Environmental Assessment
Rise Festival

Prepared by

U.S. Department of the Interior
Bureau of Land Management

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Chapter 1. Introduction

1.1. Identifying Information:

1.1.1. Title, EA number, and type of project:

Rise Festival

DOI-BLM-NV-S010-2014-0106-EA

1.1.2. Location of Proposed Action:

Jean Dry Lake Bed, Clark County, Nevada

1.1.3. Name and Location of Preparing Office:

Las Vegas Field Office

4701 North Torrey Pines Dr.

Las Vegas, NV 89130

1.1.4. Identify the subject function code, lease, serial, or case file number:

Special Recreation Permit # LLNVS0-0530-15-005

1.1.5. Applicant Name:

Ody Events
1405 North 900 West
Pleasant Grove, UT 84062

1.2. Purpose and Need for Action:

Ody Events is proposing a ticketed event, the Rise Festival, that would offer live music culminating with an evening firework display and the release of sky lanterns into the nighttime sky. The purpose of the proposed action is to provide access and use of public land for a sky lantern festival style event though issuance of a special recreation permit (SRP). The need for the action is established by BLM's responsibility under the Federal Land Policy and Management Act (FLPMA), 43 U.S.C. 1701 et seq., which establishes recreation as one of the principal uses of public lands, and directs the Secretary of the Interior to regulate, through permits or other instruments, the use of public lands, which includes commercial recreation use (43 CFR 2931.3(a). The Federal Land Recreation Enhancement Act (REA) authorizes the BLM to "...issue special recreation permits for group activities and recreation events "(43 CFR 2931.3(b). Decision to be made: The BLM will decide whether or not to grant the SRP, and if so, under what terms and conditions.

1.3. Scoping, Public Involvement and Issues:

Internal scoping was done for the project and the following concerns were raised by BLM staff:

- Mining operations present in the area could be affected by the event.
- The proposed action could cause fires.
- The proposed event could affect desert tortoise, a federally listed threatened species present in the area.
- The proposed event could affect migratory birds.
- The proposed action could affect wildlife.

External public scoping occurred with a 30-day public review of the draft Environmental Assessment (EA) from August 3, 2014 to September 3, 2014, during which time the public and local, state and regional agencies were able to review the EA and provide comments to BLM. Comments received from the public review raised the following concerns:

Public commented on concerns for:

- The release of lanterns could pose a fire hazard to surrounding vegetated areas of land.
- The festival could create litter on the land.

The Federal Aviation Administration (FAA) raised the concern:

- The release of lanterns could pose a navigation hazard to aircraft and airport operations at Jean and McCarran Airports.

The Clark County Department of Aviation (CCDOA) raised the following concerns:

- The proposed action could affect public safety and airport operations at the Jean Airport, located three miles away.
- The analysis did not adequately describe the area of potential affect.
- The analysis provided was based on wind rose charts from Mountain Springs.
- Towable Light Towers could affect airport operations
- The analysis does not discuss conformance with FAA regulations14 CRF Part101 and Part

101.7 which describe operation of unmanned balloons and threats to public safety.

(See Appendix A for a summary of comments gathered during the open comment period.)

BLM has updated to EA to address concerns brought fourth, including clarifying areas in the document with more description or information.

Chapter 2. Proposed Action and Alternatives

2.1. Description of the Proposed Action:

The Rise Festival is a ticketed event managed and promoted by Ody Events. The Rise Festival would offer live music culminating with an evening firework display and the release of sky lanterns into the nighttime sky. The event would be held on Saturday, October 18, 2014 at the Jean Dry Lake, located near Jean, Nevada, approximately 35 miles south of Las Vegas.

BLM staff would be at the Rise Festival event to monitor compliance with the stipulations and conditions of any special use permit issued for the event, including public safety and fire, and ensure adherence to federal regulations is met. This would include staff from the BLM recreation program, law enforcement division and fire program. The BLM fire program staff would include Incident Command System (ICS) command personnel and have a Type III wild land firefighting engines on site.

The Ody Events would provide security personnel for the event and has contracted with Las Vegas Metro Police Department and Clark County Fire for support with public safety, security, traffic management and fire protection. Metro officers would be on hand to assist Ody Events security personnel for any major issues and would not act as the sole source of security for the event. Emergency Medical Services with an ambulance would be on hand would be hired by Ody Events to supervise the safety of the event.

The Rise Festival Event includes the following three elements.
Minor road maintenance of preexisting roads and parking areas before the event. To ensure that all vehicles can safely navigate to the venue on the lakebed without issue, certain sections of the dirt road would be graded. The primary area of concern is the initial drop and uneven ground adjacent to Knight Ranch Road. Less than 0.25 acres of existing access roads and parking areas would be smoothed with grading equipment prior to the event. BLM monitors would be present to ensure environmental resources are protected and grading is completed to BLM grading specifications.

Small-scale test event held approximately two weeks before the Rise Festival Event. The release of sky lanterns on BLM administered lands is new. As a condition of any permit BLM may offer, BLM would require a test event with approximately 200-300 lanterns. This test flight would be coordinated with FAA and CCDOA. The purpose of the test event is to ensure both Rise and BLM staff are adequately trained and prepared; as well as ensure public safety and resource protection measures are adequate. During the test event BLM would verify lantern burn time, flight behavior and drop locations are within expected parameters. Following a successful test event, BLM would issue a final notice to proceed for the main event

Rise Festival Event. The Rise Festival where participants would enjoy live music, a fire

work display, and release sky lanterns into the nighttime sky. Vendors would provide food and beverages. The maximum number of participants would be capped at 10,000 and the minimum would be 5,000. The number of participants would be controlled by prior ticket sales, no tickets would be sold at the event. The number of lanterns released would be capped at 21,000. Participants would arrive by busses departing from staging areas located at several major casinos. While the venue has a number of access points, the traffic control and parking plan that would be implemented for this festival would ensure that only ticketed spectators, vendors and staff are allowed access to the event.

The Rise Festival Event would be held on Jean Dry Lake. The Jean Dry Lake is located within the Roach and Jean Lakes Special Recreation Management Area (SRMA), managed by the BLM Las Vegas Field Office. The SRMA is an important area for off highway vehicle (OHV) recreation and permitted OHV activities, including competitive truck and buggy and motorcycle races. The SRMA receives an estimated one million casual users annually. Access to the event site is available via Las Vegas Boulevard and Knight Ranch Road using established roads. Busses would shuttle participants to the event from staging areas located at the Gold Strike Hotel & Casino in Jean, Nevada, and the Rio Hotel in Las Vegas, Nevada.

The Rise Festival venue including the concert, vendors, the firework display and lantern release would be held on the dry lake playa. The Jean Dry Lake Bed consists of a 1200 acre flat playa composed of compacted silt. The playa is devoid of vegetation. Sky lanterns would only be released on the playa. Under the atmospheric conditions stipulated for the event, the lanterns and are expected to fall back to the playa, traveling no more than one mile.

Maintenance of preexisting roads and parking areas before the event would take place approximately two to three weeks before the event. The test event would be held approximately two weeks before the Rise Festival Event. The test event would most likely be scheduled early during the week of October 6, 2014. As necessary an area closure of the area could be implemented during the test event.

While the Rise Festival is scheduled for Saturday October 18, 2014, should unfavorable weather conditions occur, such as rain or too much wind, the event would be delayed until Sunday, October 19, 2014, again pending weather conditions. An area closure would be implemented for the event starting at 6:00 am Friday morning and continue until Monday October 20 at 12:00pm. If the event is not delayed, the area closure would be lifted earlier on Sunday October 19 at 12:00pm. A tentative schedule of the October 18 event is provided in Appendix B. Lantern release would be approximately 30 minutes after sunset and continue until 9:00pm. Retrieval of lanterns and cleanup of the lake bed would continue overnight and the next day.

The most recent Operations Plan developed by Ody Events for the Rise Festival is included in Appendix C. The Rise Festival event includes pre-event, event and post-event stages. The details of each stage are summarized below.

<u>Pre-Event Activities</u>
Prior to the event, BLM, Ody Events and Cooperators and contractors would develop an Incident Action Plan (IAP) for the event. The IAP would be developed based on the

Incident Command System (ICS), which is a standardized on-scene incident management concept designed specifically to allow responders to adopt an integrated organizational structure equal to the complexity and demands of any single incident or multiple incidents without being hindered by jurisdictional boundaries. An ICS enables integrated communication and planning by establishing a manageable span of control. The BLM and other state and local agencies would use this system during the event to maintain control of the event and to ensure public health and safety. An event director from Ody Events would be assigned to manage all logistics and would be the main point of contact for all situations that may arise during the event.

The small scale test event would be used an opportunity to test the ICS and train Rise Festival staff. All event staff members and vendors are expected have a general knowledge of the venue, their role and responsibilities during the event as well as permit stipulations how to best protect the natural environment.

There would be a Clark County Fire Marshal on site during all hours of the event and during all clean up efforts to monitor the safety of all participants and to protect the venue. Two BLM Type III wildland firefighting crews would be present during the event.

Security would be stationed throughout the venue to ensure the safety of all participants. There would be a proposed emergency evacuation plan in place for event night. Included in Appendix D is the Rise Festival Emergency Mass Evacuation Protocol. The evacuation protocol covers some of the key components of spectator safety during the event. A final plan for crowd control, participant safety would be completed and approved by BLM prior to the event.

The flow of traffic would be facilitated by the reduction in traffic due to the use of buses. However, a comprehensive and professionally executed to ensure that traffic is properly managed. For parking on the gravel lot, cars would be permitted to pass under the Union Pacific Railroad tracks. To ensure a proper flow of traffic along Las Vegas Boulevard and Knight Ranch Road before, during, and after the event, the Rise Festival would work with a company that specializes in traffic management to develop a profession plan. The plan would be created in cooperation with NDOT and other appropriate departments. The plan would be finalized and approved by BLM prior to the event.

Safety of drivers on Las Vegas Boulevard and I-15 is a priority. The Rise Festival has been in contact with the Nevada Department of Transportation (NDOT) to discuss implications to traffic on both Las Vegas Boulevard and I-15. At the current time, NDOT does not perceive an issue and is not requiring a permit. An official letter has been requested and that letter would be provided to the BLM as soon as it is available. The Rise Festival has also made contact with Clark County for approval on the event. The county does have a formal permit process for the event and that permit is being worked currently. Upon receipt of the permit from Clark County, a copy would be delivered to the BLM. Additionally, the Rise Festival would take the following precautions to guard against incident along Las Vegas Boulevard and I-15

Public health and safety of those attending the event is a concern. Rise staff members would be situated throughout the venue to assist with lantern lighting and to ensure the

safety of participants. Portable toilets would be brought in and placed strategically throughout the venue. Lighting would be utilized along Knight Ranch Road where cars would exit onto the dirt roads. The entrance and exit points onto the lakebed would be lit with Towable Light Towers (portable trailers with a generator and light poles) to ensure visibility of both attendees and parking attendants. The lighting for key intersections, entrance and exit points would be part of the traffic management plan that would be professionally developed and submitted to NDOT for review and approval. The final plan would be finalized and approved by BLM prior to the event. The Rise Festival would provide parking attendants as part of the traffic control plan to ensure that attendees park in the proper areas.

Event Activities

In addition the concert and vendors, the Rise Festival would include fireworks and the release of up to 21,000 balloon lanterns. These activities would occur on the dry lake playa. All fireworks would be discharged in accordance with permits issued by Clark County and under the supervision of the Clark County Fire Marshall. Release and recovery of the lanterns would occur on the dry lake playa and it perimeter. While the lanterns are biodegradable, lanterns would be picked up, removed from the playa, and not allowed to decompose in the environment (see post event activities section below)

Each participant will be provided with two lanterns, an additional 1000 lanterns would be available for purchase and release. No more than 21,000 lanterns would be released. Participants would not be allowed to take unreleased lanterns away from the event. BLM and Rise social media and press releases for the event would stress releasing sky lanterns on public lands is regulated through a permit system. In addition, media releases would stress all spent lanterns will be removed from public lands after the event.

The lanterns consist of both a fuel cell and a balloon. The fuel cell would be fueled by paraffin wax. There is one fuel cell per lantern. The fuel cell generates heat, which is what creates rise in to the atmosphere. Lanterns are approximately 24 inches in diameter and 40 inches in height and require three to four people to launch. The lantern design, specifications and anticipated flight characteristics are included in Appendix E. Lantern release would be approximately 30 minutes after sunset and continue until 9:00pm. Not all lanterns would be released at the same time. After the initial synchronized launch, participants would be allowed to continue lighting their remaining sky lanterns. Rise anticipates the first launch would include approximately 2,750 lanterns.

Lanterns would only be launched during appropriate atmospheric conditions. BLM and Rise staff would monitor climatic conditions during the entire event. Lanterns would not be released if wind speeds and gusts are above 10 mph. During a previous test on Jean Dry Lake where the wind speed was 2.4 mph the lanterns traveled distances ranging between 0.2-0.3 miles. With wind speeds at 10mph, the estimated maximum travel distance is 1 mile. Historically, evening wind speeds in October are 6 mph. At this speed, the lanterns are anticipated to travel an average distance of 0.6 miles. Historically, during the later half of October, winds travel in a northerly direction. Ody Event would position the launch area so that regardless of travel direction, the lanterns will land on the 1,200 acre lake bed and its perimeter. Based on Ody Events calculations for wind speeds and burn/flight time, the maximum anticipated travel distance and the anticipated landing area are all within a 1-mile radius of the launch point, this is within the perimeter of Jean Dry Lake.

The maximum elevation gain achieved by the lanterns is expected to be less than 3,000 ft above the ground. Jean Dry Lake is located at 2,789 ft Mean Sea Level (MSL); the maximum flight altitude is expected to be 5,789 ft. MSL. The rate of ascent determined by Rise by measuring the rate of ascent using Phantom Quadcopter Camera as it shadowed test lanterns. The average burn time for the proposed design is 7 minutes. The maximum altitude gain during 7 minute test flights was 770 feet, with a rate of ascent of 110 feet per minute. During a 10 minute flight the maximum elevation gain would be 1,100 feet. Air temperature, humidity and other factors and play a role in the rate of ascent, a 3000ft elevation gain will provide a safety buffer to account for these effects.

Lantern decent to earth is expected to occur over the playa. The fuel cell cools to the touch within a few minutes after the flame burns out. As it would take several minutes for the lantern to descend, it is anticipated the fuel cell would be cold when it touches down. The event would only occur under specific atmospheric conditions that would result in approximately 99 percent of the lanterns returning to the dry lake playa after the flame is extinguished. A map of the anticipated landing zone is shown in Appendix F. As mentioned in the test event section above , the test event would allow BLM, FAA and CCDOA to verify the lantern performance and flight characteristics are within anticipated parameters before a permit or notice to proceed is issued for the main event.

Monitors would be situated along both Las Vegas Boulevard and I-15 along a 2-mile stretch to observe and identify any lanterns drifting out of the area and alert mobile teams. Teams of BLM and Rise monitors using ATV's and pickup trucks would track and follow the lanterns is necessary to identify drop locations and observe any spot fires. If practical and safe, immediately after stray lanterns touch down, teams would retrieve them. It is not anticipated lanterns would travel toward Las Vegas Boulevard and Interstate 15, because the prevailing winds are typically to the north. If necessary, after the test launch a retrieval protocol may be developed. This protocol would be reviewed by both Las Vegas Metro and Nevada Highway Patrol and approved by BLM.

Post-Event

A janitorial crew of, approximately 500, Ody Events staff would be hired to work the night of the event, ensuring the proper disposal of spent lanterns, litter and trash. To minimize potential impacts to the existing vegetation and the tortoise burrows, the area will be "gridding" to ensure that all lanterns are properly disposed of. Each grid will be searched by foot crews. These individuals will stage in the area where the majority of the lanterns fall and will work throughout the night to retrieve and dispose of all lanterns. Any other trash or debris that they may find in the area will also be picked up and properly disposed of to ensure that the area is left in better condition than it was before the event. The following morning after the event, the event staff will return at first light to do a final sweep of the area to ensure that all lanterns and debris are picked up and disposed of properly. During night time cleanup operations, all event staff that are dedicated to the cleanup crew will have flashlights and high visibility trash bags to collect the lanterns and other debris. All night time cleanup crew members will be trained prior to the event about how to spot desert tortoise burrows and what avoidance should be practiced when one is encountered. When a cleanup crew member has filled their bag, they will walk to the nearest road approved by the BLM to drive on and the bag will be collected by crews in

trucks and brought back to trash receptacles which are removed within 48 hours after the event. Rise Festival is implementing a "Leave No Trace" program where the event location and the surrounding environment will be left in better condition than it was before the event. BLM will monitor clean up efforts.

2.2. Description of Alternatives Analyzed in Detail:

Under the no action alternative, the Rise Festival would not be held.

2.3. Alternatives Considered but not Analyzed in Detail

The BLM considered an alternative where the Rise Festival would be held but without the lighting of the sky lanterns. This alternative was not analyzed in detail because it would not meet the purpose of the event.

2.4. Conformance

The proposed action has been reviewed for and found to be in conformance with:

- 43 CFR 1610.5, BLM MS 1617.3
- Las Vegas Resource Management Plan (RMP), Record of Decision, (ROD), signed October 5, 1998
    - Objective RC-1: Ensure that a wide range of recreation opportunities are available for recreation users in concert with protecting the natural resources on public lands that attract users.
    - Management Direction RC-7-b: Permitted events will be allowed only on previously disturbed areas in tortoise habitat, existing roads, trails, and dry washes.

Chapter 3. Affected Environment:

Included in Table 3.1 below is a summary of scoping comments from BLM staff. Resources and Resource Uses that are present and may be affected that require more detailed analysis include: Geology and Mineral, Fuels and Fire Management, Threatened and Endangered species, Migratory Birds and Wildlife. Discussion of potential impacts is discussed in Chapters 3 and 4.

In response to comments received by FAA, and CCDOA during review of the draft EA. The impact of the proposed action on Flight and Airport Operations are also discussed and analyzed:

Table 3.1 BLM staff scoping comments.

Supplemental Authority	Not Present	Present/ Not Affected	Present/ Maybe Affected	Rationale
Air Quality		X		Road maintenance activities will be less than 0.25 acre, no permitting will be necessary.
Area of Critical Environmental Concern (ACEC)	X			Resource not present.
Cultural/Historical	X			There will be no new surface disturbance. This action not subject to Section 106 review.
Environmental Justice	X			Minority or low-income communities are not present in project area.
Farmlands Prime or Unique	X			Resource not present.
Geology / Mineral Resources/Energy Production			X	Carried forward for analysis.
Noxious Weeds/ Invasive Non-native Species		X		Vehicular travel may increase the risk of introducing and new noxious weeds. This risk will be minimized by applying BLM weed stipulations that include vehicle inspections and equipment washing as necessary to prevent bringing weed seed onto BLM lands.
Native American Religious Concerns		X		No new surface disturbance is proposed in association with this undertaking. Any visual or audible impacts to properties of religious or traditional significance will be short-term and temporary. No impacts are anticipated.
Floodplains		X		Participants will remain on existing roads and trails and will stage in existing disturbed areas. The project will only be authorized when there is no standing water on Jean Dry Lake.
Fuels/Fire Management			X	Carried forward for analysis.

