to recreation, the Draft EA states, "Compared with surrounding public lands, there is relatively little recreational activity in the AOI. This is because of the proximity to the community of Gerlach, private property, commercial operations, developed gravel pits, and abundant high quality recreation in nearby public lands." See Section 3.2.7. In making this conclusion, the BLM improperly relies on the 2019 Burning Man Event Special Recreation Permit Final Environmental Impact Assessment (BLM 2019b. P. 3-92). *Id.*⁹ This conclusory statement ignores reality: Apparently, the BLM believes that because the boundaries of the AOI border the community, private property, and high quality recreation, but do not cross them, there is little impact. The opposite is true - the closer the AOI is to the community, private property, and high quality recreation, *the more severe the impacts from the activities become*. Moreover, reliance on the BMP EIS is faulty as the BLM thus fails to address the intervening four years wherein economic development of the community of Gerlach has blossomed, in large part due to significant investments by BMP. This economic development includes BMP's purchase and development of several commercial properties in town including the 360 Property, an RV campground, and a vintage hotel, as well as the numerous proposals by local stakeholders for recreational and art trails throughout the community, including within the AOI.

⁹ Data and studies supporting this EIS were largely completed in 2018.

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In addition, the AOI overlaps a significant portion of the Granite Foothills Recreation Management Zone. The RMZ plan recognizes that *“national or regional visitors and constituents value the surrounding public lands as a recreation/tourism opportunity.”* This issue was raised during the pre-scoping process, but aside from highlighting an area on an appedicized map, the BLM fails to address it in the Draft EA. See A-7, p. 92.¹⁰ There are no mitigations suggested nor required stipulations in the Draft EA that address potential impacts to recreation. See Section 3.3.3, pg. 3-31. The BLM should do a detailed study, *based on current data*, to identify the scale of the Proposed Actions impacts on the identified recreation values and on the socio-economic impact on regional tourism.

4. **Habitat.** The Project has the potential to impact important wildlife habitat in a number of ways. If the reasonably foreseeable geothermal plant development occurs, decreases in flow and temperature from springs hydrologically connected to the geothermal resource may impact wetland habitat created by the springs. The 360 Property includes such valuable habitat. Wetlands in the desert are biodiversity hotspots, providing habitat for invertebrates, fish, resident and migratory birds, and a vital water source for larger terrestrial wildlife. The BLM should analyze in detail the potential changes in flow due to geothermal development *to all potentially connected springs*, and what the ecological consequences of such changes would be. Further analysis of the impact on protected species and their habitats is warranted.
5. **Reclamation of Well Pad Sites.** BMP believes that the reclamation plan for well pad sites is insufficient and unclear. First, the Draft EA describes the twenty proposed well pads as a “temporary surface disturbance.” See Section 2.1.2. Next, the draft states, “Once drilling is complete, the shoulders of the pad would be reclaimed; however, the majority of the pad would be kept clear for ongoing operations and the potential need to work on or re-drill the well.” *Id.*¹¹ The specifics as to reclamation in Section 2.1.8 do little to clarify whether wells not necessary for the Proposed Action will ultimately be plugged and fully reclaimed. “If Ormat judges a well to have no commercial potential, it could continue to “monitor” the well *for the duration of the project*; or, the well could be plugged and abandoned in conformance with the well abandonment requirements of the BLM and NDOM.” Emphasis added. This is inconsistent with the public outreach conducted. Representatives from Ormat represented to BMP that in fact they would never cap a well drilled here, primarily because of the financial investment

¹⁰ BPM incorporates its prior comments into this comment on the Draft EA.

¹¹ This description adds to the sense that the project is being segmented.

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involved. The questions presented are thus, what is the duration of the project? And, will the BLM actually require plugging of wells without commercial potential, or in excess of that required for a generation plant, upon the conclusion of the project?

6. **Dark Skies.** In an era of ever increasing urbanization and development, Dark Skies are becoming a rapidly diminishing resource. This has led to an exponential growth in the awareness of the values of preserving Dark Sky landscapes and in the growth of Astro Tourism. Currently, Gerlach is a gateway community to the Dark Sky resources of the Black Rock High Rock NCA and the Massacre Rim WSA/ Dark Sky Sanctuary. This area is a popular viewing spot for people to view meteor showers, including the Perseids in August, and the Leonids in November.

