KEELER DUNES DUST CONTROL PROJECT

DRAFT ENVIRONMENTAL IMPACT REPORT / ENVIRONMENTAL ASSESSMENT

VOLUME I

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EXECUTIVE SUMMARY

ES EXECUTIVE SUMMARY

ES.1 BACKGROUND AND PROJECT OVERVIEW

The requirement to control dust emissions from the Keeler Dunes in order to demonstrate attainment of the federal standard within the OVPA is specified in the 2008 SIP.[1] The Great Basin Unified Air Pollution Control District (District) is responsible for developing a dust control strategy and plan for the Keeler Dunes PM_{10} emissions.

One of the largest remaining sources of uncontrolled PM_{10} emissions in the Owens Valley is the Keeler Dunes. The Keeler Dunes were specifically identified in the 2006 Settlement Agreement and the 2008 SIP as a source of PM_{10} that require controls in order for the OVPA to meet the federal PM_{10} standard and to meet the California State PM_{10} standard in Keeler and Swansea. Dust from the dunes cause an average of six violations of the National Ambient Air Quality Standards for PM_{10} every year in the community of Keeler. These violations affect the residents of the communities of Keeler and Swansea, as well as local workers and visitors that travel through the area, and are a documented cause of safety problems on SR 136. As a result, the District began a focused investigation of the Keeler Dunes in 2008 to develop and implement a control strategy for dust emissions from the dunes.

The process of investigating the source and responsibility for emissions and possible best available control measures, which was undertaken between 2011 and 2013, generated substantial controversy among the stakeholders. However, in 2013, the District and the LADWP executed the 2013 Settlement Agreement that allows the District to move ahead expeditiously with implementation of the dust control project in the Keeler Dunes with the support of LADWP.[2] According to the terms of the 2013 Settlement Agreement, the LADWP will provide ten million dollars ($10,000,000) to the District as a public benefit contribution for implementing dust controls in the Keeler Dunes. In return, the District agreed to forever release the LADWP from any and all liability for dust emissions, regardless of origin, from the Keeler Dunes. The funds from the LADWP for the "Keeler Project" were received by the District in December 2013.

ES.2 PROPOSED PROJECT / PROPOSED ACTION

The proposed project / proposed action would implement DCMs (native vegetation and straw bales) on 194 acres of the project study area. The District designed the proposed project / proposed action to minimize environmental impacts by applying two different dust control levels at the project site (Figure 2.2.1-1, *Dust Control Measure Locations and Minimum Efficiency Requirements*). A dust control efficiency of 95 percent would be implemented on approximately 177 acres and would result in an immediate cover by the bales of approximately 12.1 percent. The proposed project / proposed action would implement 85 percent control on 17 acres, resulting in a 6.7 percent bale cover. Additional surface cover is expected from the shrubs as they fully develop and mature. The total acreage (177 acres at a 95 percent control efficiency and 17 acres at an 85 percent control efficiency) for DCMs to which native vegetation would be applied is 194 acres.

[1] Great Basin Unified Air Pollution Control District. 28 January 2008. *2008 Owens Valley PM10 Planning Area Demonstration of Attainment State Implementation Plan*. Bishop, CA.

[2] Great Basin Unified Air Pollution Control District and Los Angeles Department of Water and Power. 25 June 2013. Phase 7a and Keeler Dunes Settlement Terms. Available at: http://www.gbuapcd.org/owenslake/Phase7a/LADWP-GBUAPCD-Phase7a&KeelerDunesSettlementTermsProposedFinal20130625.pdf

Approximate numbers of plants and straw bales necessary to achieve an estimated 85 and 95 percent dust control efficiency on a total of 194 acres are summarized in Table 2.2.1-1, *Proposed Project / Proposed Action Dust Control Applied to 194 Acres*.