Recreation		X		The project will increase and diversify recreation opportunities on public lands. There would be substantial benefits to the recreational experience of the participants, as well as an economic benefit to the towns of Jean and Las Vegas NV. The project would be in conformance with the RMP.
Riparian/Wetlands				Resource not present.
Threatened, Endangered Species.			X	Carried forward for analysis.
Migratory Birds			X	Carried forward for analysis.
Waste –Hazardous/ Solid		X		No hazardous/Solid Wastes will be generated, waste will be collected and disposed of as a condition of the project approval.
Water Quality		X		Participants will remain on existing roads and trails and will stage in existing disturbed areas. Jean Dry Lake will only be used when it is dry.
Wild & Scenic Rivers	X			Resource not present.
Wilderness	X			Resource not present.
Wildlife			X	Carried forward for analysis.
Forests and Rangelands (HFRA only)	X			Resource not present.
Human Health and Safety.		X		The threat to human health and safety is mitigated through the proposed medical and emergency evacuation plan.

3.1 Geology/Mineral Resources/Energy Production

There are several mine operations currently located in the Jean area. These operations use Night Ranch Road and Light Haul Road to access their mines. These roads are used for employee access and to transport equipment, supplies and material. Hours of operation for the mines using these roads are typically 6:00 am to 6:00 pm, Monday through Friday. However, during large construction jobs and when there is a high demand for their product, hours can be extended and the mines will remain open on the weekends. In addition, staging areas and spectator areas are located near existing mine sites. These mine sites contain valuable and potentially dangerous equipment and fuel.

3.2 Fuels and Fire Management

Jean Dry Lake is located mostly within the Fire Management Units (FMU) NV-05-01 Tortoise Moderate Density and NV050-18 Goodsprings-Primm. Jean, NV is about 3 miles southeast of Jean Dry Lake. I-15 is about 2 ½ miles west of Jean Dry Lake. About 8 miles to the northeast is NV050-05 Sloan NCA FMU and about 5 miles to the east is NV050-03 Tortoise ACEC South FMU. (See Appendix G for a description of both FMUs)

The overriding priority for all wildland fire actions is firefighter and public safety,

protecting natural and cultural resources, and restoring fire damaged ecosystems (BLM LVFO FMP, 2004). Due to human influences during the past century or more, wildfire now occurs in these desert plant communities with much greater frequency, size, and intensity. These fires are most typically wind driven and are also strongly correlated to ephemeral buildups of invasive annual grasses, primarily red brome.

3.2.1 Fire Ecology

Much of the area around Jean Dry Lake is in Fire Regime Group V and is in Condition Class 3 primarily due to invasive annual grass (BLM LVFO FMP, 2004). Wherever red brome and cheat grass dominate, the prevailing Condition Class is 3 due to the loss of key ecosystem components such as native species. The establishment of red brome and cheat grass in a wildland community fosters much more frequent fire return intervals by extending the time during which the vegetation community is susceptible to wildfire ignitions.

Fires are typically categorized on the basis of period of occurrence, size class, regime, and condition class. Wildfires can occur year-round in much of the Mojave region. For the planning area, the general fire season is usually May through October. The most critical fire conditions correspond with the hot summer period characterized by low moisture and midsummer thunderstorms. Included in Appendix H is a summary of fire weather and climate related impacts.

Fires are widely distributed in terms of frequency and severity. The weather and fuel structure in the planning area provide an opportunity for ignitions from frequent summer thunderstorms and human caused fires. About 12 miles to the northwest of Jean Dry Lake, in 2005 the Good Spring Fire burned 33,569 acres. However, most fires within the vicinity of Jean Dry Lake have been less than 0.1 acre. The table shows historic wildfires within a 5 mile radius of Jean Dry Lake (see table).

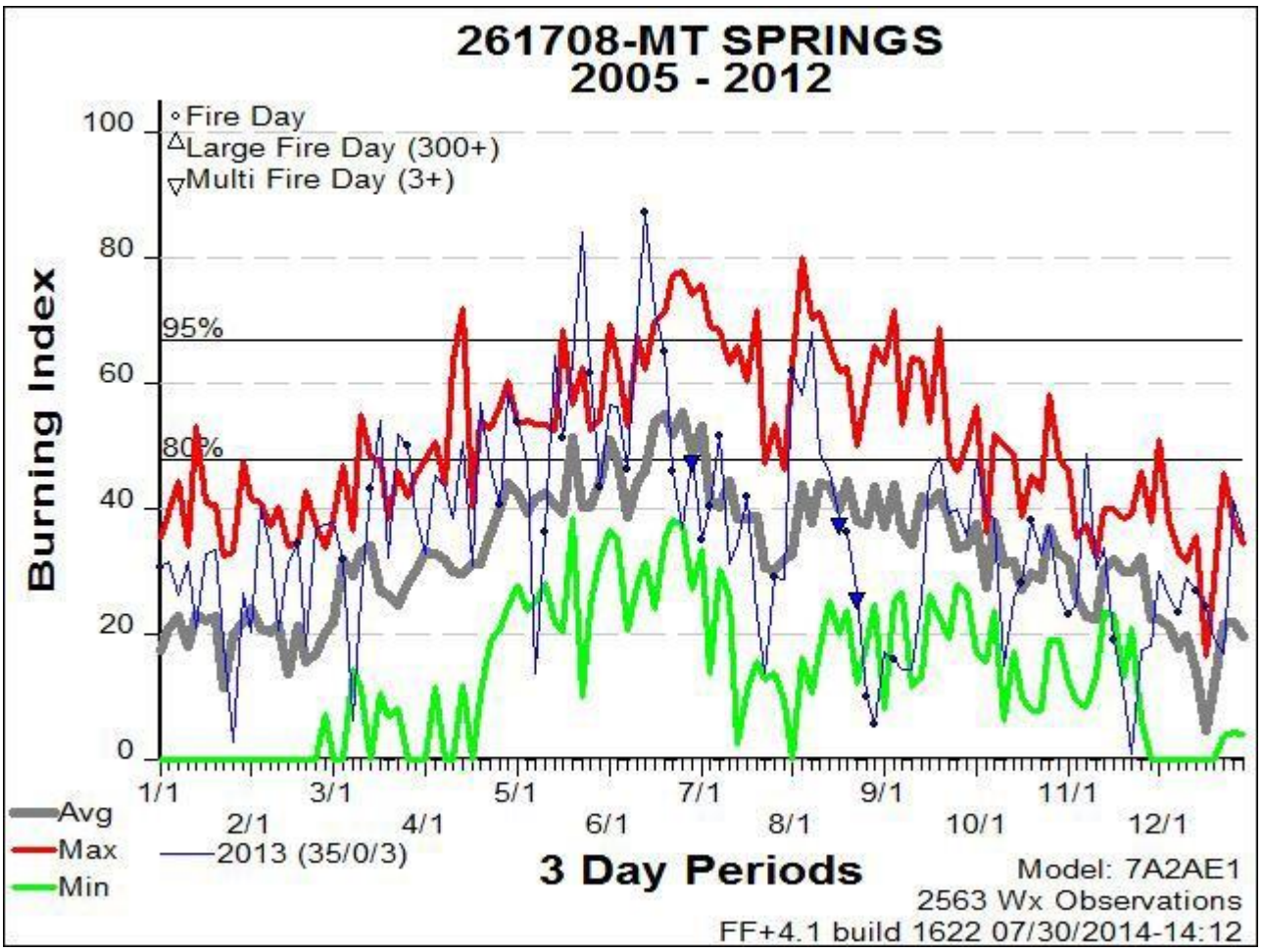
Table 3.2 Fire History of Jean Dry Lake area

Year	Number of Wildfires	Wildfire Acres
2000	2	1.1
2004	3	0.5
2005	2	6.1
2006	3	11.2
2009	1	0.1
2010	2	0.5
2011	1	3.6
2013	4	0.4
Total	18	23.5

3.2.2 Fire Danger

Seasonal fire danger varies according climatic and environmental conditions including air temperature, precipitation, relative humidity, wind speed, and wildland fuels. The National Fire Danger Rating System (NFDRS) utilizes fire weather station data to calculate fire danger indices like Burn Index (BI). BI is a number related to fire behavior and the effort needed to contain a fire. The Mountain Springs fire weather station is located about 20

miles northeast of Jean Dry Lake and station data was used in generating the following BI seasonal fire danger graph. The peak fire season in Southern Nevada usually occurs in June-July. Fire danger typically drops off during the monsoon season and into the fall/winter seasons. Fire danger during October is usually below critical fire danger thresholds however, fires can and are known to occur year round. No documented fires have occurred within a 5 mile radius of Jean Dry Lake in October on BLM lands. BI can increase in October but it varies according to seasonal weather conditions. The average Mountain Springs' BI around October 18 is about 30 but it can be higher or lower for NFDRS Fuel Model A-Western Annual Grass; depending on the local conditions (see graph).



3.2.3 Wildland Fuels

Wildland fuel conditions vary seasonally and annually in Southern Nevada and are dependent on climatic conditions. For 2014, multi-year drought conditions have increased fire danger in Southern Nevada. However, drought conditions also have resulted in less invasive annual grass (red brome, cheat grass, etc.) production. Less annual grass production means less fine, flashy fuels to carry fires. However, due to drought, many brush and timber species are at increased risk due to wildfire.

Jean Dry Lake is typically devoid of fuels. Currently, in areas adjacent to the Jean

Dry Lake, ephemeral annual grass loading has been observed as minimal. Less fine fuels can result in less chance for fire ignitions and fire spread. Native brush and grass species are present but the interspaces between native plants are relatively clear of burnable vegetation, resulting in less continuous fuels. However, these conditions could change based on local growing conditions and climate. August monsoons in 2012 and 2013 resulted in the growth of native grasses in some areas that cured and were available to burn in October. In 2010 and 2011, cool fall/winter precipitation resulted in increased growth of cheat grass and red brome. Cool season grasses typically don't cure until after March. Some annual grass fuels such as red brome can carry over into the next two fire seasons. There are stands of native grasses such as big galleta that could burn but the stands contain open interspaces in between individual plants.

Fuel moisture varies annually and seasonally. Dry fuels tend to readily ignite and result in increased fire intensity and severity. Current drought conditions have decreased fuel moistures to critical thresholds. Conditions in October will be dependent on seasonal climatic conditions. Seasonal monsoons in 2014 may mitigate drought conditions in some areas. Fall precipitation could also mitigate fuel moisture.

Much of the area surrounding Jean Dry Lake is devoid of ephemeral invasive annual grass and the interspaces between native brush and grasses are relatively clear. Less continuous fuels typically limit fire spread. For less continuous grass and shrub fuels, high wind spread can be a factor in fire spread. Observations indicate some wildland fuels are immediately are adjacent to proposed event area. See Appendix I for photo images that illustrate fuel conditions adjacent to Jean Dry Lake as of July 2014. The last photo indicates few adjacent areas do have fuels that are more continuous and more easily carry fire.

3.2.4 Weather

Precipitation in the form of wetting rain can reduce fire danger. However, in the Mojave Desert, improvements due to precipitation can be short-term. Hot and dry conditions are common in the Mojave Desert, even at night. Low relative humidity can result in increased probability of ignition and increased fire behavior. Increased relative humidity can reduce fire behavior relative to fine fuel and localized fire conditions. In particular, increased relative humidity can result in increased fine dead fuel moisture. Fine dead fuel moisture is a contributing factor in fire spread and calculated, in part, based on time of year, temperature, and relative humidity. Higher temperatures can contribute to increased fire behavior. Increased wind speed can contribute to increased fire behavior. Wind direction influences the direction of fire spread. See Appendix J for summarized weather data for weather stations near Jean Dry Lake.

3.2.5 FireBehavior

Fire behavior is comprised of weather, topography, and fuels. Weather, topography, and fuels are described in previous sections. Note steep slopes can contribute to increased fire behavior. The Jean Dry Lake area is generally flat. The dry lakebed is a barrier to fire. Fire risk can be extrapolated from expected fire behavior. Expected fire behavior can be modeled. Fire behavior models utilize inputs related to weather, topography, and fuels. Weather inputs can be generated from weather station data. Topography inputs can

generated from spatial data. Fuel inputs are based on fire behavior fuel models. Fire behavior fuel models are representative of wildland fuels or vegetation. Fire behavior and fire behavior fuel models are subject to model assumptions. For example, model outputs usually represent worst case scenarios. BEHAVEPlus and FLAMMAP fire behavior models were used to model potential fire behavior for the Jean Dry Lake area. See Appendix K for Modeled Fire Behavior for the Jean Dry Lake Area.

3.3 Threatened and Endangered Species

This project will be in compliance with section 7 of the Endangered Species Act of 1973 as amended (16 U.S.C. 1531 et seq.;) for consultation with the USFWS on effects to federally listed, proposed and candidate species. The above action has a may affect, likely to adversely affect determination for the threatened desert tortoise (*Gopherus agassizii*) and a no effect determination for its designated critical habitat, as the project is outside of this range. This determination is based on the size of the event, the number of people/vehicles involved, and the risk of fire. This project will have no effect on any other federally listed species or designated critical habitat due to absence of the species and/or habitat.

Threatened and endangered species are placed on a federal list by the U. S. Fish and Wildlife Service (USFWS) and receive protection under the Endangered Species Act of 1973, as amended. The only T&E species known to occur in the vicinity of the project area is the threatened desert tortoise (*Gopherus agassizii*).

In the Mojave region, the desert tortoise occurs primarily on flats and bajadas with soils ranging from sand to sandy-gravel characterized by scattered shrubs and abundant inter-shrub space for herbaceous plant growth. They are also found on rocky terrain and slopes.

The Jean Dry Lake bed is typically not inhabited by desert tortoise because of periodic flooding and lack of cover and forage. The area surrounding the dry lake bed in the project area is suitable desert tortoise habitat and historical survey data indicate the area ranges from very low to very high density tortoise habitat. Since tortoises have been found within ½ mile of the site and undisturbed habitat exists adjacent to the project site, there is potential for tortoises to be impacted by the proposed action from the large number of vehicles entering the site or at nearby staging areas. Desert tortoises could be either injured or killed (by crushing) by vehicles or harassed/harmed (by being moved out of harm's way).

3.4 Migratory Birds

Under the Migratory Bird Treaty Act of 1918 (MBTA) and subsequent amendments (16 U.S.C. 703-711), it is unlawful to take, kill, or possess migratory birds. A list of MBTA protected birds are found in 50 C.F.R. 10.13 (http://www.gpo.gov/fdsys/pkg/CFR-2012-title50-vol1/ xml/CFR-2012-title50-vol1-sec10-13.xml). The list of birds protected under this regulation is extensive and the project site has potential to support many of these species, including the BLM sensitive species the western burrowing owl (*Athene*

cunicularia hypugaea). Typically, the breeding season is when these species are most sensitive to disturbance, which generally occurs from February 15th through August 31st.

3.5 Wildlife

The proposed project area supports and is adjacent to lands that support wildlife characteristic of the Mojave Desert. Biological diversity varies according to topography, plant community, and proximity to water, soil type, and season. Several common species of reptiles that may be present in the vicinity of the proposed project site may include the western whip-tail (*Cnemidophorus tigris*), desert iguana (*Dipsosaurus dorsalis*), side-blotched lizard (*Uta stansburiana*), and zebra-tail lizard (*Callisaurus draconoides*). Common bird species that may be present in the vicinity of the proposed project site may include the black-throated sparrow (*Amphispiza bilineata*), turkey vulture (*Cathartes aura*), common raven (*Corvus corax*), and red-tailed hawk (*Buteo jamaicensis*). Common mammal species include black-tailed jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), coyote (*Canis latrans*), badger (*Taxidea taxus*), kit fox (*Vulpes macrotis*), and many species of rodents.

3.5.1 BLM Sensitive Wildlife

BLM sensitive species are species that require special management consideration to avoid potential future listing under ESA and that have been identified in accordance with procedures set forth in BLM Manual 6840. The following sensitive species are known to potentially occur within the area: western burrowing owl, chuckwalla, banded Gila monster, Mojave shovel-nosed snake, desert glossy snake, and Mojave Desert sidewinder.

Western burrowing owl (***Athene cunicularl hypugaea*****)**
The Western burrowing owl is a diurnal bird of prey specialized for shrub-steppe habitats. Burrowing owl habitat in the Mojave Desert typically consists of open, dry, treeless areas on the desert floor. Burrowing owls most frequently use mammal burrows created by other animals such as ground squirrels (*Spermophilus* spp.), coyotes (*Canis latrans*), or desert tortoises (*Gopherus agassizii*). The burrows are used for nesting, roosting, cover, and caching prey. In recent decades, the range and species count have been declining primarily due to agricultural, industrial, and urban development that reduce burrow availability.

Western chuckwalla (***Sauromalus obesus*****)**
The western chuckwalla is a BLM sensitive species that is found throughout the Mojave Desert. Chuckwallas inhabit rocky outcrops where cover is available between boulders or in rock crevices, typically on slopes and open flats below 5000 feet. Typical habitat includes rocky hillsides and talus slopes, boulder piles, or other clusters of rock, usually in association with Mojave Desert Shrub vegetation. This species requires shady, well-drained soils for nests. The chuckwalla is a widespread species, but is regionally limited by its requirement for rock outcrops. Chuckwallas likely occur within the project area, but would be localized on rock outcroppings.

Banded Gila monster (***Heloderma suspectum*****)**
The Gila monster is a large, heavy-bodied lizard with a massive head, a short thick tail,

and short limbs with strong claws. It has flamboyant dorsal coloration of black and pink, orange, or yellow and occasionally exceeds 50 centimeters (19.7 inches) in total length. The Gila monster's range includes southern Nevada. Its habitat includes Mojave Desert scrub, desert grassland, and thorn scrub. Threats to this reptile include illegal collection, traffic fatalities, and most severe is habitat destruction from urban and agricultural development.

Mojave shovel-nosed snake (***Chionactis occipitalis occipitalis***)
The Mojave shovel-nosed snake is a burrowing, nocturnal snake frequenting washes, dunes, sandy flats, loose soil, and rocky hillsides in sandy gullies or pockets among the rocks throughout the Mojave Desert.

Desert glossy snake (***Arizona elegans***)
The desert glossy snake is a burrowing, nocturnal snake that occurs in a variety of habitat throughout the Mojave Desert including light shrubby to barren desert, grasslands and woodlands. The desert glossy snake generally prefers open areas where the ground is sandy to loamy.