Two years after the completion of the Burning Man EIS, during the 2021 legislative session, the Nevada Legislature passed Senate Bill 52 which declared that dark sky areas “serve to specifically promote, preserve, protect and enhance Nevada’s dark sky resources for their intrinsic value and their ecological, astronomical, cultural and economic importance.” Further, the Legislature determined that “Designation of dark sky places in Nevada under the program will also attract tourists and other visitors to rural communities near Nevada’s dark sky assets, thereby generating increased economic activity for surrounding communities and their small businesses.”

As with the issues regarding recreation and tourism, the BLM improperly relies on data collected during the EIS process for the Burning Man Event, dating from 2018. The BLM relies on the study presented and heavily critiqued during that process. The report supporting this Proposed Action includes unchanged conclusions, despite the fact that such conclusions were debunked in 2018, and despite the fact that a Black Rock City event occurred in 2019. No additional data was presented from that event. BLM’s conclusions further ignore the fact that Black Rock City is an 8-day temporary gathering with zero permanent effects on the night sky – while the Proposed Action allows up to two and a half years of nearly continuous drilling, day and night, and that the reasonably foreseeable generation plant will have permanent lighting features. This effect has not been properly analyzed.

7. **Noise Pollution.** With the AOI located within a mile of Gerlach residences, it is critical that a Noise Analysis be completed through the NEPA process to identify the impacts to residents of noise from the Project, and the efficacy of Ormat’s suggested “one rock muffler” per drilling rig. *Id.*

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In 2010, the World Geothermal Congress was presented with a white paper as to the efficacy of portable rock mufflers for well testing purposes. As to noise emissions, the authors stated, "The noise level recorded on this portable rock muffler is typically about 90 to 100 dBA at a radius of 5 m compared to the use of permanent rock muffler, which was about 80 - 90 dBA, while noise [World Health Organization] threshold is 85 dBA for 8 working hours/day. Noise measurement in the adjacent community was below 60 dB, as stated in geothermal environmental policy."¹² The level to which a rock muffler, portable or permanent, can reduce noise to acceptable levels from well pads proposed on both the south and north borders of the 360 Property appears to be insufficient. This commercial property is currently under development to include among other things campsites, modular housing, a cafe and community space. The constant noise associated with consecutive drilling of exploration wells may also be significantly disruptive to the serenity of public land users in the nearby National Conservation Area.

While this information was stated in the pre-scoping comments to the BLM, the Draft EA does little to address mitigating this issue. The BLM again cites data from the 2019 BMP Event Special Recreation Use EIS in a manner that supports nothing in the Draft EA. While the BLM will require some drilling mitigations for some species of wildlife, much of it kicks the can down the road: negative impacts to bat habitat is acknowledged and accepted without mitigation. As to humans, the Draft EA states that the community of Gerlach, and recreational users, should simply be prepared to be "sensitive noise receptors." See Section 3.2.9. That the BLM believes these "sensitive noise receptors" should suffer up to two and half years of near continual 24/7 drilling is stunningly insufficient mitigation.

8. **Hydrology**. The AOI lies along the northeast trend of the Black Rock Geothermal area which includes many important spring resources. Geothermal development frequently causes substantial changes in the flow rates and flow paths in hydro geothermal systems which could alter existing surface flows at springs in the area. The Hydrologic Evaluation provided by Ormat (Stantec 2022, Section 2.2 and Figure 2) in support of the Draft EA indicated connectivity between the hydrologic basins of Black Rock Desert, San Emidio Desert, Smoke Creek Desert, and Granite Basin. Yet, when pressed as to why Ormat chose an AOI so close to the community of Gerlach, representatives indicated that it was in

¹² 1 *Portable Rock Muffler Tank for Well Testing Purpose*, Amri Zein, Paul A. Taylor, Yudi Indrinanto, Heribertus Dwiudha - Proceedings World Geothermal Congress 2010 Bali, Indonesia, 25-29 April 2010; page 2.

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fact because the Black Rock basin is not much larger than the size of the AOI, and no connectivity with other basins exist. Since connectivity does allegedly exist, Ormat should look elsewhere to conduct exploration and development so disruptive by its proximity to this rural community. At a minimum, this should be an analyzed alternative under NEPA.