TABLE ES.2-1
PROPOSED PROJECT / PROPOSED ACTION DUST CONTROL APPLIED TO 194 ACRES

Element	Minimum Control Efficiency (%)	Number of Acres	Number Required per Acre	Total Number Required
Native plants	95	177	1,983	350,991
Native plants	85	17	1,092	18,564
Total plants				**369,555**
Straw bales*	95	177	661	116,997
Straw bales	85	17	364	6,188
Total straw bales				**123,185**

Note: * The dimensions of the straw bales are 0.6 x 0.4 x 1.17 meters.

The water supply for plant irrigation will come from the Fault Test well and will be delivered via 8,000 gallon water trucks to each of the three staging areas along the Old State Highway. Water would be transferred to the small ATV water tanks directly from water trucks that would park in the staging areas. Water will then be applied via ATVs towing a trailer with a water tank (~150 to 200 gallon capacity) into the proposed project / proposed action area. The initial irrigation during planting would take approximately 15 weeks to complete.[3] Each supplemental irrigation event would take a crew of 10 workers approximately 10 weeks. See Table 2.1.5.2-2 for a summary of the water requirements for the irrigation events included in the proposed project / proposed action.

ES.3 PURPOSE AND NEED

This document is a joint Environmental Impact Report / Environmental Assessment (EIR/EA) that meets the requirements of both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) for the Keeler Dunes Dust Control Project (proposed project / proposed action). The EIR/EA describes the existing environment that would be affected by, and the environmental consequences that could result from, the proposed project / proposed action and alternatives, as described in Section 2, *Proposed Project / Proposed Action and Alternatives*, of this document.

The EIR/EA (State Clearinghouse No. 2011101065/EA) is a public document that analyzes the potential environmental effects associated with the approval of the proposed project / proposed action in accordance with both CEQA and NEPA.

This document has been prepared by both the Great Basin Unified Air Pollution Control District (District; state lead agency pursuant to CEQA and cooperating agency for NEPA) and the U.S. Department of the Interior Bureau of Land Management (BLM) Bishop Field Office (federal lead agency under NEPA [40 Code of Federal Regulations {CFR} 1508.15]). The EIR/EA provides sufficient evidence and analysis for determining the significance of effects from the proposed project / proposed action consistent with 40 CFR 1508.9 and serves as a basis for reasoned choice

[3] Assuming a crew of 10 workers working 5 days a week.

among proposed alternatives. Additional explanation of the joint nature of this document is provided in Subsection 1.6.

ES.3.1 DISTRICT PURPOSE AND NEED

The District's goal for control of dust emissions, consistent with the provisions of the federal and state Clean Air Acts, is to utilize measures that reduce PM_{10} exceedances while minimizing impacts to natural and cultural resources located within the Keeler Dunes and surrounding area. The dust control strategy includes establishment and management of native vegetation and the use of straw bales as temporary wind breaks to provide immediate control and to aid in vegetation establishment. The ultimate goal of the proposed project / proposed action is to implement a strategy that not only controls dust emissions from the Keeler Dunes but also protects resources and creates a natural landscape that is self-sustaining and can be operated and maintained with minimal inputs.

The District identified and prioritized six basic objectives that are important to achieving the proposed project / proposed action goals:

- Reduce the levels of windblown dust that are causing and contributing to exceedances of the NAAQS and California State standard for particulate matter (PM_{10}) air pollution
- Attain the NAAQS and California State PM_{10} standards in the communities of Keeler and Swansea
- Minimize impacts to natural resources
- Minimize impacts to historic properties below the threshold of adverse effect
- Create a landscape that mimics comparable natural environments
- Be self-sustaining and operated with minimal resources

ES.3.2 BLM PURPOSE

The BLM's purpose and need for action is to respond to the District's application for a right-of-way (ROW) to implement the proposed dust control measures (DCMs) on public land in the Keeler Dunes. Based on the analyses in this EIR/EA, the Bishop Field Manager will decide whether or not to grant a ROW for the proposed action or one of the alternatives and, if granted, what terms and conditions including minimizing measures and mitigation will be applied to the grant.

The BLM is authorized to grant ROWs on public lands for "facilities which are in the public interest and which require rights-of-way over, upon, under, or through such lands" (Section 501 [a][7]). A ROW application is required to implement the District's project to construct, operate, and maintain DCMs on public land under the jurisdiction of the BLM.