Mojave Desert Sidewinder (***Crotalus cerastes cerastes***)
The Mojave Desert sidewinder is a nocturnal snake hiding in the day in animal burrows or coiled camouflaged in a shallow self-made pit at the base of a shrub. This species is most common where there are sand hummocks topped with creosote bushes, mesquite, or other desert plants but may also occur on flats, barren dunes, hardpan, and rocky hillsides.

3.6 Flight and Airport Operations

Two general aviation facilities are located in the project are and could be affected by the proposed action. The Jean Sport Aviation Center (Jean Airport) is located approximately three miles south west of Jean Dry Lake, in the town of Jean, Nevada. Jean Airport is a general aviation facility typically used for fly-ins and recreational aviation including general aviation aircraft, aerobatic aircraft, gliders, ultralights, and skydiving. Henderson Executive Airport is located in Henderson, Nevada approximately 15 miles northeast of Jean Dry Lake. Henderson Executive is a reliever airport for McCarran International Airport. Both Jean and Henderson executive airports are public, owned by Clark County and operated by CCDOA.

Chapter 4. Environmental Effects:

4.1 Direct and Indirect Effects:

4.1.1 Geology/Mineral Resources/Energy Production

Night Ranch Road and Light Haul Road will be closed to all traffic except for authorized personnel during the proposed event. These closures will prevent mine operators, employees and business partners from accessing the mines, effectively shutting the mine down for the duration of the event. As these mines operate on nights and weekends during times of high demand
for their product, these mines, their employees and their partners may be adversely affected by this action. The negative effects could include the loss of sales, loss of production, loss of deliverables, loss of labor hours, etc.

The proposed events will also bring groups of people within close proximity to existing mine sites. As the mines might not have any personal on site during the events there is potential for event participants and spectators to enter the mine sites. This could lead to damage of the mine operators equipment and facilities, theft, injury to the intruder, etc.

4.1.2 Fuels and Fire Management

The proposed action does include wildfire minimization measures such as only releasing sky lanterns under certain weather conditions, engineering the sky lanterns and planning the event to reduce the risk of wildfire. The proponent's goal is to prevent wildfires that could be caused by the planned activities.

While many wildfire concerns can be minimized, mitigated or planned for, the fireworks or up to 21,000 sky lanterns could be potential ignition sources that could start a wildfire on BLM lands. Weather and winds can be forecasted but as is commonly known, weather and winds can be unpredictable. Sky lanterns could drift or be blown off course or some sky lanterns may not operate as planned and cause a fire on BLM public lands. Fireworks are commonly known to start fires on BLM public lands. A member of the public attending the event could inadvertently cause a sky lantern to malfunction or accidently or purposely start a fire. As a result factors or variables that effect wildfires need to be considered to assess possible environmental effects.

4.1.2.1 SeasonalFireDanger

The proponent is planning the event outside of seasonal fire restrictions. The project proposal is for the fall where seasonal fire danger is usually below critical fire danger thresholds. At lower fire danger levels, wildfire risk is decreased.

If the proposed activity were to be carried out under increased fire danger conditions then the potential for a wildfire would also increase. In the Mojave region, fires can occur year round. Seasonal fire danger can vary.

4.1.2.2WildlandFuels

The proponent is planning the event on Jean Dry Lake which is essentially devoid of fuels. The proponent expects most if not all lanterns will land within the dry lakebed. In this case, there would be little to no threat of wildfire.

However, there are fuels present on adjacent lands that could burn if sky lanterns drift off course or are blown off course or fail to operate as expected.

Drought conditions have resulted in decreased fuel moisture. Drought conditions have resulted in less invasive annual grass production. Fuel continuity on adjacent lands is variable and some areas may not easily support fire spread or are devoid of fuels. Some areas may be able to support fire spread. Currently, wildfire risk due to fuels is reduced because of less invasive annual grass.

Fuels change seasonally and annually in the Mojave region. If fine fuel loading were to increase then then the potential for a wildfire would increase.

4.1.2.3 ProbabilityofIgnition(PIG)

Up to 21,000 sky lanterns, fireworks or related activities could cause a wildfire on BLM public lands. However, the proponent is planning the event on Jean Dry Lake which is essentially devoid of fuels. The proponent expects most if not all lanterns will land within the dry lakebed. In addition, a BLM Type III Wildland firefighting team will be on site during the event to control any lantern ignited fires.

There are fuels present on adjacent lands that could burn if "hot" fireworks or sky lanterns drift off course, are blown off course or fail to operate as expected. The expected flight distance of the sky lanterns is up to 1 mile and according the proponent, "for the last half-mile of the lanterns' flight path, the lanterns will be inert with no flame and no fire hazard." The proponent expects most if not all lanterns to be cool to touch when they land.

The proposed activity is planned for nighttime in October where lower temperatures and increased relative humidity will result in lower PIG. Wetting rain on fuels can reduce PIG however, the effects are generally short in duration in the Mojave region.

If hot and dry conditions occur during the planned activities then the PIG would increase and could result in increased chance of an ignition.

4.1.2.4 Weather

Air temperature and relative humidity would be expected to be at seasonal levels however, variations are possible. Rain and cloud cover can also lower temperatures and increase relative humidity. Lower seasonal temperatures and higher relative humidity generally result in reduced fire danger.

Wind speed of 10 mph or greater is known contribute to fire spread in the planning area. The proponent is planning the proposed activity for wind speeds of 10 mph or less to mitigate sky lantern travel. At wind speeds of 10 mph or less fire danger is less.

Wind direction has some uncertainty. Because the planned activities are at night, diurnal wind patterns may establish sometime after sunset. Nighttime winds can be less. When and where the lanterns are launched, wind speed and wind direction will result in where

the lanterns ultimately land.

Jean Dry Lake is ovoid in shape and the long axis runs roughly southwest to northeast for about 2 miles. The opposing axis is a little over 1 mile wide. Depending on the launch location, wind speed, and wind direction lanterns could land outside of the Jean Dry Lake bed.

The sky lanterns are expected to go as high as 3000 feet above ground level. The wind profile can be variable by elevation and could result in changes direction and speed which can result in lanterns landing in unexpected locations.

The current expected burn out time for the lantern fuel cell is 7 minutes and expected distance of travel while "hot" is 0.7 miles. The expected flight distance of the sky lanterns is up to 1 mile and according the proponent, "for the last half-mile of the lanterns' flight path, the lanterns will be inert with no flame and no fire hazard." The proponent expects most if not all lanterns to be cool to touch when they land. Lanterns that fail to operate as expected are expected to fall within Jean Dry Lake Bed.

Winds over 10 mph could result in sky lanterns landing outside Jean Dry Lake. Changes in wind direction or a less than optimal wind direction could result in lanterns landing outside Jean Dry Lake. Launching the lanterns in a less than optimal location with respect to wind direction could also result in lanterns landing outside Jean Dry Lake. Sky lanterns in the I-15 corridor or landing in Jean, NV would be a significant concern.

4.1.2.5 FireBehavior

The lakebed is mostly devoid of fuels and acts as a barrier to fire. Roads or barren areas adjacent to Jean Dry Lake will also act as barriers to fire. Areas with very little fuel or discontinuous fuels may be resistant to fire spread.

For seasonal or expected fire danger and low wind speeds, in the event of a wildfire, flame lengths and rates of spread would be less than where fire danger is above expected or average seasonal conditions.

In the event of a wildfire, higher than expected wind speeds could result in increased fire behavior. Wildfires occurring in continuous fuels such as black brush or pinyon/juniper could exhibit increased flame lengths and rates of spread due to drought conditions. Based on historic fires that have occurred within a 5 mile radius of Jean Dry Lake, fires have been less than 0.1 acre with
the largest being 11.2 acres. No BLM fires within the 5 mile radius have been documented as occurring in October.

4.1.2.6 WildfireEffects

Where no wildfires occur there will be no wildfire effects. If a wildfire were to occur and conditions were not present for active fire spread, minimal wildfire effects would be expected.

If a wildfire were to occur and conditions were present for active fire spread, WUI or resource values could be threatened, damaged or destroyed. A wildfire under these conditions could threaten Jean, NV and the I-15 corridor. Smoke from a wildfire could impact the event participants, Jean, NV and the I-15 corridor. Desert tortoise habitat could be impacted. Wildfire impacts could be costly and require emergency

stabilization, rehabilitation and restoration. Suppression actions could result in resource damage and high costs. Special status lands are nearby to the project area. If a wildfire became established and burned into a special status area impacts and costs would be increased.

4.1.2.7 FirePreventionandSafety

Sky lanterns that land in the Jean Dry Lake or land and are "cool to the touch" would likely not result in a wildfire. Fireworks that remain within Jean Dry Lake area would not likely result in a wildfire.

Participants and members of the public could accidently or purposely start a wildfire. Fireworks or lanterns that fail or land in unexpected locations and are "hot" could start a fire and threaten public and fire fighter safety.

In the event of a wildfire, wildfire situations can evolve quickly, can be dynamic and can result in threats to public and fire fighter safety.

Lantern failure or variables effecting lantern performance such as increased wind speed or changes in wind direction could result in decreased public safety, including the I-15 corridor and Jean, NV. Improper use of the sky lanterns or ignition devices by the public could result in decreased safety. Failed or malfunctioning fireworks could result in decreased public safety.

4.1.2.8 Measures to Taken to Minimize Potential for Wildland Fire

Precautions will be in place to avoid a fire. These precautions include, but are not limited to, the following:

Training – Training will be provided to all personnel associated with the event. This training will include how to properly light the lanterns, how to extinguish the lanterns, what to do if a lantern does not take flight, etc. Roughly 99% of the lanterns do not come down until the fuel cell and the fire have burned out. In the rare cases that the lanterns come down while still lit, it is due to a failure with the lantern and they typically descend within minutes making it easier to contain them and keeping them off of major roads and away from vegetation.

Lantern Testing – Extensive testing will be performed on the lanterns to ensure that the proper fuel cell is used. The proper fuel cell is vital to ensure that the lanterns receive the proper lift but that the cell burns out before the lanterns travel outside of the designated area, including Las Vegas Boulevard and I-15. The Rise Festival has already begun testing and believes that it can utilize a fuel cell that will limit travel to the dry lake bed only even in a 10 mph wind.

Wind Testing – As part of the operating plan, the Rise Festival understands that should wind speeds exceed 10 mph, the BLM may determine that it is unsafe to light the lanterns. The Rise Festival intends to perform various tests on the lanterns prior to the event to understand the impacts of wind on the lanterns. The data that is accumulated will be shared with the BLM to assist all parties in understanding the wind speeds at which it would become necessary to cancel the lighting of the lanterns. As stated, the Rise Festival does not intend to put the attendees or the natural environment at risk.

Fuel Cell Testing – The Rise Festival will design a fuel cell with a maximum burn time of

6–8 minutes. At winds up to 10 mph, this allows for a maximum travel distance of 1.5 miles. If there is a failure that brings the lantern down while the fuel cell is still lit, it will land considerably sooner than the maximum 6–8 minutes of flight time. Given that the festival will be positioned on the downwind side of the lakebed, approximately 100% of all lanterns that descend prematurely will land in the safe zone on the lakebed. As such, it will be easy to spot and recover these as they will be glowing and Rise personnel can respond quickly to ensure safety. For those lanterns that successfully take flight, once the fuel cell is exhausted, the fire burns out and the lantern begins a slow descent. At this point, the lantern is no longer a fire hazard. Based on recent testing, the Rise Festival is confident that it can keep the total flight distance to less than 1 mile. For the last half-mile of the lanterns' flight path, the lanterns will be inert with no flame and no fire hazard.

4.1.2.8 Fire Suppression and Financial Responsibility

The Rise Festival understands that if a permit is issued and a wildfire were to start as a result of the event that the BLM would be in charge of putting out the fire and that the Rise Festival would be responsible for the costs incurred.

4.1.3 Threatened and Endangered Species

Since tortoises have been found within ½ mile of the site and undisturbed habitat exists adjacent to the project site, there is potential for tortoises to be impacted by the proposed action from the large number of vehicles entering the site or at nearby staging areas. Direct impacts to tortoises could be injury or death (by crushing) by vehicles, harassment/harm (by being moved out of harm's way), or loss of habitat or life by fire.

Lanterns may be blown miles away from the Jean Dry Lake bed. Lanterns that are not found and picked up may be blown into burrows or litter tortoise habitat for numerous years until the materials break down. Lanterns that reach the ground while still burning or with glowing embers may ignite vegetation. Any fire through creosote-bursage vegetation will create major loss of desert tortoise habitat as well as loss to individual tortoises caught in the fire. Creosote-bursage communities are susceptible to *Bromus* establishment post-fire, which increases the flammability of the vegetation, thereby increasing the chances of large fires. Fire significantly reduces shrub richness and diversity regardless of time since fire.

Ingress and egress to the dry lake bed area will be restricted to 1-2 designated roads only, and the speed limit for the event will be 15 mph on the road entering/exiting the site per the terms and conditions of the biological opinion. A desert tortoise monitor will be required to be on-site and assist with any issues that arise with desert tortoises and inspect roads prior to vehicles entering the project area, per terms and conditions 1.d. A monitor will not be necessary to be
on-site as vehicles exit the area, since it will be at night while tortoises are in their burrows. A desert tortoise monitor must be present while using any heavy equipment (e.g., for grading), per terms and conditions 1.f. All staging and parking areas for vehicles will need to be on the dry lake bed or in other disturbed areas typically used for event parking, and vehicles in these staging and parking areas will check underneath them for tortoises before moving them. If a desert tortoise is observed in the road, all activities will cease until the desert tortoise has moved to a safe area on its own, per 1.d. of the terms and conditions.

Section 7 Consultation for this project will be covered under the Programmatic

Biological Opinion (84320-2010-F-0365.R002) contingent on compliance with the terms and conditions. Terms and conditions and minimization measures in the above Biological Opinion contain measures to reduce potential impacts, including take, to desert tortoise. A copy of the terms and conditions has been uploaded to ePlanning (Sec 7 Log # NV-052-14-166). This notice will serve as the Section 7 Determination and no additional paperwork will be provided.

4.1.4 Migratory Birds

Migratory birds, including the BLM sensitive species the western burrowing owl (*Athene cunicularia hypugaea*), may be present in the project area.

Lanterns may be blown miles away from the Jean Dry Lake bed. Lanterns that are not found and picked up may be blown around or litter migratory bird habitat for numerous years until the materials break down. Lanterns that reach the ground while still burning or with glowing embers may ignite vegetation. Any fire through creosote-bursage vegetation will create major loss of migratory bird nesting habitat as well as a potential loss to individual ground-dwelling birds caught in the fire. Creosote-bursage communities are susceptible to *Bromus* establishment post-fire, which increases the flammability of the vegetation, thereby increasing the chances of large fires. Fire significantly reduces shrub richness and diversity regardless of time since fire.

4.1.5 Wildlife

Although there is no new surface disturbance of wildlife habitat associated with this project, wildlife species may be found on the adjacent undisturbed lands and could wander into the proposed project area. The primary direct impact of the proposed action on wildlife would be mortality resulting from vehicles.

Lanterns may be blown miles away from the Jean Dry Lake bed. Lanterns that are not found and picked up may be blown around or litter wildlife habitat for numerous years until the materials break down. Lanterns that reach the ground while still burning or with glowing embers may ignite vegetation. Any fire through creosote-bursage vegetation will create major loss of wildlife habitat as well as a loss to individual mammals, birds, and reptiles caught in the fire. Creosote-bursage communities are susceptible to *Bromus* establishment post-fire, which increases the flammability of the vegetation, thereby increasing the chances of large fires. Fire significantly reduces shrub richness and diversity regardless of time since fire.

4.1.5.1 BLM Special Status Wildlife

The direct impacts of the proposed action on western burrowing owl, chuckwalla, banded Gila monster, Mojave shovel-nosed snake, desert glossy snake, and Mojave Desert sidewinder would be loss of nesting habitat and forage and mortality and harassment of individual animals.

4.1.6 Flight and Airport Operations

After launch, under authorized launch conditions, the lanterns would be expected to travel

no more than one mile from the launch point, this would be within the perimeter of Jean Dry Lake. Jean Airport is located three miles to the southwest and Henderson Executive Airport is located approximately 15 miles to the northeast. Because of the distance to both airports, Rise Festival lanterns are not expected to reach either facility and would not be expected to interfere with airport operations.

The runway approach for Jean Airport is over Las Vegas Boulevard and Interstate 15 approximately 2 miles east of the anticipated lantern flight path. The Jean Airport is a lighted airport; lights can be activated by pilot action (radio controlled) and there can be aviation activity at night. Therefore, the proposed action may affect flight activities into the Jean Airport.

Jean Dry Lake is in the approach path for Henderson Executive Airport. Under authorized launch conditions, the lanterns would be expected to have a maximum elevation gain of less than 3,000 feet, likely closer to 770 feet. Including a buffer for safety and calculation error, lanterns would be expected to fly no higher than 5,789 feet above Mean Sea Level (MSL). Planes on approach to Henderson Executive are typically flying at an altitude of 7289 feet MSL or above when crossing the Jean Dry Lake area. Because of this altitude, Rise Festival lanterns would not be expected to interfere with Henderson Executive flight operations.

The BLM consulted with the Clark County Department of Aviation (CCDOA), which expressed its concerns that the Light Towers and lanterns may create aviation hazards and recommended consultation with the Federal Aviation Administration (FAA).

Based upon the representations made by the project proponent, FAA issued a letter on September 10, 2014, concluding that the project poses no unacceptable risk to operations at the Las Vegas Terminal Radar (Approach) Control Facility (i.e., within controlled airspace). FAA also concluded that a Notice to Airmen (NOTAM) will be issued for the event and requested that the TRACON be notified thirty (30) minutes prior to launch and when the event has terminated.

Based on the information provided by the project proponent and the ensuing analysis by FAA, CCDOA is unaware of any adverse effect to any Department of Aviation property and is also unaware of anything missing from the analysis or upon which to base any objection.

4.2 Cumulative Effects

4.2.1 Geology/Mineral Resources/Energy Production

The proposed action is short term in nature. No cumulative impacts to the ability of mining operations to access the operations are expected.

4.2.2 Fuels and Fire Management

If a wildfire were to occur under conditions of little to no spread potential, cumulative impacts would be minimal but would contribute to the short term loss of values and ecosystem function in the area. Fire regime condition class in the area probably would not be affected.

If a wildfire were to occur under conditions where active fire spread is possible, cumulative impacts would be considerable as it would result in short and long term loss of values and further degrade fire regime condition class in the area.

The proposed action is likely to enhance the public's interest in using sky lanterns or similar devices which could result increased human caused wildfires on BLM public lands. Increased human caused fires would result in increased short and long term loss of values and ecosystem function; resulting in a worsening of fire regime condition class.