The Draft EA requires Ormat to follow the draft monitoring plan of Broadbent and Associates, 2022. See Table 3-11, pg. 3-28. BLM acknowledges that the monitoring plan set forth in the BLM-Required Stipulations is insufficient to fully address impacts to water resources. See Section 3.3.5, pg. 3-41. The unknown impacts from exploration well drilling can only be increased by a significant order of magnitude upon the reasonably foreseeable future action of geothermal generation plant operations. The likely impacts from such operations should be thoroughly identified before 51.5 acres of land is permanently scarred, and residents suffer through two and a half years of near constant well drilling.

During pre-scoping, BMP put forth the following minimum parameters for a monitoring plan:

- Test-hole mud-drilling exploration sites should avoid "targets" that could affect springs, wetlands, and wells within the Project vicinity.
- Directional-drilling beneath private property should not be allowed unless authorized by the property owners, given the site-specific conditions.
- Thermal studies show average heat flow and temperatures are affected in an area within roughly one mile around springs, or larger if the springs harvest heat flow over a larger area (Luijendijk, and others, 2020). These parameters should be taken into account.
- Springs with connections to habitat, wetlands, and potable groundwater resources in the Gerlach area are known to contain heavy metals, including arsenic and uranium at levels requiring treatment, which could become mobilized by incremental geochemical changes due to well drilling or long-term operations (temperature).
- There should be buffering/setbacks around springs, wetlands, habitat, well sites, and where geothermal and mineral lease rights areas of others reasonably could be affected. Ormat should be required to perform a hydrogeologic analysis to determine whether sensitive areas and private property are within the zone of influence of the proposed wells.

The Broadbent plan addresses flow measures and water sampling only, and it does not appear to specifically address these additional items. BMP reiterates

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the need to specifically address these issues with an effective mitigation and monitoring plan. That plan should be subject to further public review.

9. **Groundwater Contamination.** Groundwater contamination is possible with exploration well drilling. The Final Operations Plan includes a Spill or Discharge Contingency Plan. Upon a spill or discharge to groundwater, any resulting regulatory obligation of Ormat should include immediate notification to contiguous landowners, regardless of whether the Drilling Supervisor believes the spill affects their property. Final Operations Plan, page 16.

Ormat should provide the following pre-drilling and data collection in assessing this Project:

The well testing procedures can also cause potential impacts that need to be addressed by BLM. Specifically:

- There is potential for impacts to springs/habitat, wetlands, and private (domestic and/or geothermal) wells.
- Again, Ormat has not specified an adaptive management approach to address such impacts.

In the post-drilling and testing data phase, additional concerns arise:

- Ormat has not provided short- or long-term standard operating procedures for monitoring or for the remedy of impacts to springs/habitat or private wells/owners, given mud-drilling, directional-drilling, rock-fracturing, lost circulation and "blow-out" potential or other changes (flow, level, chemistry).
- It is not clear what would happen if the Proposed Action upends the heat flow wherein potable groundwater resources become non-potable or flow restricted. There must be a responsible party and process for replacing affected water supplies in the short- and long-term.
- The process must also specify how and where will habitat be mitigated in the Project vicinity if ecologic changes occur.

10. **Net Energy Analysis.** As part of the NEPA analysis, the BLM should conduct a Net Energy Analysis comparing the energy input with energy outputs for the Proposed Action. This comment was raised and ignored during pre-scoping.

11. **Transportation Analysis.** BMP is well aware of the potential impacts to local roads from increased traffic, as we perform detailed traffic analyses for the BLM

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through our own EIS process. In fact, the Draft EA again relies on the BMP 2019 EIS in addressing this issue. See Table 3-2, page 3-6. The BLM's conclusion notes heavy traffic during the temporary Burning Man Event, and "...should construction overlap with the event, given the volume of event traffic, the addition of relatively few construction-related vehicles is not anticipated to meaningfully contribute to a lowered level of service on SR-447 and CR34." Again, the BLM ignores the fact that BMP's temporary event is predominantly eight days a year, while the Proposed Action anticipates up to two and half years of near continual construction, including the transportation of heavy vehicles and drill rigs. Increased traffic of heavy vehicles on State Route 447 could lead to an increased deterioration of the road surface. BMP reiterates its request that the BLM require Ormat to provide data and consult with the Washoe County Roads Department to determine if the roadway rating and the Roads Department's maintenance schedule are adequate for the specific transportation needs of the Project.