ES.3.3 CEQA OBJECTIVES

As provided in the CEQA Guidelines, public agencies are charged with the duty to avoid or minimize environmental damage where feasible. In discharging this duty, the District has an obligation to balance a variety of public objectives, including economic, environmental, and social issues (Section 15021 of the CEQA Guidelines). The findings and conclusions of the EIR regarding environmental impacts do not control the District's discretion to approve, deny, or modify the proposed project, but instead are presented as information intended to aid the decision-making process. Sections 15122 through 15132 of the CEQA Guidelines describe the required content of an EIR: a description of the project and the environmental setting (existing conditions); an analysis of the expected direct, indirect, and cumulative impacts. significant irreversible environmental changes, and growth-inducing impacts; mitigation measures to address significant impacts; alternatives; and any significant and unavoidable impacts. As a project-level EIR, this document primarily focuses on the changes in the environment that would result from construction and operation of the proposed project. The District is required to consider the information in the EIR, along with any other relevant information, in making final decisions on the proposed project as stated in Section 15121 of the CEQA Guidelines.

ES.3.4 NEPA OBJECTIVES

Under the NEPA process, the CEQ regulations for implementing NEPA require federal agencies to identify and assess reasonable alternatives to the proposed actions that will restore and enhance the quality of the human environment and avoid or minimize adverse environmental impacts. Project planning activities are required to include environmental issues and to integrate impact studies required by other environmental laws and Executive Orders into the NEPA process. The BLM must also comply with the Department of the Interior's regulations for implementing the procedural requirements of NEPA[4] in addition to the BLM's NEPA Handbook[5] in processing ROW applications.

The CEQ's regulations for implementing NEPA describe the purpose of the environmental review as "ensure(ing) that environmental information is available to public officials and citizens before decisions are made and before actions are taken."[6] In this case, the District's application for the installation, monitoring, and management of DCMs on public land managed by the BLM triggers the need for NEPA environmental review. The Bishop Field Manager will use the information contained in this EIR/EA to make a decision on whether to grant an ROW for project implementation and, if so, to grant it as requested or modified.

ES.4 ALTERNATIVES

As a result of the project formulation process, the District explored alternatives to the proposed project to assess their ability to meet most of the objectives of the project and reduce significant effects of the proposed project. Alternative projects recommended by the scoping process were evaluated as related to the project objectives and their ability to reduce significant impacts as

[4] 43 CFR Part 46.

[5] Bureau of Land Management, 2008. National Environmental Policy Act Program. January 2008. Available at: http://www.blm.gov/pgdata/etc/medialib/blm/ak/aktest/planning/planning_general.Par.2116.File.dat/Handbook.NEPA.H-1790-1.2k8.01.30%255B1%255D.pdf

[6] 40 CFR § 1500.1 (b).

described in Section 4.0 of this EIR/EA. Six project alternatives required under CEQA have been carried forward for detailed analysis and are discussed below.

ES.4.1 Alternative 1, Dust Control Measures Applied to 214 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Alternative 1 has DCMs applied at different intensities in different areas of the Keeler Dunes, and the total acreage treated is 20 acres larger than the proposed project / proposed action. This alternative focuses on controlling the highest dust emitting areas in the un-vegetated sand dunes by applying more closely spaced straw bales and plants (95 percent control efficiency) over 140 acres. Straw bales and plants would be placed in the inter-dune sand sheet areas (74 acres) at 90 percent control efficiency. Table ES.5.1, *Alternative 1, Dust Control Measures Applied to 214 Acres Via Water Trucks / ATVs*, summarizes the acreage treated and the approximate number of plants and straw bales necessary to achieve an estimated 90 and 95 percent dust control efficiency.