4.2.3 Threatened and Endangered Species

Permitted events may increase the potential for direct and indirect effects on desert tortoises and sensitive species as well as the degradation of potential habitat. Other types of recreation may increase as a result of bringing more people into the project area, including target shooting, hiking, and camping. Any increase in human activities in the project area would increase the potential
for take of desert tortoise and/or sensitive species through intentional or unintentional killing, degradation of habitat, spread of weeds, and increase in the risks of wildfires, vandalism, and trash dumping, and poaching. Under current conditions, effects associated with the proposed event would occur in a small portion of the overall habitat available for desert tortoise and sensitive species and State of Nevada and BLM land use restrictions should reduce or mitigate potential cumulative effects to species associated with this event.

4.2.4 Migratory Birds

No cumulative impacts to migratory birds are expected.

4.2.5 Wildlife

Where wildfire does not occur there will be no cumulative impacts due to wildfire.

4.2.6 Flight and Airport Operations

The proposed action is temporary in nature, no cumulative impacts are expected.

Chapter 5. Mitigation Measures

5.1 Geology/Mineral Resources/Energy Production

All mining operators must be contacted by the proponent and notified at least 30 days before the event takes place. The proponent is responsible for telling the mining operators that Night Ranch Road and Light Haul Road will be closed to nonevent related traffic. Contact a BLM Recreation Specialist for a complete list of mining operators.

The proponent is responsible for ensuring that participants in the event and spectators do not enter any mine sites provided in the list of mining operators.

The proponent will allow mine personal through road closures so that they may access their mine sites during the event, however, the proponent will not allow dump trucks, haul trucks, heavy equipment, etc. to cross the road closers during the event.

5.2 Fuels and Fire Management

Coordinate with the BLM on wildland fire safety.

Work with the BLM to obtain a spot weather forecast from the NWS for the day of the event.

Consult with the BLM on fire danger and fuel conditions two weeks prior to the event.

In the event of a wildfire, coordinate any emergency mass evacuation with the BLM wildfire Incident Commander to ensure public safety.

5.3 Threatened and Endangered Species

The terms and conditions identified in the biological opinion under which this event is authorized will be required as mitigation measures and permit stipulations.

5.4 Migratory Birds

There are no project specific mitigation measures for migratory birds.

5.5 Wildlife

There are no project specific mitigation measures for wildlife.

5.6 Flight and Airport Operations

Las Vegas Federal Aviation Administration TRACON has requested notification be provided. The project proponent must notify TRACON thirty (30) minutes prior launch and when the event has terminated.

Chapter 6. Tribes,Individuals, Organizations, or Agencies Consulted:

Table 6.1. List of Persons, Agencies and Organizations Consulted

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
US Fish and Wildlife Service	Section 7 consultation	B.O.#. 84320-2010-F-0365.R002
Rise Festival LLC	Project Proponent	
Clark County Fire Department	Coordination on the event.	
Clark County Department of Aviation	Coordination on the event.	
Clark County Public Works	Coordination on the event.	
Las Vegas Metropolitan Police Department	Coordination on the event.	
Nevada Highway Patrol	Coordination on the event.	
Federal Avation Administation	Coordination on the event.	

Chapter 7. List of Preparers

Table 7.1. List of Preparers

Name	Title	Responsible for the Following Section(s) of this Document
Lisa Christianson	Air Quality Specialists	Air Quality, HazMat
Carla Wise	Wildlife Biologist	Wildlife, T&E Species
Evan Allen	Geologist	Geology, Minerals, Mining
Fred Edwards	Botanist	Vegetation, Rangeland, T&E Species, Grazing
Krystal Johnson	Wild Horse & Burro Specialist	WH&B
Randy Kyes	Wilderness Specialist (former)	Wilderness/WSA
Ben Klink	Weeds Specialists	Weeds, Fuels
Randy Kyes	Wilderness Specialist (Great Basin Institute)	Wilderness, WSR,
Chris Linehan	Outdoor Recreation Planner	SRP Lead, Recreation, Travel Management
Stan Plum	Archeologist	Cultural, Paleo
Boris Poff	Hydrologist	Hydrology, Water Quality, Riparian, Soils
Kerri-Anne Thorpe	Realty Specialist	Lands/Access

Appendix A: Summary of Public Comments Received During Public Review

BLM received a total of 39 comments during the 30 day public review period for the draft EA. Comments centered on five concerns, litter, fire wildlife , why BLM is considering and processing an SRP request for the event application and comments in favor of the project. Included in the table below is a tally of the public comments received by concern. Each concern is discussed in detail as part of the decision record. To address public concerns regarding litter more detail was provided in the project description. The issues of Fire and Wildlife are addresses in the EA analysis.

Concern	***Number of Comments***
Litter	28
Fire	25
Wildlife	13
Why are we considering	8
Supportive Comments	5

Appendix B: Tentative Rise Event Schedule:

The RiSE Festival Timeline for the 2014 event will be as follows:

5:15-6:15 – Arrival window for participants (music will be playing and participants will be able to purchase food and beverages)
6:15-7:30 – Live music and lantern decorating
7:30-7:45 – First launch of lanterns (synchronized release)
7:45-9:30 – Lantern launching continues while music plays
9:30 – Last call for lanterns
9:45 – Fireworks (10-12 fireworks)
9:50 – House lights come up and departure bussing begins.
11:00 – Final bus departs

Appendix C: Rise Operations Plan

RiSE

LANTERN FESTIVAL

Updates to RiSE Operating Plan

Prepared For: Shonna Dooman
Bureau of Land Management
Shonna_Domman@blm.gov

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Rise Festival
jeff@risefestival.com
801-362-1694

Table of Contents

Executive Summary

This document is being presented to address key points of interest that arose during the joint meeting that was held in Las Vegas on May 21, 2014.

Section A: Spectator Transportation Plan

A.1 Plan for Buses

Based on the BLM's recommendation, all spectators will be bussed to the dry lakebed. Participants will drive to one of the following pick-up locations:

- Gold Strike Hotel & Casino
- Las Vegas Strip Hotel (location TBD)
- Gravel Parking Lot near the Lake Bed

The flow of traffic will be facilitated by the reduction in traffic due to the use of buses. However, a comprehensive and professionally designed traffic management plan will still be executed to ensure that traffic is properly managed.

For parking on the gravel lot, cars will be permitted to pass under the Union Pacific Railroad tracks at milepost 302.69 in Sloan, NV. Union Pacific has granted permission for this and documentation of such approval will be provided to BLM.

The routes and maps for the buses from each location are included as appendices 1-4.

A.2 Road Improvement

To ensure that the buses can travel safely to and from the Jean dry lakebed area, the RiSE Festival will work with local excavating contractors to determine the appropriate improvements to the road. Those findings will be presented to BLM for review and final approval.

Section B: Event Timeline

B.1 Event Timeline

The RiSE Festival Timeline for the 2014 event will be as follows:

5:15-6:15 – Arrival window for participants (music will be playing and participants will be able to purchase food and beverages)
6:15-7:30 – Live music and lantern decorating
7:30-7:45 – First launch of lanterns (synchronized release)
7:45-9:30 – Lantern launching continues while music plays
9:30 – Last call for lanterns
9:45 – Fireworks (10-12 fireworks)
9:50 – House lights come up and departure bussing begins
11:00 – Final bus departs

Spotters with LED lights spotting furthest landing points

Section C: Cleanup Plan

C.1 Cleanup During the Event

Based on the additional testing and engineering that has been performed on the lanterns, the RiSE Festival is confident that no lanterns will land outside of the lakebed while still hot.

However, to ensure safety and cleanup during the event, the RiSE Festival will have spotters in place to watch the lanterns as they make their descent. The spotters will have LED lights in their possession that they will use to mark the lanterns that fly the furthest from the launch area.

As previously submitted in the operating plan, all staff members and volunteers will be trained prior to clean up to ensure awareness regarding the tortoise burrows and existing vegetation. Only existing roads will be used for motorized vehicles during the cleanup process.

A cleanup crew of approximately 500 people will walk the entire venue, approximately 25 feet apart, to collect the lanterns and refuse. The

cleanup crew will utilize orange garbage sacks that are highly visible for collection. Upon filling a bag, they will leave it and begin filling another bag. A collection crew will sweep through and pick up all of the garbage bags, again, using only existing roads.

The collection of lanterns at night will take place only if approved by the BLM. Alternatively, the same plan and approach can be utilized to recover the lanterns the following morning beginning at sunrise.

C.2 Lantern Testing and Design

During the time that has passed since the meeting in Las Vegas on May 21, the RiSE festival has modified and tested dozens of lanterns. The two key factors are to ensure both the proper flight time (which in turn controls distance) and that the lanterns are cool to the touch upon landing.

The current design now utilizes a wax ring as a fuel cell that is cool to the touch as soon as the flame burns out. The average burn time of this fuel cell is 6-8 minutes. At a maximum allowable wind speed of 10 mph, the travel distance of the lantern, while still hot, will not exceed .7 miles.

Section D: EMS Plan

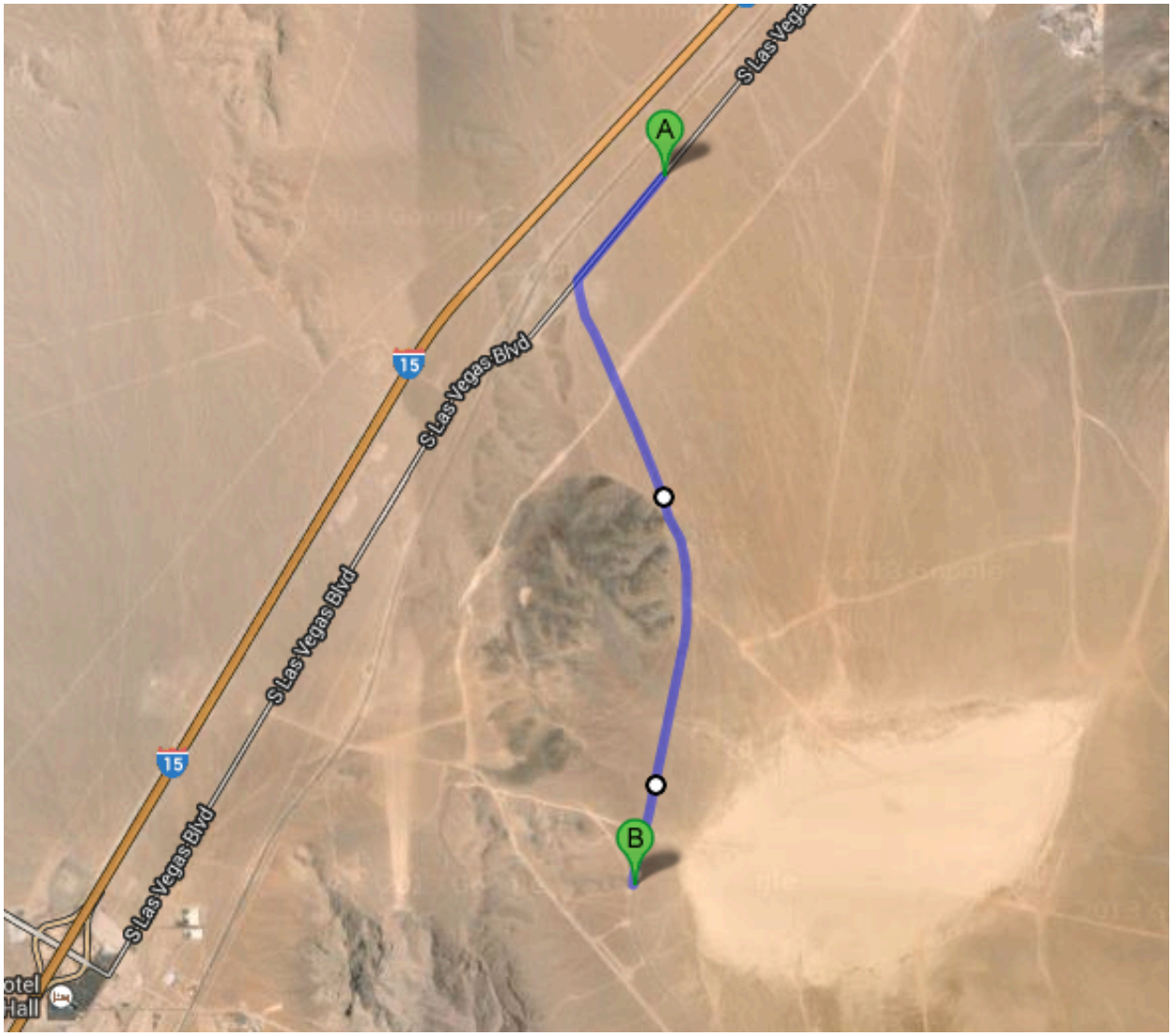
D.1 EMS

RiSE intends to be a good community partner and is making the necessary plans to ensure that proper medical support is available at the event. As such, the following will be part of the EMS plan for the event:

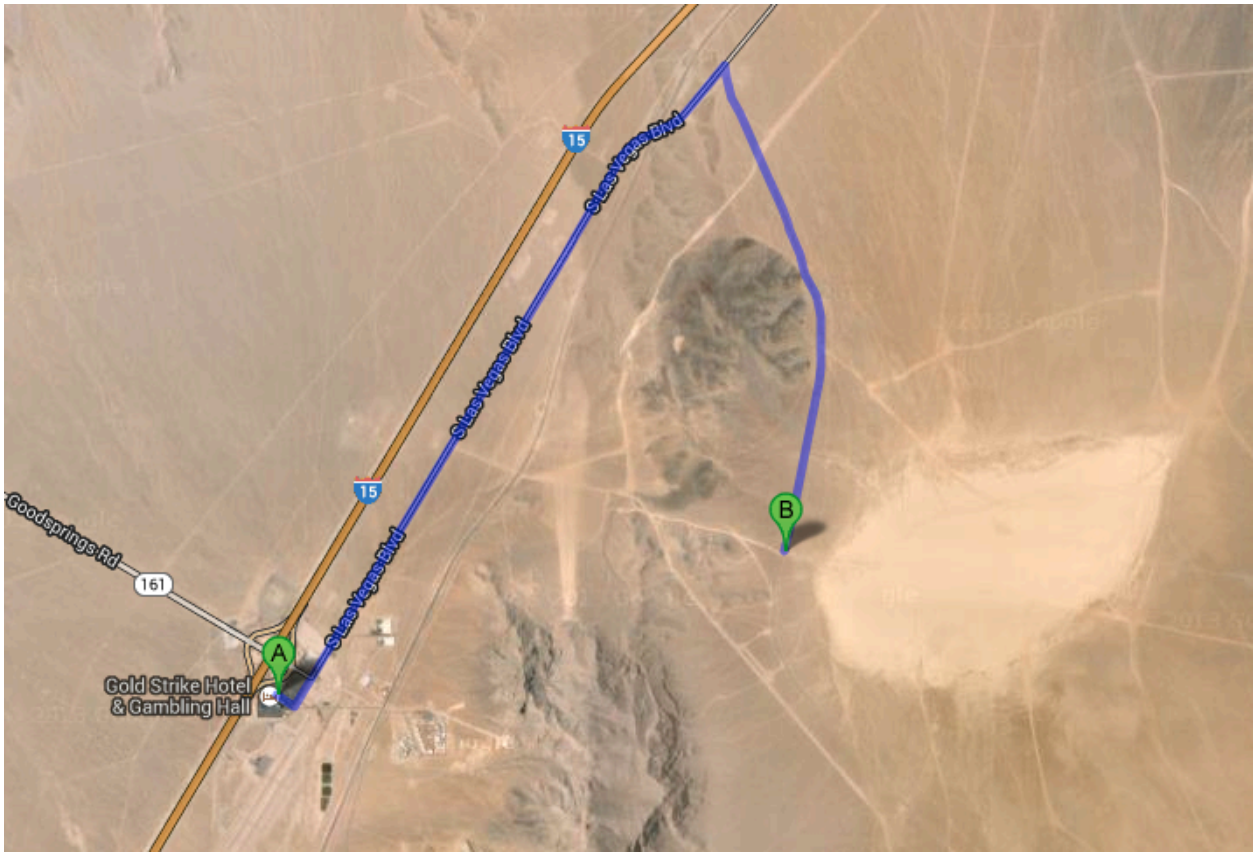
- Command Staff to direct all EMS efforts
- Dedicated Engine/Fire Protection Unit
- Advanced Life Support (ALS) Rescue/First Aid Station
- Dedicated ALS Transport Team
- EMT Roving Team

The above plan is the minimum level of support that will be provided and is compliant with AB286 legislation.