Conclusion:

Anyone who has ever driven along the twisted roads in northern Washoe and Pershing Counties near Gerlach has surely gazed in awe of the vast, dusty lakebed of ancient Lake Lahontan and the legendary Calico Hills of the Granite Mountain Range. Anyone who has ever stopped in the town of Gerlach has surely sensed the unique history of that remote desert town. This is the gateway to the Black Rock Desert High Rock Canyon Emigrant Trails National Conservation Area, a rough and tough, wildly scenic area of the American west, with dark skies, extreme temperatures, and the world famous Burning Man event each summer.

Burning Man Project supports renewable energy and has committed in our 10-year Environmental Sustainability Roadmap to becoming carbon negative by 2030. We have taken a thoughtful and intentional approach to our presence and ventures in northern Nevada, including significant investments in economic development, solar power, social enterprise, workforce development, and sustainable design in and near Gerlach. We believe in community engagement, and we believe in modeling our Principles year-round.

If the Ormat geothermal project moves forward with the proper studies and mitigations, we hope that the Gerlach and Empire communities can benefit. With better forethought and deeper community engagement, it may be possible to minimize the detrimental effects of a geothermal project and provide long-lasting support to residents, the natural environment, and local enterprises. Burning Man Project can be a key partner and advisor to this future work that can proceed only in collaboration. We have strong relationships in local communities potentially impacted by geothermal

BLM Comments on BLM Draft Environmental Assessment of Ormat's Gerlach Geothermal Exploration Project

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development north of I-80 and want to continue to be a leader affecting positive social, environmental, and economic change in northern Nevada.

We submit these comments from our whole organization, guided by this leadership team:

Marian Goodell, CEO

Marnee Benson, Director of Government Affairs

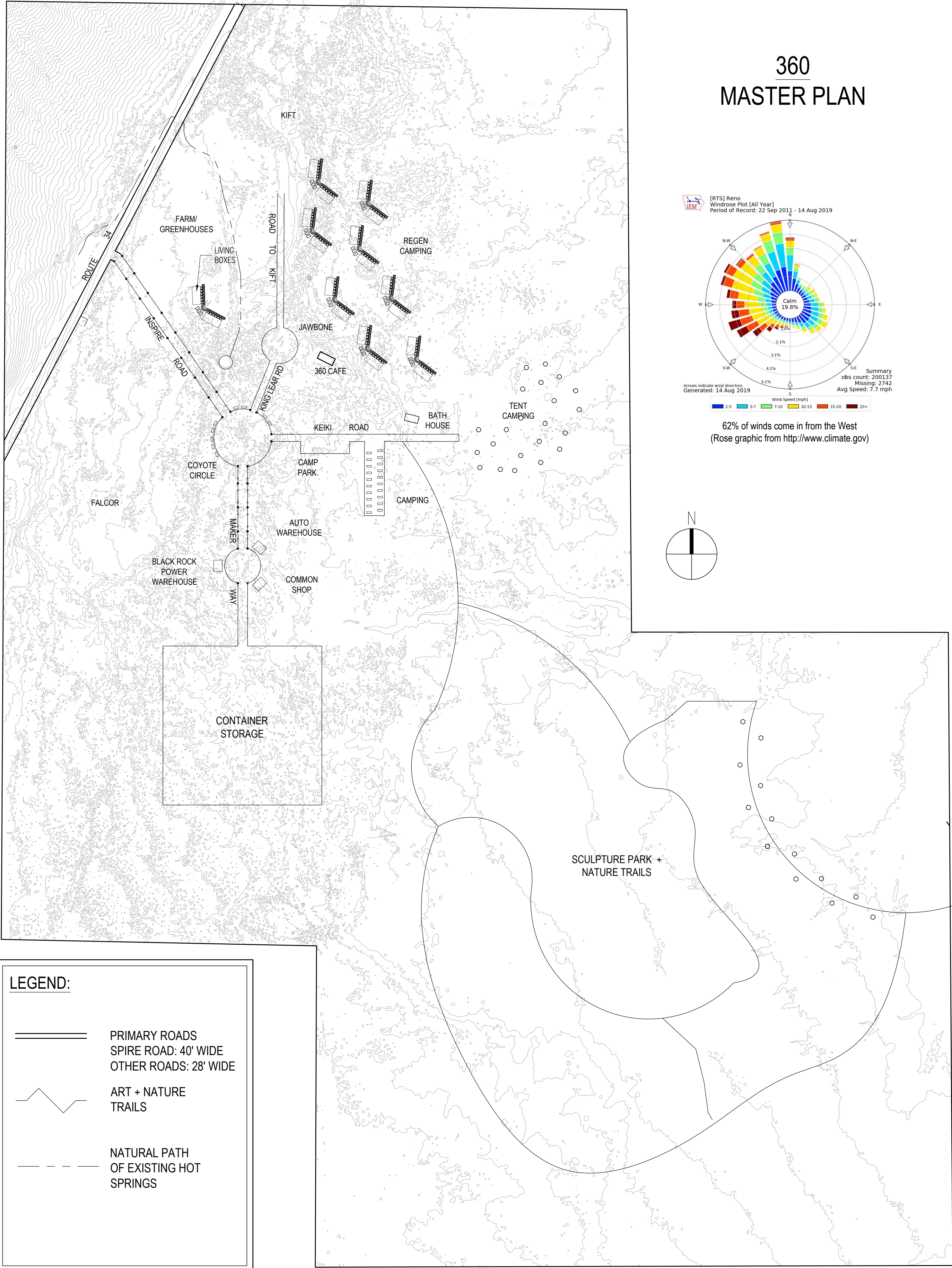
Lina Tanner, Senior Advisor to Government Affairs