Table ES.4.1-1
Alternative 1, Dust Control Measures Applied to 214 Acres Via Water Trucks / ATVs

Element	Minimum Control Efficiency	Number of Acres	Number Required per Acre	Total Number Required
Native vegetation	95 percent	140	1,983	277,620
Native vegetation	90 percent	74	1,383	102,342
Total plants				**379,962**
Straw bales*	95 percent	140	661	92,540
Straw bales	90 percent	74	461	34,114
Total straw bales				**126,654**

Note: * The dimensions of the straw bales are 0.6 x 0.4 x 1.17 meters.

Under Alternative 1, construction would be essentially the same as for the proposed project / proposed action as described in Section 2.1.5.2, *Project Elements Common to All Project / Action Alternatives*. The primary difference between the alternatives would be the total number of plants and straw bales that would be transported to the project site and distributed onto a larger area (20 additional acres) of dust control. As with the proposed project / proposed action, supplemental irrigation in the first 3 years following installation of native vegetation would be completed via hauling of water in small water tanks (about 150–200 gallons) mounted on a trailer and pulled with an ATV and then irrigation would be conducted by hand through a small diameter hose. Alternative 1 would result in a greater number of plants and straw bales; hence, additional workers and equipment may be necessary to complete the alternative in the same time frame as the proposed project / proposed action.

ES.4.2 Alternative 2, Dust Control Measures Applied to 197 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Alternative 2 has DCMs applied at different intensities in different areas of the Keeler Dunes, and the total acreage treated is 3 acres larger than the proposed project / proposed action. This alternative focuses on applying the highest intensity of dust control (95 percent control efficiency) across the Keeler Dunes and inter-dune sand sheet areas (170 acres), while applying less intensive controls on other inter-dune areas (27 acres at 90 percent dust control efficiency). Alternative 2

would control the highest dust emitting areas of the dunes by applying more closely spaced straw bales and plants at these locations. Table ES.5.2, *Alternative 2, Dust Control Measures Applied to 197 Acres*. summarizes the acreage treated and the approximate number of plants and straw bales necessary to achieve an estimated 90 and 95 percent dust control efficiency.

TABLE ES.4.2-1
ALTERNATIVE 2, DUST CONTROL MEASURES APPLIED TO 197 ACRES VIA WATER TRUCKS / ATVS

Element	Minimum Control Efficiency	Number of Acres	Number Required per Acre	Total Number Required
Native vegetation	95 percent	170	1,983	337,110
Native vegetation	90 percent	27	1,383	38,724
Total plants				**375,834**
Straw bales*	95 percent	170	661	116,997
Straw bales	90 percent	27	461	12,908
Total bales				**129,905**

Note: * The dimensions of the straw bales are 0.6 x 0.4 x 1.17 meters.

Under Alternative 2, construction would be essentially the same as for the proposed project / proposed action as described in Section 2.1.5.2, *Project Elements Common to All Project / Action Alternatives*. The primary difference between the proposed action and Alternative 2 would be the total number of plants and straw bales that would be transported to the project site and distributed onto a slightly larger area (3 additional acres). As with the proposed project / proposed action, supplemental irrigation in the first 3 years following installation of native vegetation would be completed via hauling of water in small water tanks (about 150–200 gallons) mounted on a trailer and pulled with an ATV and then irrigation would be conducted by hand through a small diameter hose.

ES.4.3 ALTERNATIVE 3, DUST CONTROL MEASURES APPLIED TO 194 ACRES USING IRRIGATION WATER DELIVERED VIA WATER TRUCKS / TANKS / PVC IRRIGATION SYSTEM AND SELECTED MANUAL WATERING

Under Alternative 3, the dust control measures would be the same as the proposed project / proposed action. Water obtained from the District's production well at the Fault Test site would be transported to the site via large water trucks to temporary storage tanks located at the three of the four designated staging areas. Since the staging areas are lower in elevation than the Alternative 3 area, each staging area with a water tank would need to have a manifold and booster pump to pressurize the irrigation system. Pumps would be two to three Horse Power diesel booster pumps that would be operated during daylight hours when there is active watering of the project area. The use of water tanks mounted on ATVs, to distribute supplemental irrigation during the operations and maintenance phase of Alternative 3, would be replaced with a temporary aboveground irrigation system that would be installed within the 95-percent control level area to provide water to the Alternative 3 area. Plants within the sensitive 85-percent control area would be manually watered using the same method as described proposed project / proposed action. In the environmentally sensitive areas, the ATV mounted tanks would be filled with water from the delivery system within the Alternative 3 site instead of from trucks at the staging areas.