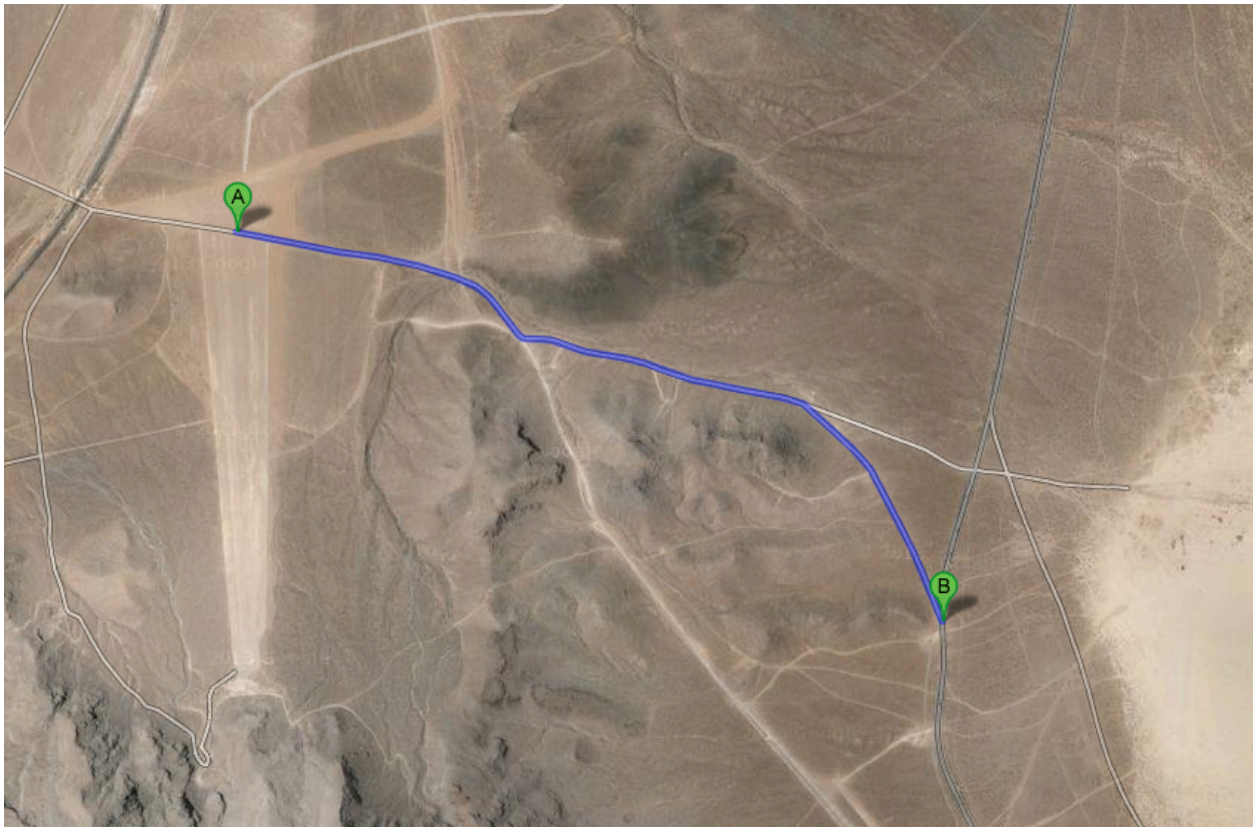
Appendix 1 – Bus Route from Las Vegas Strip



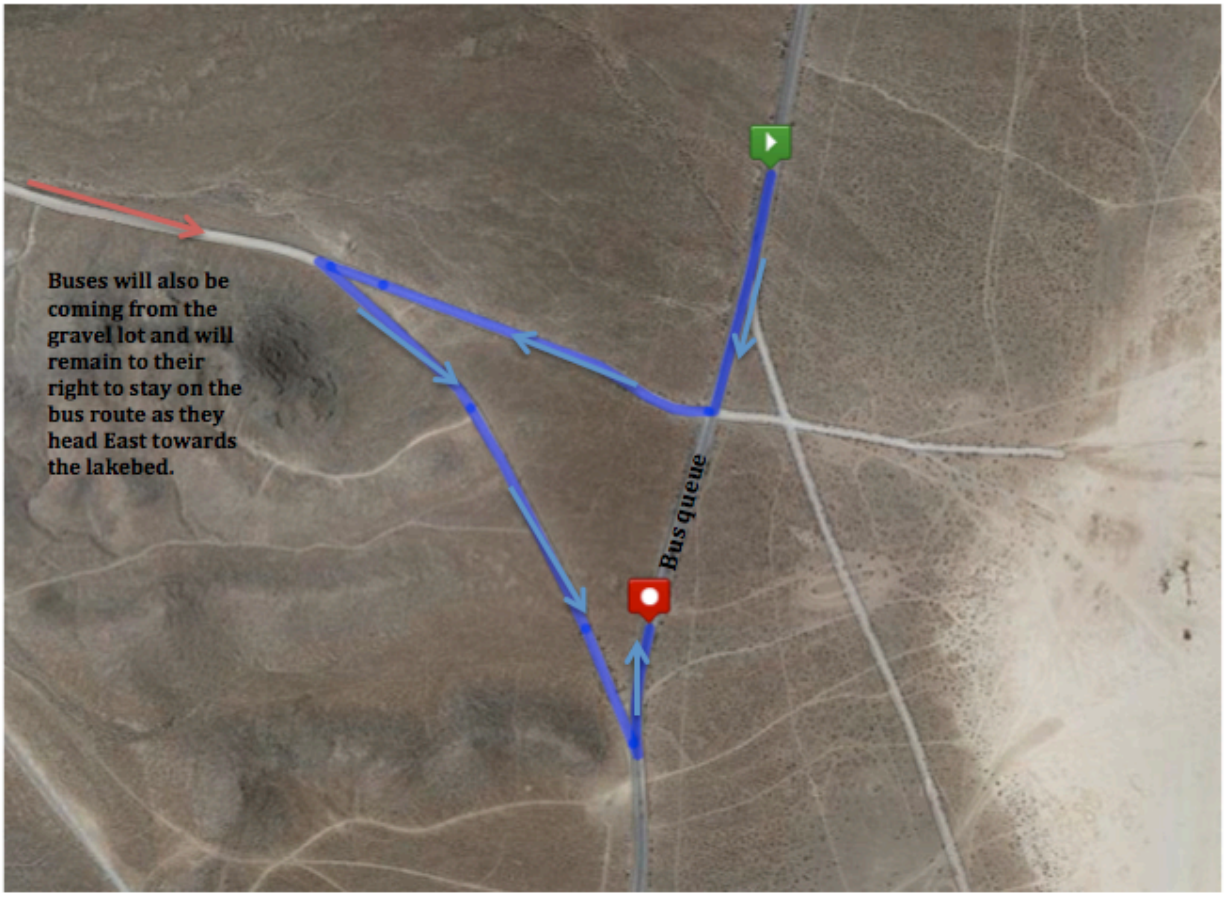
Appendix 2 – Bus Route from Gold Strike Hotel



Appendix 3 – Bus Route from Gravel Lot



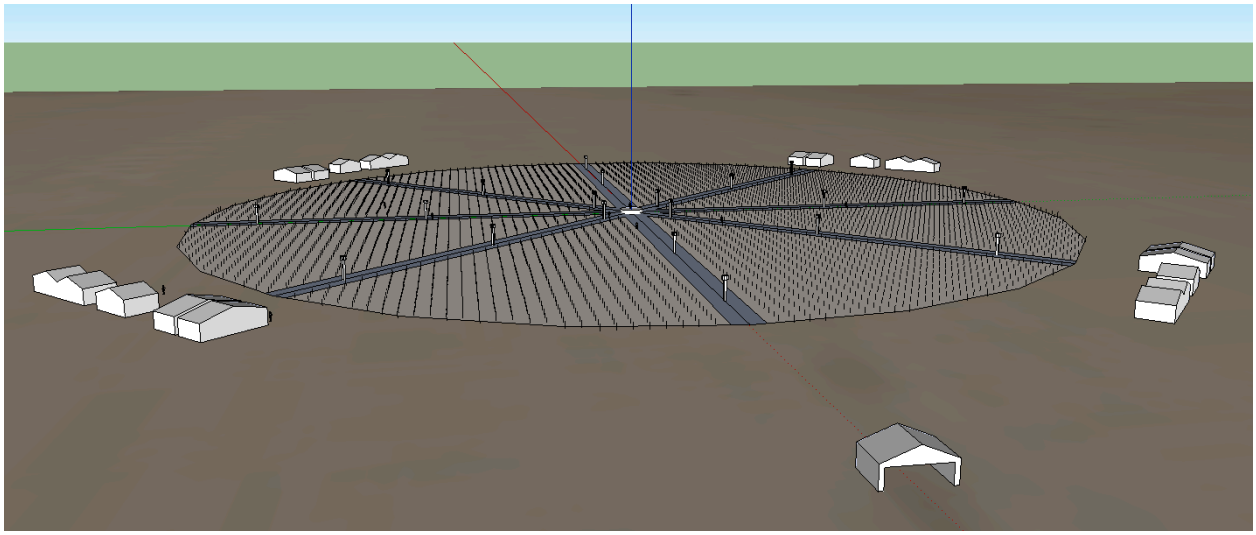
Appendix 4 – Bus Turnaround Map



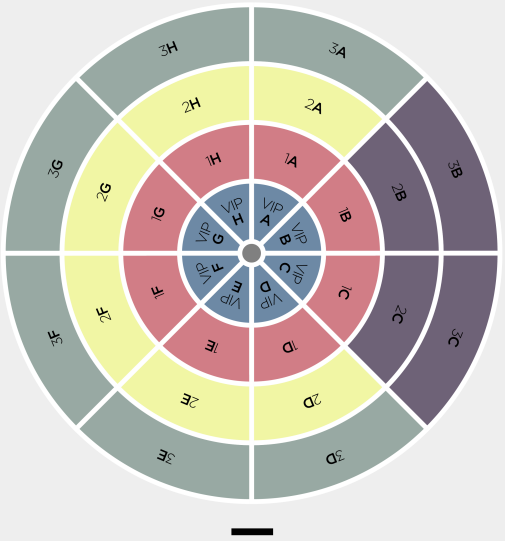
Bus route for buses coming from the Las Vegas Strip and the Gold Strike Hotel in Jean

Bus route for buses coming from the gravel parking lot

Appendix 5 – RiSE Site Layout



RiSE



SITE MAP

JEAN DRY LAKE BED

	ENTRANCE / EXIT	
	STAGE	
	VIP SEATING	$100
	SECTION 1	$70
	SECTION 2	$60
	SECTION 3	$50
	FAMILY SECTION *(with kids under age 12)*	$50

**Important information please read.*

+ Everyone attending the event must have a ticket
+ Tickets will be mailed approximately 14 days prior to the event
+ If there are any children under 12 in your party you must purchase tickets for the family section.
+ If you're attending the event as a group make sure everyone in your party purchases tickets for the same section.
+ If you would like to purchase more than one ticket at a time, select the option to "add another registration" from the shopping cart page at checkout. You may add as many tickets as you like to a single transaction.

Appendix D: Rise Festival Emergency Mass Evacuation Protocol

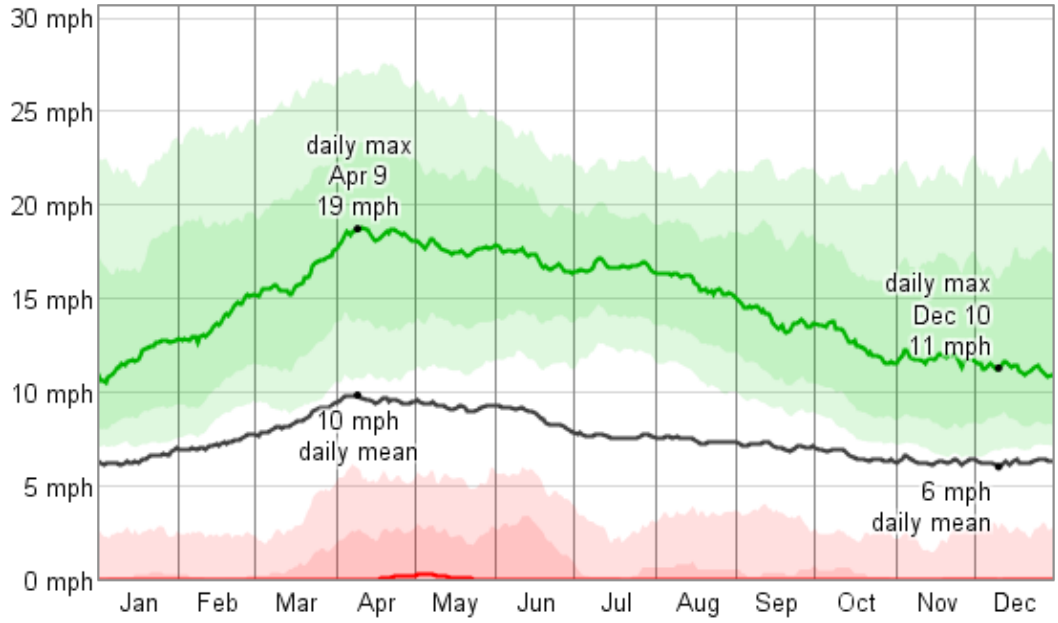
Rise Festival
2014 Emergency Mass Evacuation Protocol

In the event of severe weather, the Rise Festival will be cancelled. Severe weather includes:

- **Thunder/Lightning** – If thunder and/or lightning occur within a 2-mile radius of the event venue, the event will be put on watch and may be postponed or cancelled.
- **Tornado** – In the event of a tornado warning, the event will be cancelled.
- **Hurricane or Severe Winds** – While hurricane winds are not anticipated, in the event that winds exceed 20 mph, the event director will immediately contact his supervisor to determine next steps. Clearly, wind speeds are of great concern due to the nature of the Rise Festival. Average winds for Las Vegas are as follows:

    - Over the course of the year typical wind speeds vary from 0 mph to 19 mph (calm to fresh breeze), rarely exceeding 28 mph (strong breeze).
    - The highest average wind speed of 10 mph (gentle breeze) occurs around April 9, at which time the average daily maximum wind speed is 19 mph (fresh breeze).
    - The lowest average wind speed of 6 mph (light breeze) occurs around December 10, at which time the average daily maximum wind speed is 11 mph (gentle breeze).

Wind Speed



- Extreme Heat – Due to the time of year for this event and the fact that the event is held in the evening, heat is not expected. However, if forecasted temperatures will pose a risk for participants, the event will be cancelled. Any temperature above 100 degrees Fahrenheit for the time of the event will be discussed.

Before the Event:

- All Event Directors must work with the venue to find at least 2 places of shelter in the event of severe weather. Areas of shelter must be big enough to accommodate all participants, spectators, volunteers, and staff. Maybe be used in conjunction with their cars for Lighting and winds.
- Event Directors must prepare a list of emergency contacts including all leads and spokespeople from home base. Rise Festival will designate a senior management person that is on-site or on-call to facilitate the final decision.

If an event is threatened to be shutdown:

- Event Director will gather all information and communicate with senior management to begin the execution plan if necessary
- Event Director will radio to all staff 3 times/channel that there is a potential for either a CODE YELLOW or CODE RED (dependent on whether there is shelter or not at the venue)
- Event Director will tell all staff to standby for more information and not to move to CODE RED positions yet, but to prepare to do so
- Event Director will give updates to all staff every 10 minutes via radio

If there is shelter available at the venue:

- It becomes a CODE YELLOW. CODE YELLOW is a potential for a cancellation, but we are putting a hold on the event
- We will direct all people into the designated shelter and hold the event for 30 minutes
- If severe weather persists after 30 minutes we will announce and wait another 30 minutes, if conditions continue and curfew creates an impossible event, the event will move to a CODE RED where in the event is cancelled and shut down completely

If there is no shelter available at the venue: (Jean Dry Lake Venue)

- The event moves to an immediate CODE RED. All staff and volunteers get participants back to their cars as quickly as possible. Remain calm, create an orderly exit, and communicate that volunteers need to help with the evacuation – not exit.

If there is a CODE YELLOW:

- Event Director will radio to all staff 3 times/channel that we have a CODE YELLOW situation
- All staff will move to their CODE YELLOW Positions (get everyone to the sheltered area)
- Leads in each zone will gather all volunteers in the area and get them to shelter. While in sheltered area, leads keep all their volunteers in a designated spot.
- Event Director will hold event for 30 minutes to evaluate the severe weather
- Nothing is broken down until we have a CODE RED situation.
- If severe weather stops and the event is able to resume, Event Director radios to all leads that event is resuming and to get back to position. Leads will need to re-gather all of their volunteers and get them back to course positions.

- If severe weather persists and event moves to a CODE RED cancellation, the Event Director will radio to all leads that we have a CODE RED
- Leads will brief volunteers and together staff & volunteers will get everyone back to their cars

If there is a CODE RED:

- Event Director will talk with senior management to execute the pre-planned strategy designed by the Event Director
- Event Director will radio 3 times/channel that we have a CODE RED and to move to respective positions. Event Direcotr will communicate official "message" to the staff (if we are pushing people to the after party, if we are rescheduling, etc.)
- Leads in each zone will be responsible for gathering all volunteers in the area and briefing them on what is going on and how participants should get back to their cars. Leads also need to brief volunteers on the message.
- Lead will be responsible for pausing the music on iPod or the live music, but DO NOT pull audio altogether.
- Once all participants are clear of a particular zone, the zone lead will radio to the Event Director and see if volunteers are needed elsewhere. If not, the lead is to release volunteers back to their cars.
- Emcee will get on stage and make announcements asking everyone to return to their cars as soon as possible. Celebration manager will gather all volunteers and help get participants back to their cars. Celebration manager will make sure music is turned off but not all audio. Emcee will make announcements every 2 minutes as people are returning to their cars.

If there is a CODE RED, here is a list of DONT'S for staff and volunteers:

- Do Not run around with your hands in the air screaming the event has been cancelled. Instead, instruct all staff and volunteers to remain calm and collected
- Do Not start breaking down the event until people are off site. The Event Director will instruct when it is okay to start breaking down. Common sense will prevail and volunteers will be encouraged to ensure their own safety
- Do Not pull audio until all announcements have been made and everyone is off site
- Do Not pull lighting. We want people to be able to see when they are trying to leave

Breakdown:

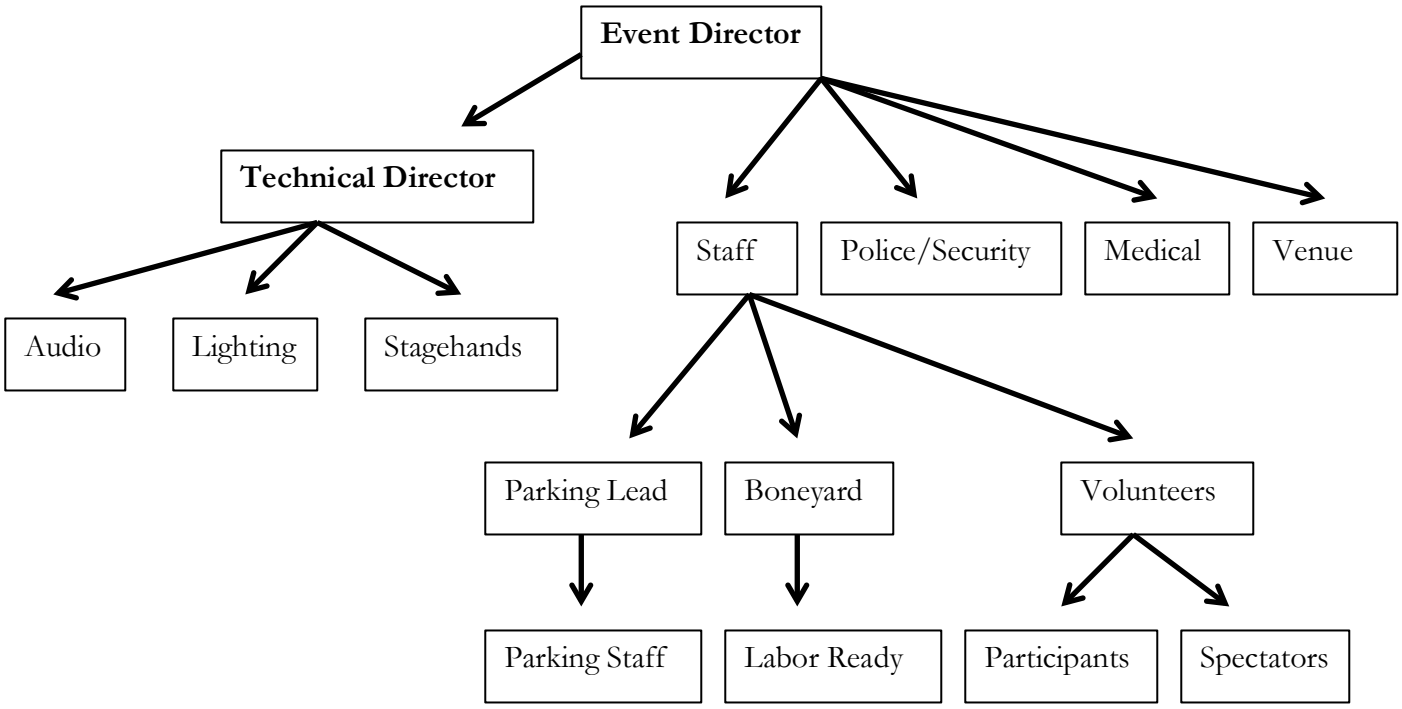
- The Event Director will communicate with each of the leads on when it is okay to start breaking down and commencing the official strike plan.
- Each zone should not start breaking down until all participants are clear.
- No one is allowed in any piece of heavy equipment (especially the boom lift) within 30 minutes of lightning.