Matt Sundquist, Fly Ranch Director

Matthew Kwatinetz, Senior Director of Nevada Operations

Dominique Debucquoy-Dodley, Associate Director of Communications

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360

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CONSULTANTS

General Contractor
TBD

PROJECT MANAGER

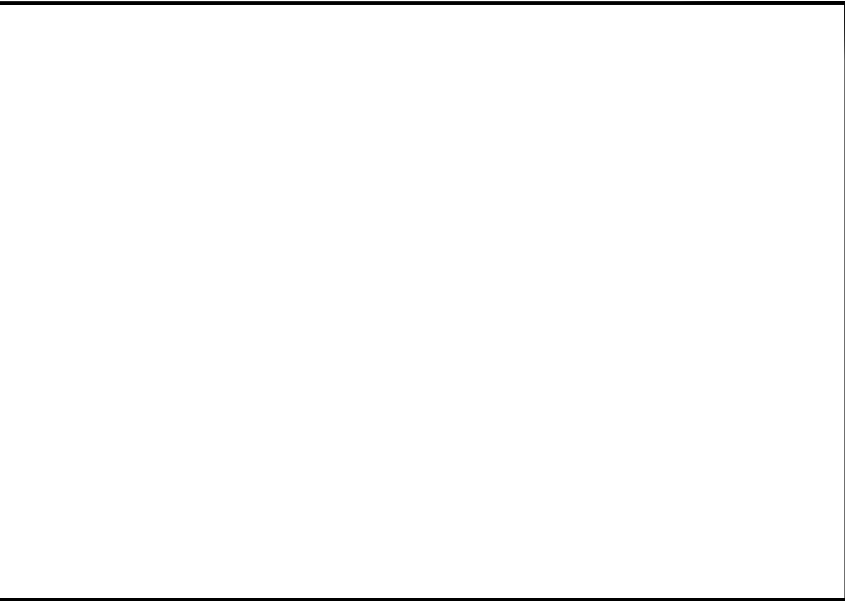
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Structural Engineer
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Geotechnical Engineer
TBD

Landscape Architect
TBD

REVISIONS	
	NOT FOR CONSTRUCTION
	ISSUED FOR REVIEW
	KEY PLAN



ADDRESS: COUNTY ROAD 34
(40.674153, -119.363689)
GERLACH, NV
WASHOE COUNTY
LOT:
ZONING: SPECIAL DIST:
ZONING MAP #

MASTER PLAN

PROJECT NO: 2001 SCALE: AS NOTED

MP-101