In Alternative 3, the temporary irrigation system would be designed such that irrigation laterals are placed every 150 feet across the Alternative 3 site, rather than extending to each straw bale. The water from the 2-inch lateral lines would be delivered to the plant locations through detachable hoses. Alternative 3 includes travel into the area by ATV to the hose attachment points along the distribution lateral lines. Watering of individual plants in the vicinity of the hose attachment points would be conducted by a worker on foot.

All travel associated with irrigation would be along the designated access routes and lateral lines. In Alternative 3, the water trucks would only be present at the staging areas during times of active watering. The water trucks would be parked off-site at night and on weekends, at the Fault Test Well site, or other existing parking or staging area in the vicinity of Owens Lake. This alternative would reduce the amount of travel in the dunes by approximately 80 percent, as compared to the proposed project/proposed action. At locations where the access route crosses irrigation lines, temporary protective covers would be placed over the piping to allow travel over the system and prevent damage to the irrigation system. There would be approximately 124 total crossings of the irrigation lines (with 62 crossings of the 2-inch distribution laterals and 62 crossings of the 4-inch transmission line). An estimated 4,500 miles of travel are required over the course of the first 3 years for watering all of the plants in the Alternative 3 area. The initial irrigation during planting would take approximately 8 weeks to complete. Each supplemental irrigation event would take approximately 5 weeks. Following the completion of each irrigation event the irrigation system would be drained of water. Each distribution lateral will have a drain valve installed. Approximately 200 gallons of water will be drained from each lateral in a manner to prevent flows off of the project area.

ES.4.4 Alternative 4, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / PVC Irrigation System and Selected Manual Watering

Under Alternative 4, the DCMs would be the same as the proposed project / proposed action. In Alternative 4, water obtained from the Fault Test Well would be transported to the site via water trucks. The water delivery system would be fed from three supply points along SR 136. As with Alternative 3, plants within the 95-percent control area would continue to be watered with hoses attached to the laterals of the temporary PVC irrigation system. In this alternative, water trucks would stage at turnouts built near to the highway and deliver water directly in to the temporary PVC irrigation system, rather than utilizing water tanks at the staging areas for temporary storage as proposed in Alternative 3. As in Alternative 3, hand watering would be done in approximately 8 percent of the dust control area using hoses to deliver water from tanks mounted on ATVs. The ATV mounted tanks would be filled with water from the delivery system within the project instead of from tanks at the staging areas or from the trucks at the turnouts.

As in Alternative 3, in this alternative the temporary irrigation system would be designed such that distribution laterals would be placed every 150 feet across the site, rather than extending directly to each straw bale. The water from the lateral lines would be delivered to the plant locations through detachable hoses. This option includes travel into the project area from the staging areas by ATV to the hose attachment points along the lateral lines. Watering of individual plants in the vicinity of the hose attachment points would be conducted by a worker on foot. All travel associated with irrigation would be along the designated access routes and lateral lines. The ATV travel in the project in Alternative 4 is comparable to that in Alternative 3 and is approximately 80 percent as compared to the proposed project / proposed action. At locations where the access route crosses

irrigation lines, temporary protective covers would be placed over the piping to allow travel over the system and prevent damage to the irrigation system. There would be approximately 124 total crossings of the irrigation lines (with 62 crossings of the 2-inch distribution laterals and 62 crossings of the 4-inch transmission line).