Social Media:

- Right when a CODE RED has been made, marketing personnel will immediately report to the production office or the home office to coordinate a post on FB and Twitter with the appropriate message. Facebook message should be geo-targeted.

- Homebase/Management will prepare the email and the marketing team will be responsible for getting an email out to all registered participants within 2 hours of the CODE RED call. Homebase will also be responsible for getting the email letter posted on the website.
- The Event Director should communicate with the home office to start working on customer service responses. Event Director provides a report with all details of the occurrence and the proposed resolution.

Flow of Communication



Appendix E: Lantern and Balloon Specifications

Included in Appendix E is correspondence from September 4, 2014 between Rise and FAA describing the lantern specifications and flight characteristics.

RiSE
LANTERN FESTIVAL

Mr. John Howard
Manager, Air Traffic
Las Vegas TRACON
Federal Aviation Administration
699 Wright Brothers Lane
Las Vegas, Nevada 89110

Mr. Howard,

As you are aware, we are working towards a final permit for the RiSE Festival on October 18, 2014 in the Mojave Desert near Las Vegas. Our goal from the onset has been to hold an event that provides a unique experience for participants while simultaneously complying with all regulations.

This letter is in response to the letter we received from Dave Kessler from the FAA (with a carbon copy to you). Based on the research we have done, including lantern flight tests at the Jean Dry Lakebed with the BLM, we feel confident that the engineering work and the design of the lanterns will ensure a safe event.

Number of Sky Lanterns
The total number of lanterns to be launched at the event is approximately 20,000. Our permit allows us to sell 10,000 tickets and each participant receives two sky lanterns.

Timeline for Launch
The first launch of lanterns will be in unison and will take place at 7:30 p.m. While we do anticipate having 10,000 participants at the event, this does not mean that 10,000 sky lanterns will launch at the same time. Because the RiSE engineered sky lanterns are 24" in diameter and 40" in height, 3-4 people are required to launch each lantern. As such, we anticipate that the first launch will be roughly 2,750 launches.

1

After the initial synchronized launch, participants will be allowed to continue lighting their remaining sky lanterns until 9:00 p.m.

Direction of Flight due to Local Winds

Average wind speeds for the Jean Dry Lakebed in October are 6 mph. Based on testing performed at the dry lakebed, with the BLM, with winds averaging 2.4 mph and travel distances ranging from .2-.3 miles, we estimated a maximum travel distance of .9 miles with wind speeds at 10 mph. At the average wind speed for that time of year, we predict an average distance of .6 miles.

Historically the winds travel in a northerly direction during the latter part of October. However, we are positioning our launch point within the venue such that regardless of the travel direction of the lanterns, they will land on the lakebed and it's perimeter for recovery.

Should winds sustain speeds and gusts above 10 mph on event day, the event will be postponed or cancelled.

Anticipated Altitude of Flight Operations

The peak altitude of the lanterns that will be utilized at the RiSE festival is approximately 3,000. While we have listed this as the maximum above ground level flight ceiling for the sky lanterns, that is really the absolute worst case and was listed to provide a cushion.

We have performed various flight tests with the lanterns and have measured their rate of ascent by shadowing the sky lanterns with a Phantom Quadcopter Camera. The maximum flight ceiling we observed during our testing was n elevation of 770 feet during a 7-minute flight. At a rate of ascent of 110 feet per minute, even during a 10-minute flight the maximum elevation (above ground level) would be 1,100 feet. While this is well below the 3,000-foot limit we have listed, we are aware that air temperature, humidity and other factors can play a role in the rate of ascent. As such, we have stated a maximum flight ceiling of 3,000 feet.

Methodology of the Flight of Sky Lanterns

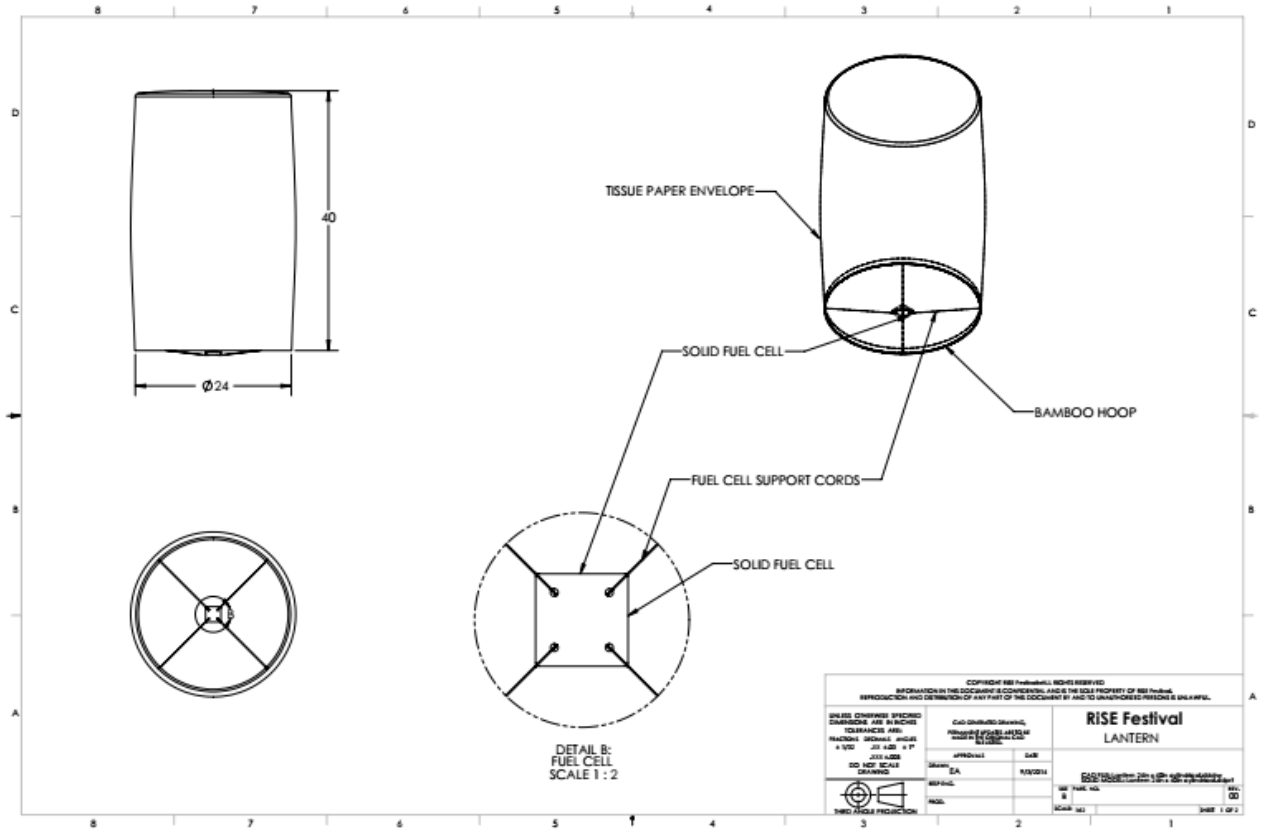
The RiSE sky lanterns have been engineered with a fuel cell that has an average burn time of seven minutes. One the fuel cell burns out (at an altitude of roughly 2,500-3,000 above ground level), the lanterns begin a slow and gradual decent to the ground. Based on our calculations for wind speeds and burn/flight time, the maximum travel distance and the anticipated landing area are all within a maximum of a 1-mile radius of the launch point. A copy of the design drawing of the RiSE sky lantern is attached for your review as well.

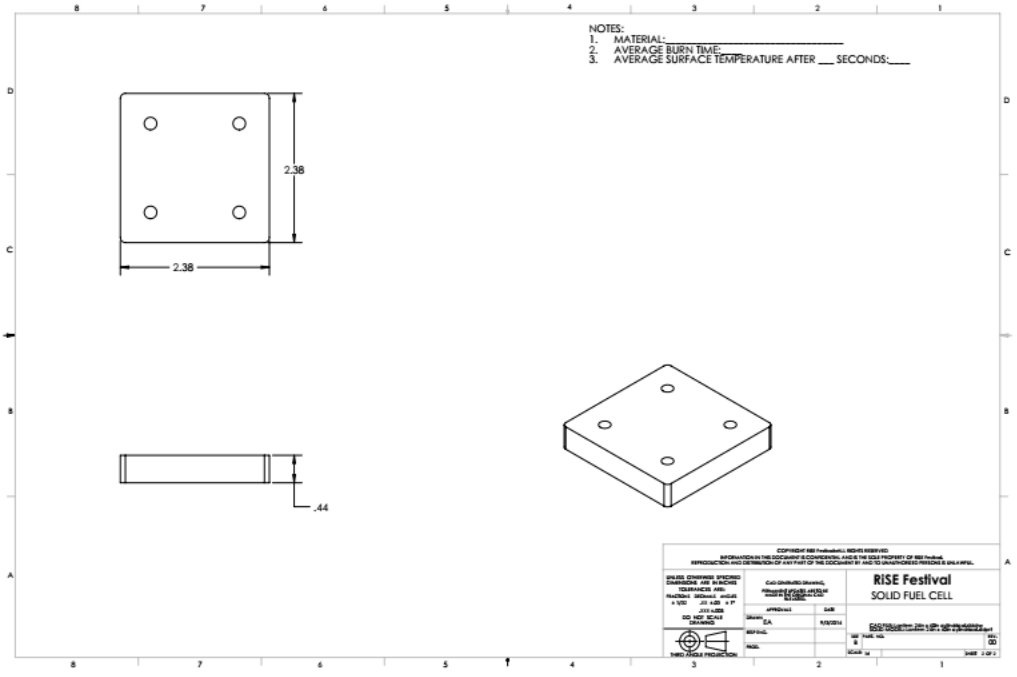
We appreciate your willingness to review the information and to assist us in ensuring that we create an event that does not pose a risk to any aircraft in the area. If there are additional data points that you feel are necessary, we are happy to provide them to you.

Regards,

Jeff Gehring
President, RiSE Festival
jgehring@risefestival.com
(801) 362-1694

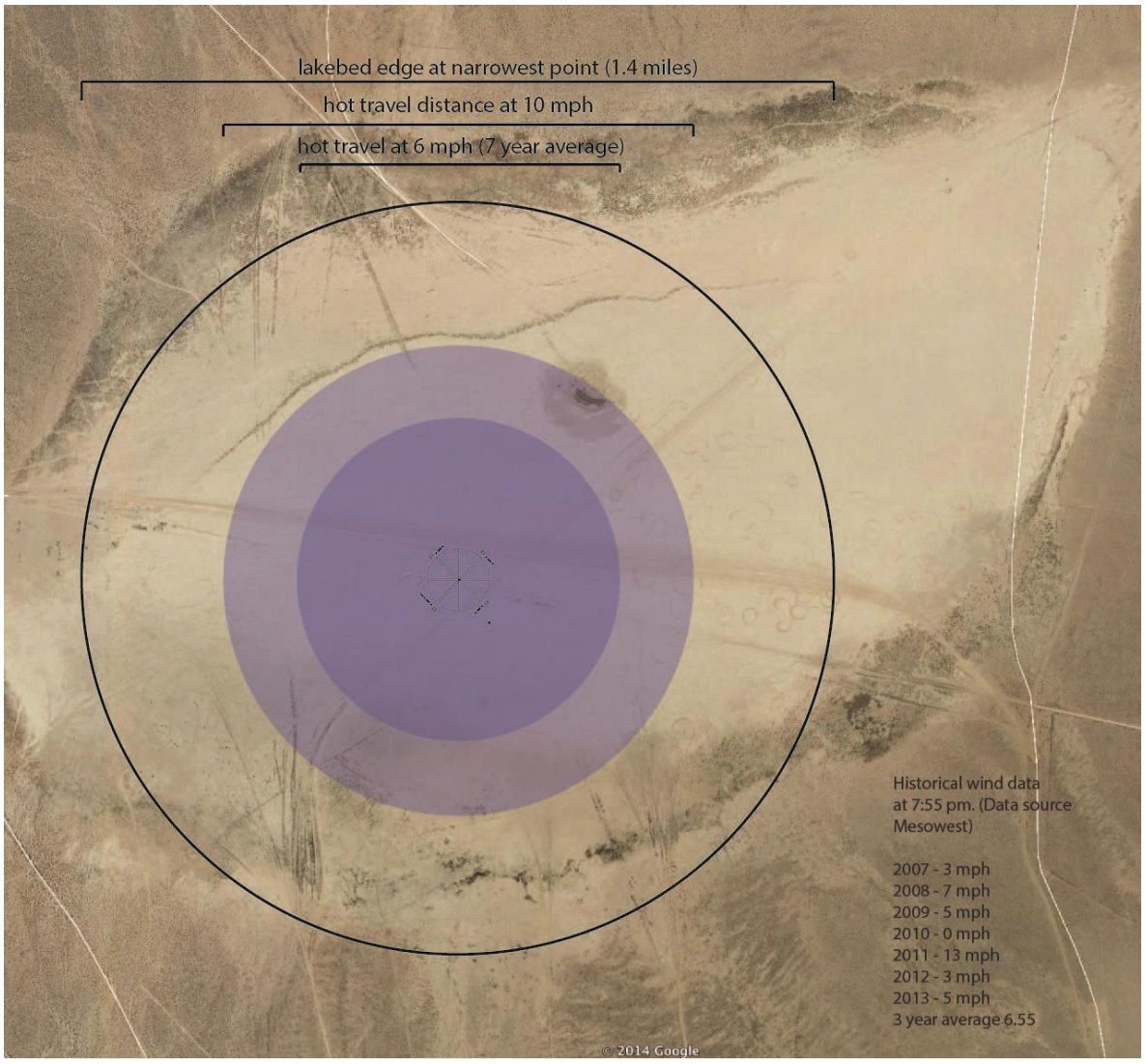
Appendix E Continued: Lantern and Fuel Cell Design





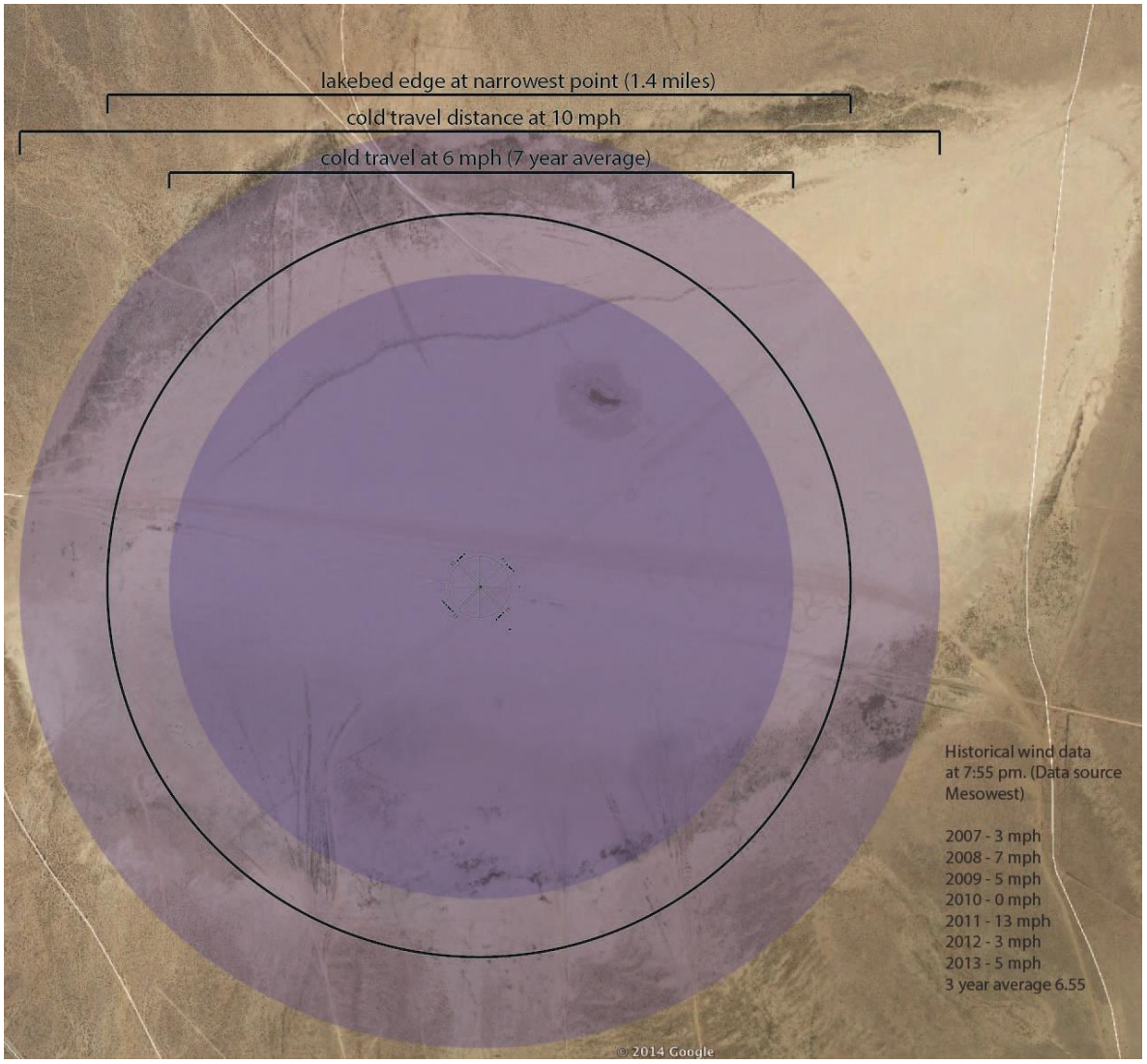
Appendix F: Map of Anticipated Lantern Landing Zone

Hot Travel Distance



Appendix H: continued

Cold Travel Distance



Appendix G: Description of Fire Management Units (FMUs) within the proposed action area

NV-05-01 Tortoise Moderate Density FMU

The primary unifying attribute of this FMU is that it incorporates all of the moderate density and most of the low density Desert tortoise range in the Las Vegas Field Office. Historically, in their undisturbed condition, the low elevation desert shrub communities of this FMU (creosote bursage, blackbrush, saltbush, Mojave scrub, etc.) did not typically support the spread or intensity of wildfire. Approximately 98% of this FMU consists of desert shrub communities, primarily creosote bursage, blackbrush and Mojave scrub. The other 2% of the FMU consists of scattered pockets of higher elevation land, vegetated by mountain chaparral types and pinyon-juniper woodlands.

Topography

- Elevation Range: 1,397 feet to 5,396 feet
- Slope: mostly less than 10%; some areas of 10-30%
- Aspect: Various

Major Topographical Features

- Mormon Mesa
- Muddy Mountains
- California Wash
- Eldorado Mountains
- New York Mountains
- Hiko Wash
- Newberry Mountains
- Ivanpah Valley
- Pahrump Valley

General Fire Protection Characteristics

- The low elevation, desert shrub habitat portions of this FMU constitute high suppression priority T&E species values (Desert tortoise).
- Widely scattered throughout this large FMU are pockets of riparian and/or

mesquite/acacia habitat. A secondary priority in this FMU is to protect all such habitats from substantial disturbance, either from wildfire or from the impacts of firefighting activities.

- Higher elevation portions of this FMU contain mountain shrub communities and even pockets of pinyon-juniper woodland.

Surface Fuel Model & Canopy Cover

- With few exceptions, fine fuels drive the characteristics of wildland fires occurring in this FMU. These fine fuels are ephemeral and primarily consist of red brome and other non-native annual grasses.

FMU Public Safety, Economic & Community Values at Risk

- Life safety (public and firefighters)
- Moderate and low density Desert tortoise range (T&E Species)
- Sensitive species, including 16 plants that are strongly associated with gypsum soils, deep-sand swales, or coarse gravelly washes. Populations are concentrated in Mormon Mesa; California Wash; Weiser Wash; Bitter Springs Valley; White Basin; Gypsum Spring; Frenchman Mountain/Rainbow Gardens; Hidden Valley; Jean Dry Lake Valley; Ivanpah Valley; southern Pahrump Valley.
- Other sensitive species habitats/populations (bats, birds, plants)
- Riparian and mesquite/acacia habitats.
- Bighorn sheep crucial habitat; Bighorn sheep winter range.
- Mule deer crucial summer habitat; Mule deer winter range.
- Wild horse and burro ranges
- Arrow Canyon Wilderness Area
- Muddy Mountains Wilderness Area
- Eldorado Wilderness Area
- Ireteba Peaks Wilderness Area
- South McCullough Wilderness Area
- Mount Charleston Wilderness Area
- Mount Stirling Wilderness Study Area
- Sunrise Mountain Instant Study Area
- Rainbow Gardens ACEC (sensitive plant species habitat)
- Arrow Canyon ACEC
- Hidden Valley ACEC

- Crescent Townsite ACEC
- Mines
- Utility line corridors and ROW's
- Grazing Allotments

The Red Rock Herd Management Area is approximately 6 miles northwest of Jean Dry Lake. The Ivanpah ACEC is about 2.5 miles southwest of Jean Dry Lake. The South McCullough Wilderness Area is about 5.5 miles to the southeast of Jean Dry Lake. The Sloan Canyon National Recreation area is about 7 miles to the northeast. The Paiute-Eldorado Valley ACEC is about 8 miles to the southeast.

Wildland fire protection on all BLM public lands within this FMU is provided by the BLM Southern Nevada District Office. Structural fire protection on private lands within this FMU is provided by the Clark County Fire Department and/or other adjacent rural or volunteer fire departments.

Initial attack success in this FMU is defined at 15 acres 90% of the time. Decadal wildfire burn tolerance is 500 acres for this FMU and was exceeded during the 2005-2006 fires seasons (BLM LVFO FMP, 2004).

NV050-18 Goodsprings-Primm FMU

This discontinuous FMU takes in wildland urban interface including the rural towns of Goodsprings, Primm, Sandy Valley, Jean, and the Jean area. This FMU mainly consists of creosote bursage habitat, which in certain years is heavily infested with the invasive annual grass, red brome. Although mesquites and acacias resprout following fire disturbance, these woodland stands need to be protected from high intensity wildfire in order to preserve the canopy structural character (for sensitive bird species habitat suitability, mainly for Phainopepla). Most wildfires occur in tamarisk-infested areas. Typically, these fires are wind driven and are of moderate to high intensity. Small, low intensity wildfires in tamarisk are less common but do occur. The Goodsprings, Primm, Jean, and Jean Lake disposal area WUI zones are surrounded by BLM lands. BLM lands include upland shrub habitats, areas of medium and low density Desert tortoise habitat, and stands of mesquite/acacia woodlands.

Topography

- Elevation Range: 2599 to 3,999 feet
- Slope: less than 10%
- Aspect: flat

Major Topographical Features

- This FMU consists of five discontinuous WUI zones located south of Las Vegas. The Jean Lake area on Interstate 15 in Ivanpah Valley is approximately 10 miles south of Las Vegas.

Resource Use

- Human life and property values
- Town of Goodsprings
- Town of Primm
- Town of Sandy Valley
- Town of Jean
- Dispersed recreation; special use permit activities
- Public lands:
  - Utility line ROW's
  - Sand and gravel pits
  - Jean Lake grazing allotment
  - Commercial and residential urban activities and infrastructure
  - Utility line ROW's
  - Farms and ranches

Habitat Values

- Mesquite/Acacia woodland habitat.
- Moderate density Desert tortoise habitat
- Sensitive plant species habitat
- Wild horse and burro Red Rock Herd Management Area

FMU Public Safety, Economic & Community Values at Risk

- Human life and property values
- Town of Goodsprings
- Town of Primm
- Town of Sandy Valley
- Town of Jean
- Dispersed properties and developments (homes, ranches, etc.)
- Mesquite/acacia woodland habitat
- Desert tortoise habitat (moderate density)
- Sensitive plant species habitat

- Utility line ROW's

FMU Fire Protection Responsibility

Wildland fire protection on all BLM public lands within this FMU is provided by the Las Vegas Field Office. Structural fire protection on private lands within this FMU is provided by the Clark County Fire Department and/or adjacent rural or volunteer fire departments.

Wildfire Management Priorities

- Life safety (public and firefighters)
- Protection of human communities (including community infrastructure)
- Protection of other property and improvements
- Protection of mesquite/acacia woodlands
- Protection of moderate density Desert tortoise habitat
- Protection of sensitive plant species
- Protection of other natural resources
- Protection of cultural resources

Suppression/Protection Priorities:

- Town of Goodsprings, NV
- Town of Primm, NV
- Town of Sandy Valley, NV
- Town of Jean, NV
- Dispersed WUI values (ranches, homes, power lines, etc.)
- Federally listed T&E species: Desert tortoise
- Mesquite/acacia woodlands (Sandy Valley)
- Rosy two-toned penstemon, White-margined penstemon, and Yellow two-toned penstemon sensitive plant species habitat

Fire Suppression Objectives

- Protect human life and property values while minimizing impacts to T&E or Sensitive Species populations and habitats.

Initial attack success is defined at one acre 90% of the time. Decadal wildfire burn tolerance is
50 acres and has been maintained (BLM LVFO FMP, 2004).

Appendix H: Fire Weather & Climate Related Impacts

- Wet lightning is common in this area. Fires generally remain small when starts occur under these common conditions.
- Dry Lightning is possible in this area. Larger fires can occur with these erratic and gusty thunderstorm events.
- Larger fires occur when human ignitions occur under typical warm and windy summer weather.
- Fire behavior can be extreme under these conditions in heavily infested tamaris riparian areas.

Live Fuel Moisture Characteristics

- At live fuel moisture levels of 181% and above fires typically will exhibit Very Low Fire
- At live fuel moisture levels of 151% to 180% fires typically will exhibit Low Fire Behavior characteristics
- At live fuel moisture levels of 126% to 150% fires typically will exhibit Moderate Fire Behavior characteristics
- At live fuel moisture levels of 101% to 125% fires typically will exhibit High Fire Behavior characteristics
- At live fuel moisture levels of 75% to 100% fires typically will exhibit Extreme Fire Behavior characteristics
- At live fuel moisture levels of 75% and below fires typically will exhibit Advanced Fire Behavior characteristics

Appendix I: Images of Fuels Condition in Jean Dry Lake July 2014


DATE
7/26/14
PHOTO POINT
2
LOCATION
N 35 43 57.91
W 115 15 20.1


DATE
7/26/14
PHOTO POINT
3
LOCATION


DATE
7/26/14
PHOTO POINT
4
LOCATION


DATE
7/26/14
PHOTO POINT
5
LOCATION
N 35 48 16.68 x
W 115 11 32.38


DATE
7/24/14
PHOTO POINT
6
LOCATION

Appendix J: Summarized weather data for weather stations near Jean Dry Lake

The following tables summarize weather data for two weather stations near Jean Dry Lake (Mesowest, http://mesowest.utah.edu/, accessed 7/25/2014). The Jean station is at the Jean Airport. Jean SE 2 is approximately 5 miles to the southeast of Jean Dry Lake. Data summarized is over several years, 10/18 over the hours of 1600-0059. The data summary could be considered as representative of the time planned for the proposed action. However, data was provided to Mesowest by Clark County Flood Control District and is subject their data quality control. The table shows that weather can be variable in the Jean Dry Lake area on 10/18. In particular, wind direction and wind speed may reflect a localized diurnal pattern as well as variability in weather.

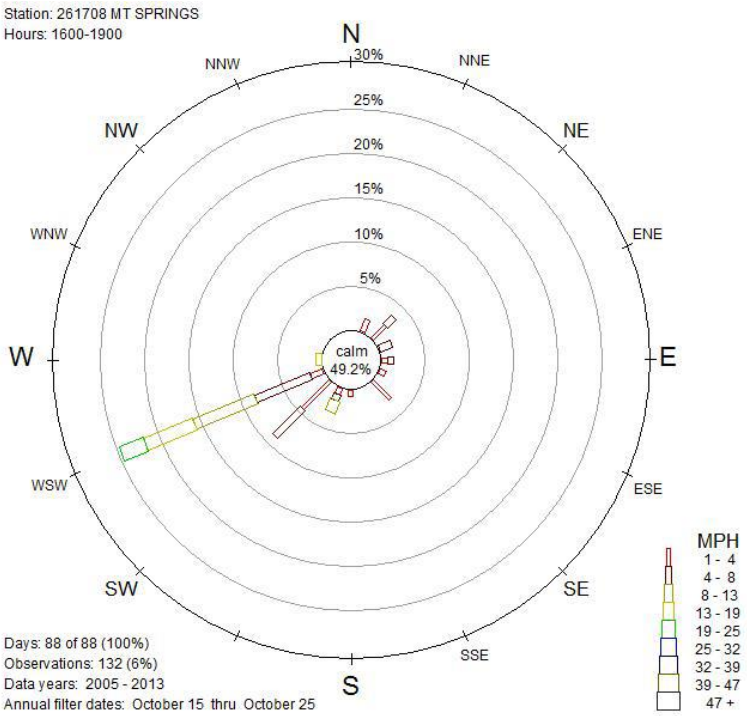
2005-2013 10/18 1600-0059 (data source Mesowest)

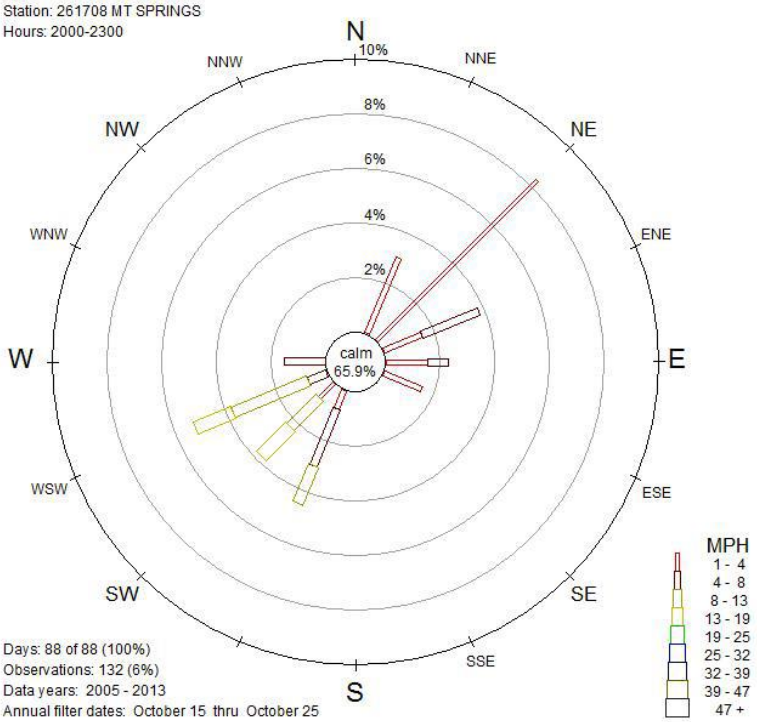
Jean ID = JEAN2	TMP ° F	RELH %	SKNT mph (wind speed)	DRCT ° (wind dir.)	PREC in	DWP °F
Average	63	36	8	51	0.32	27
Max	84	92	19	326	1.06	54
Min	45	5	1	0	0.00	14
Mode	55	17	8	33	0.00	24
Median	62	30	8	33	0.04	24
Count	50	124	52	42	7.00	38
StDev	9.3	20.9	3.5	72.4	0.48	10.8

2008-2013 10/18 1600-00:59 (data source Mesowest)

Jean SE 2 ID = JSEN2	TMP ° F	RELH %	SKNT mph (wind speed)	DRCT ° (wind dir.)	PREC in	DWP °F
Average	69	28	6	246	0.13	27
Max	88	91	13	354	0.47	52
Min	57	11	1	11	0.00	16
Mode	66	21	13	354	0.00	27
Median	68	21	3	337	0.02	27
Count	65	40	20	11	4.00	20
StDev	6.4	17.9	4.7	128.3	0.23	8.5

The following wind rose charts are from the Mountain Springs fire weather station for 10/15-10/25, 2005-2013. The Mountain Springs weather station is 20 miles northwest of Jean Dry Lake. The wind rose is not representative of the specific conditions local to Jean Dry Lake but it does show diurnal wind patterns (generated using Fire Family Plus; FAMWEB, https://fam.nwcg.gov/fam-web/ data accessed 7/25/2014).


Station: 261708 MT SPRINGS
Hours: 1600-1900
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SW
WSW
W
WNW
NW
NNW
30%
25%
20%
15%
10%
5%
calm
49.2%
MPH
1 - 4
4 - 8
8 - 13
13 - 19
19 - 25
25 - 32
32 - 39
39 - 47
47 +
Days: 88 of 88 (100%)
Observations: 132 (6%)
Data years: 2005 - 2013
Annual filter dates: October 15 thru October 25


Station: 261708 MT SPRINGS
Hours: 2000-2300
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SW
WSW
W
WNW
NW
NNW
10%
8%
6%
4%
2%
calm
65.9%
MPH
1 - 4
4 - 8
8 - 13
13 - 19
19 - 25
25 - 32
32 - 39
39 - 47
47 +
Days: 88 of 88 (100%)
Observations: 132 (6%)
Data years: 2005 - 2013
Annual filter dates: October 15 thru October 25

Appendix K: Fire Behavior Modeling for the Jean Dry Lake Area

FireBehavior

Fire behavior is comprised of weather, topography, and fuels. Weather, topography, and fuels are described in previous sections. Note steep slopes can contribute to increased fire behavior. The Jean Dry Lake area is generally flat. The dry lakebed is a barrier to fire.

Fire risk can be extrapolated from expected fire behavior. Expected fire behavior can be modeled. Fire behavior models utilize inputs related to weather, topography, and fuels. Weather inputs can be generated from weather station data. Topography inputs can generated from spatial data. Fuel inputs are based on fire behavior fuel models. Fire behavior fuel models are representative of wildland fuels or vegetation. Fire behavior and fire behavior fuel models are subject to model assumptions. For example, model outputs usually represent worst case scenarios. BEHAVEPlus and FLAMMAP fire behavior models were used to model potential fire behavior for the Jean
Dry Lake area.

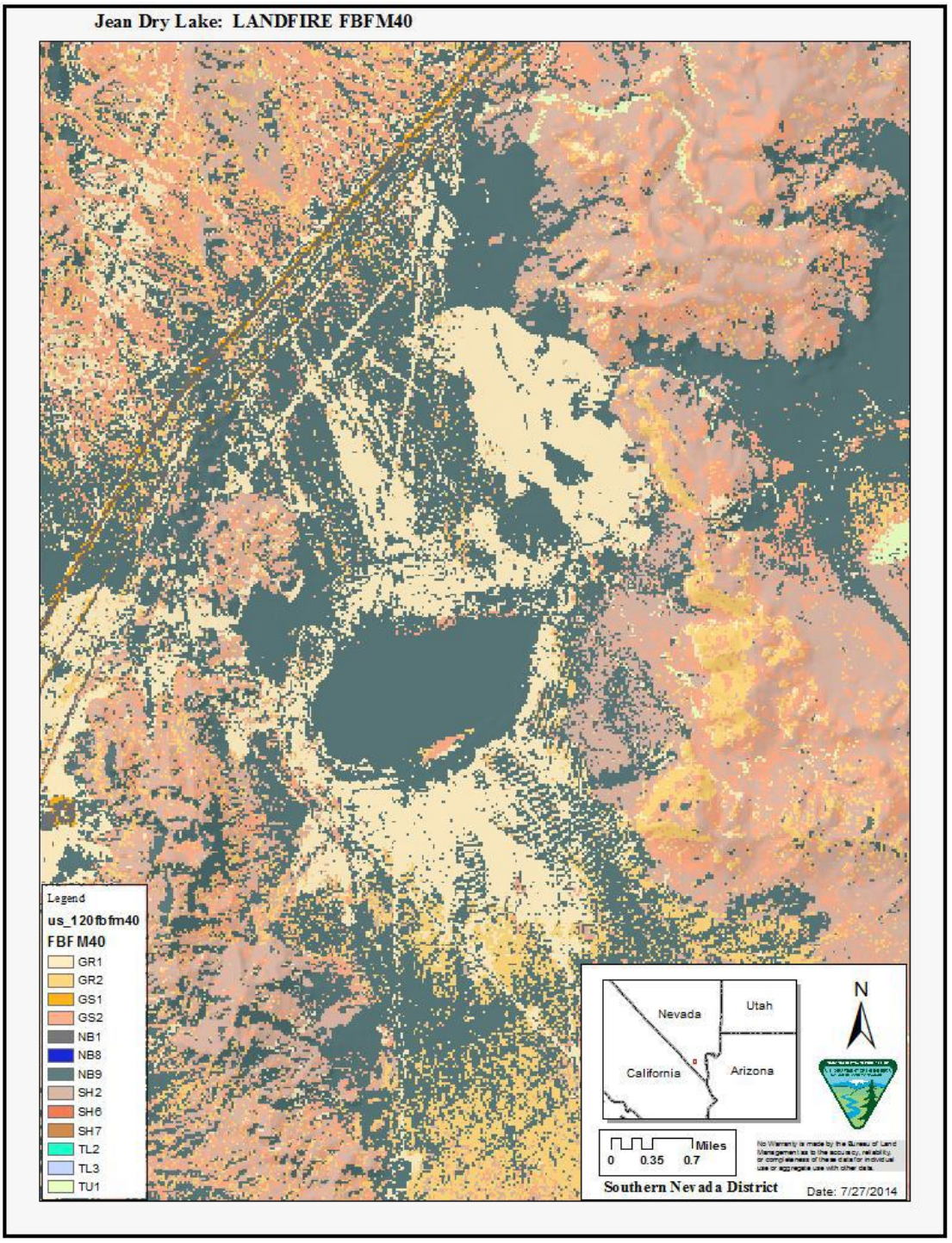
Inputs for Probability of Ignition (PIG) are air temperature and fine dead fuel moisture. Night time reference conditions were utilized. Low PIG means less chance of a fire ignition. The lower the temperature and the higher the fine dead fuel moisture means a lower PIG and less percent chance of a fire starting. BEHAVEPlus was used to model PIG for 10/18 based on historic local data for the time period 1600-0059.