In Alternative 4, the water trucks would be temporarily staged at the designated turnouts during times of active watering. Three turnouts would be established along the west side of SR 136 for water truck staging. The water trucks would be parked off-site at night and on weekends, at the Fault Test Well site, or other existing parking or staging area in the vicinity of Owens Lake. Since the turnouts along SR 136 are higher in elevation than the entire dust control project, the system would be gravity fed and no booster pumps and engines would be required. Following the completion of each irrigation event the irrigation system would be drained of water. Each distribution lateral will have a drain valve installed. Approximately 200 gallons of water will be drained from each lateral in a manner to prevent flows off of the project area.

ES.4.5 Alternative 5, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via KCSD Water Well / Pipeline to Irrigation System and Selected Manual Watering

Under Alternative 5, the dust control measures would be the same as the proposed project / proposed action. In Alternative 5, water obtained from the KCSD well would be transported to the site via a temporary pipeline that connects into the KCSD water system near the KCSD well site. Water would be supplied directly to the temporary irrigation system from the KCSD, in lieu of the District's Fault Test well. As with Alternatives 3 and 4, Alternative 5 would include a temporary aboveground irrigation system installed within the 95-percent control level area to provide water to the project area. The irrigation system will require the use of one small electric booster pump to achieve sufficient water pressure. Plants within the 85-percent control area would be watered by hand using the same method as described above. The ATV mounted tanks would be filled with water from the delivery system within the project.

The pipeline would be routed under SR 136 using directional drilling under the existing roadway to avoid impacts to SR 136. In order to install the pipe under the SR 136, a temporary disturbance of approximately 50-feet by 50 feet on each side of the road would be required for the drilling equipment. In order to have sufficient water pressure in the irrigation system, a small 2-3 horsepower electric pump may be used near the KCSD well.

As in Alternatives 3 and 4 the temporary irrigation system would be designed such that irrigation laterals are placed every 150 feet across the site, rather than extending directly to each straw bale. The water from the lateral lines would be delivered to the plant locations through detachable hoses. This option includes travel into the Alternative 5 area by ATV from the staging areas to the hose attachment points along the lateral lines. Watering of individual plants in the vicinity of the hose attachment points will be conducted by a worker on foot. All travel associated with irrigation would be along the designated access routes and lateral lines. At locations where the access route crosses irrigation lines, temporary protective covers would be placed over the piping to allow travel over the system and prevent damage to the irrigation system. There would be approximately 124 total crossings of the irrigation lines (with 62 crossings of the 2-inch distribution laterals and 62 crossings of the 4-inch transmission line).

This option has similar mileage requirements to those in Alternatives 3 and 4 and reduces the amount of travel in the dunes by approximately 80 percent as compared to the proposed project / proposed action. Since Alternative 5 would deliver water directly to the site via a water line from the KCSD system, there would be no water trucks required to support the irrigation efforts. In the absence of water trucks, this alternative would reduce vehicle miles traveled by approximately 628 miles per year. The duration of watering events for Alternative 5 is similar to Alternatives 3 and 4 with the initial irrigation during planting taking approximately 8 weeks to complete and each supplemental irrigation event taking approximately 5 weeks. Following the completion of each irrigation event the irrigation system would be drained of water. Each distribution lateral will have a drain valve installed. Approximately 200 gallons of water will be drained from each lateral in a manner to prevent flows off of the project area.

ES.4.6 ALTERNATIVE 6, NO PROJECT / NO ACTION ALTERNATIVE

The No Action Alternative is the functional equivalent of the No Project Alternative under CEQA (CEQA Guidelines Section 15126.6(e)). Under the No Project / No Action Alternative, no DCMs would be implemented at the Keeler Dunes. During high wind events, the Keeler Dunes would continue to emit levels of windblown dust that cause and contribute to exceedances of the NAAQS and California State 24-hour standard for PM_{10} air pollution in the communities of Keeler and Swansea. In addition, under the No Project / No Action Alternative, one of the continuing dust sources in the Owens Valley Planning Area would not be remediated, contributing to noncompliance in this area and jeopardizing attainment of NAAQS for PM_{10}, as required under the 2008 SIP.