BEHAVEPlus: PIG for Jean Dry Lake

1-h	Air Temperature				
Moisture	oF				
%	44	55	66	77	88
2	84	86	89	92	96
4	62	64	67	69	72
6	46	48	50	52	54
8	34	35	37	39	41
10	24	26	27	29	30
12	17	18	20	21	22
14	12	13	14	15	16
16	8	9	10	10	11
18	5	6	7	7	8
20	3	4	4	5	5

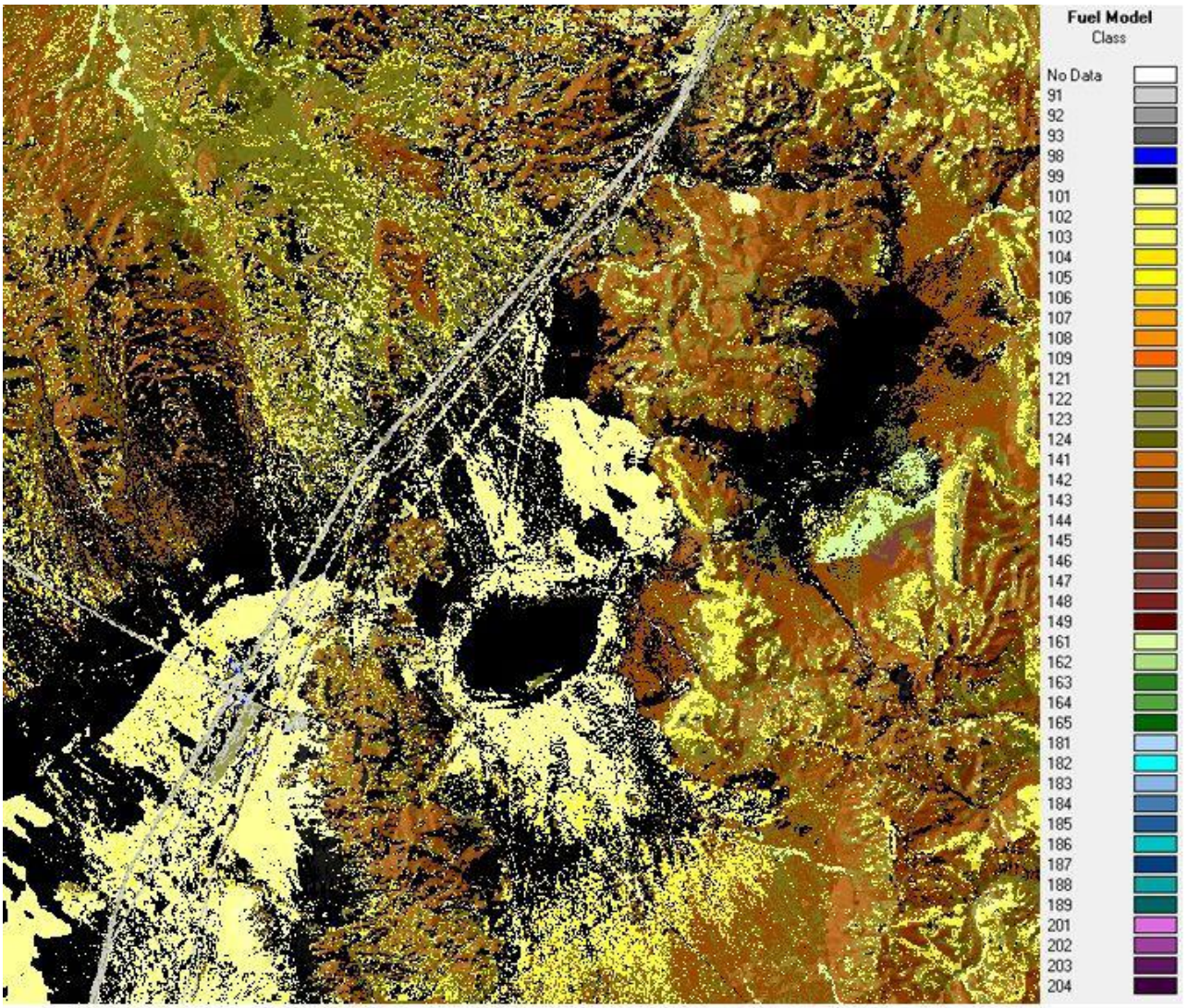
FLAMMAP was utilized to model fire behavior in the Jean Dry Lake area. Model assumptions apply and have to be taken into account in understanding the results. For instance, model outputs are only as good as their inputs; the models project worst case scenarios; and the models assume uniform, burnable fuels. As described in the previous sections, fuel and weather can vary seasonally and annually in the Mojave region. The models will predict possible conditions and outcomes for any given area that can support fire ignitions and fire spread. The models provide a

measure of relative risk in the form of fire behavior outputs important to fire suppression such as flame length and rate of spread. The following map shows the representative fuel models utilized in modeling fire behavior (LANDFIRE, http://landfire.cr.usgs.gov/viewer/, accessed 7/25/2014). Note the area northeast of Jean Dry Lake known as Hidden Valley. This area is shown as barren in the fuel model data however, it is in the Hidden Valley grazing allotment and can have grass fuels present that can support fire spread. On the ground validation of fire/fuels conditions is always important when assessing fire danger and risk.


Jean Dry Lake: LANDFIRE FBFM40
Legend
us_120fbfm40
FBFM40
GR1
GR2
GS1
GS2
NB1
NB8
NB9
SH2
SH6
SH7
TL2
TL3
TU1
Nevada
Utah
California
Arizona
N
Miles
0 0.35 0.7
Southern Nevada District
Date: 7/27/2014

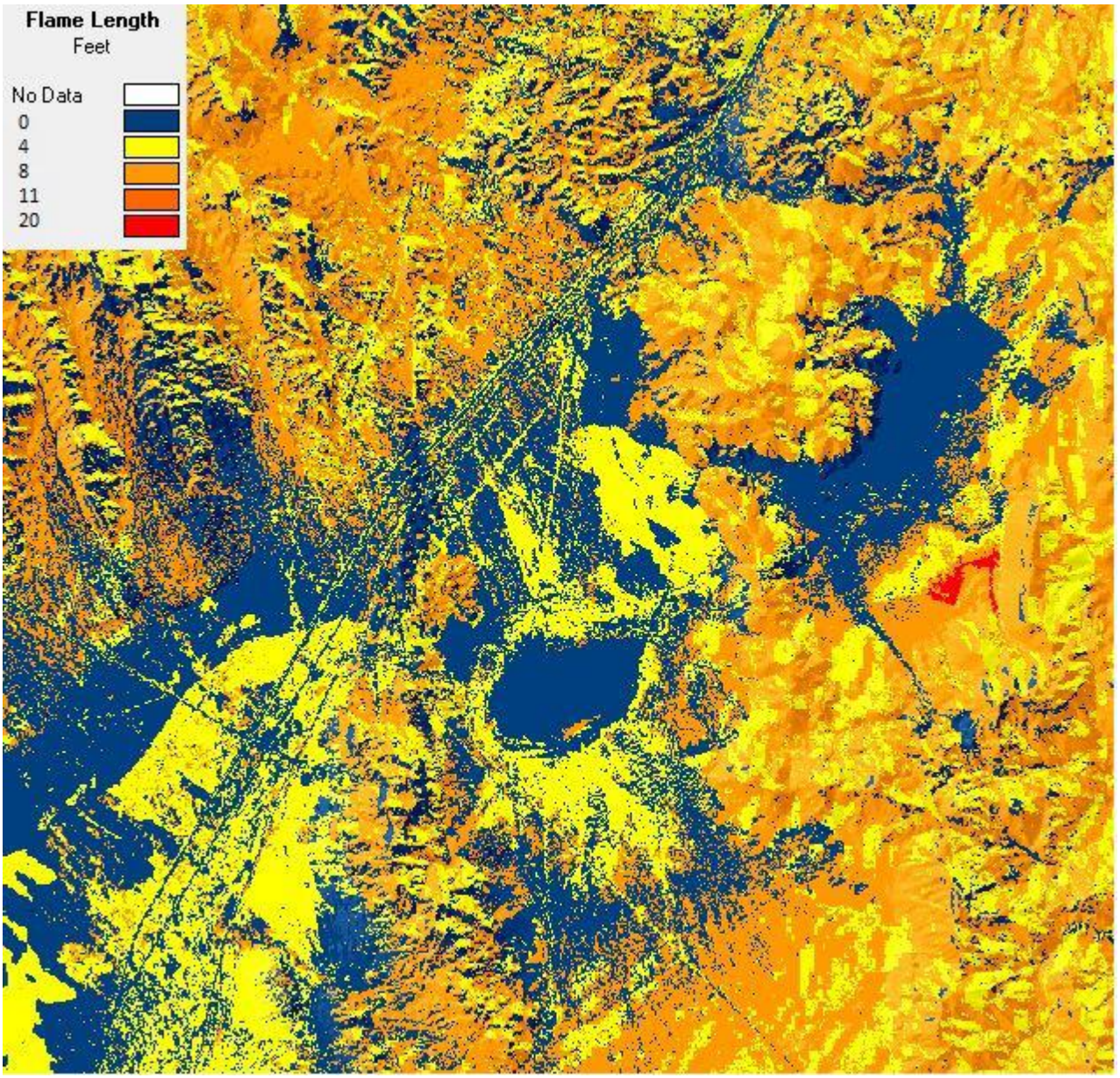
The following FLMMAP outputs were generated using LANDFIRE data and user inputs

FLAMMAP/LANDFIRE FBFM4

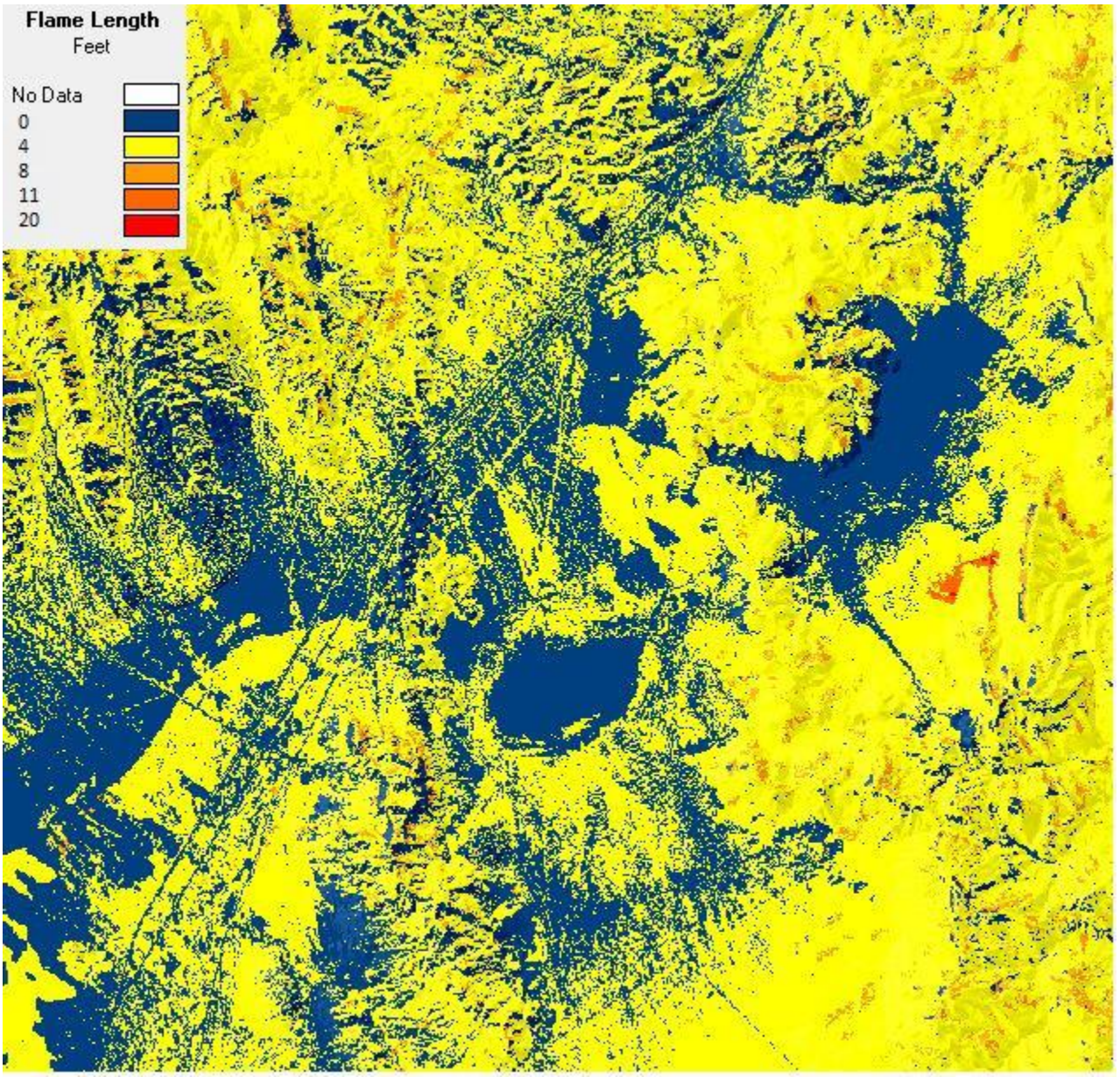


FLAMMAP Flame Length

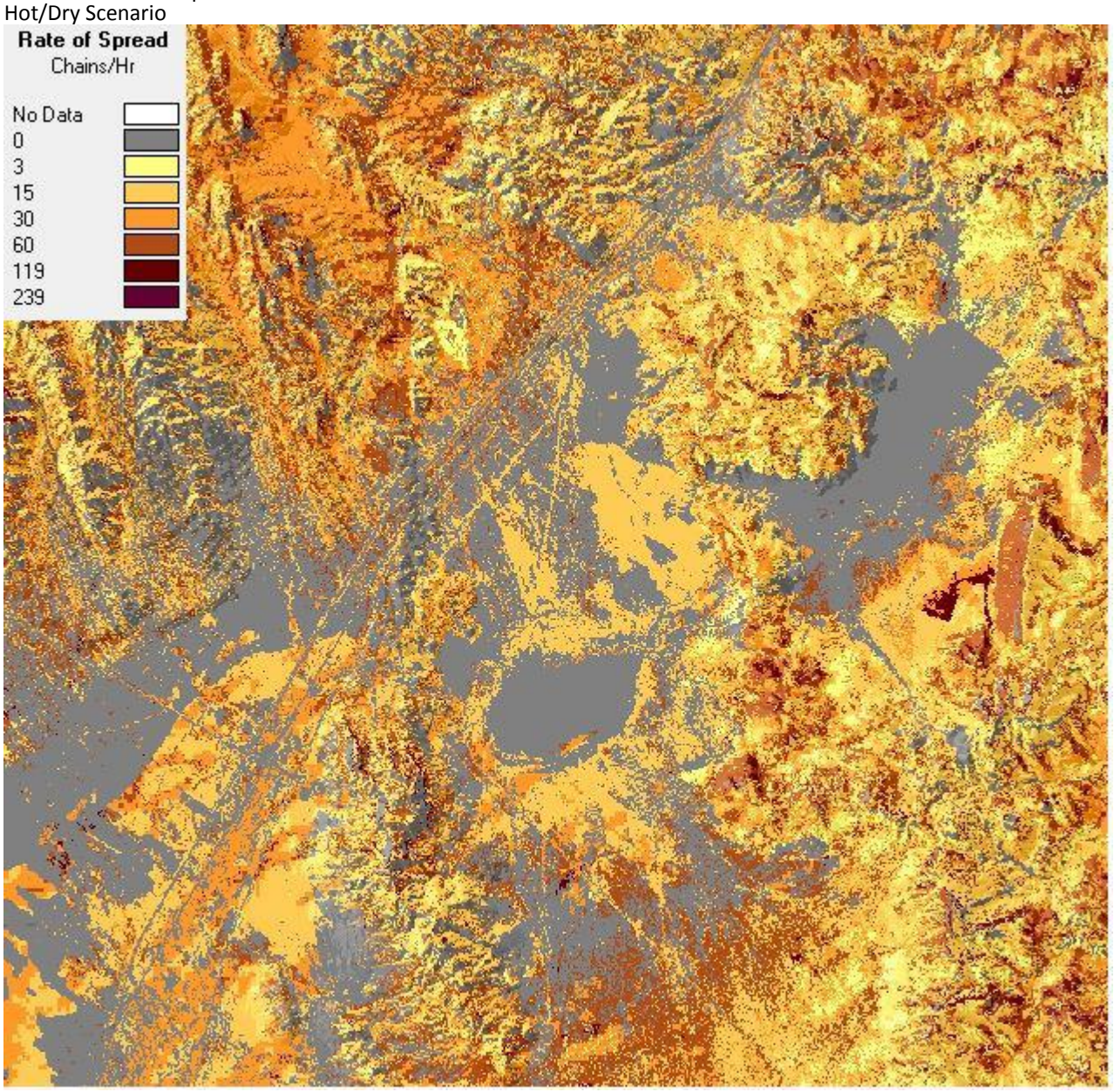
Hot/Dry Scenario



Cooler Seasonal Scenario



FLAMMAP Rate of Spread
Hot/Dry Scenario



Cooler Seasonal Scenario