ES.5 SUMMARY OF IMPACTS

There are seven resources that are potentially of interest pursuant to CEQA that are not expected to have significant impacts resulting from implementation of the proposed project/proposed action and project/action alternatives under consideration, as documented in Section 1.12.1 of this EIR/EA; and therefore were not carried forward for detailed evaluation in this EIR/EA:

- Agriculture And Forestry Resources
- Hazards And Hazardous Materials
- Mineral Resources
- Noise
- Population And Housing
- Public Services
- Utilities And Service Systems

Eleven environmental issues defined pursuant to NEPA were carried forward for detailed analysis in this EIR/EA: aesthetics / visual resources, air quality, biological resources, cultural resources, geology and soils, greenhouse gases, hydrology and water quality, land use and planning, paleontological resources, recreation, and transportation and traffic .There are nine resources that are potentially of interest pursuant to NEPA that do not exist in the study are, as delineated in Section 1.12.2 of this EIR/EA, and therefore do not warrant analysis in the EIR/EA:

- Agricultural Land / Forestry Resources
- Essential Fish Habitat
- Farmlands, Prime or Unique

- Rangelands/Livestock Management
- Threatened and Endangered Species
- Wild and Scenic Rivers
- Wild Horses and Burros
- Wilderness Characteristics
- Wilderness and/or Wilderness Study Areas

The remaining environmental issue are carried forward for detailed analysis in this EIR / EA: aesthetics / visual resources, air quality, biological resources, cultural resources, geology and soils, paleontological resources, greenhouse gases, hydrology and water quality, land use and planning, recreation, and transportation and traffic. The analysis undertaken in support of this EIR/EA has determined that impacts to aesthetics / visual resources, air quality, biological resources, cultural resources, geology and soils, greenhouse gases, hydrology and water quality, land use and planning, paleontological resources, recreation, and transportation and traffic would not require mitigation measures as several project design elements have been incorporated into the proposed project / proposed action description to avoid the potential for significant impacts. Table ES 5-1, *Summary of Environmental Consequences*, presents impacts related to each issue area analyzed that might result or can be reasonably expected to result from implementation of the proposed project. In accordance with Section 15123 of the State CEQA Guidelines, Table ES 5.1 provides a a determination of Significance pursuant to CEQA. These determinations are not relevant to the NEPA evaluation. The BLM will make one of two determinations in light of the analysis contained in the EA, that either there is a Finding of No Significant Impact or that preparation of an environmental impact statement is warranted.

TABLE ES.5-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Environmental Effects	Level of Impact / CEQA Significance Determination before Mitigation	Mitigation Measures Recommended or Required	Level of Impact / CEQA Significance Determination after Mitigation
Aesthetics			
Proposed Project / Proposed Action **Direct and Indirect Impacts** **Construction** Construction of the proposed project / proposed action would cause temporary visual impacts on BLM lands due to the presence of equipment, materials, and workers over the course of the 11-month construction period. ATVs, semi-trucks with trailers, hay squeezes water trucks, and pickup trucks would be needed to deliver materials to the project site, and ATVs and trailers would be used within the project area and to move materials around the project site. Equipment would be visible from portions of SR 136 and adjacent roadways in the community of Keeler. Throughout the construction period, the proposed project / proposed action implementation activities would result in short-term adverse impacts to the project site. Access routes and staging areas would be prepared by brushing and grubbing, which leaves the vegetation roots intact within the ground and avoids the greater visual impact of grading. Impacts to visual resources associated with construction would be temporary because access routes and staging areas would eventually be restored with native vegetation. The visual character of the site would be altered from the existing sand sheet and bare sand dunes; however, the resulting visual character is similar to other natural dune environments. Following restoration of the access routes and staging areas, no direct impacts would occur.	MI	None	NA
Operation and Maintenance ***KOP #1 – Gathering Space at Northwestern Edge of the Community of Keeler*** The resulting visual change would be weak because the straw bales and temporary irrigation infrastructure would be barely visible and consistent with the other infrastructure that is visible from KOP 1, thereby meeting VRM Class III standards.	NI	None	NA
KOP #2 – State Route (SR) 136 Near the Southwestern Edge of the Proposed Dust Control Measures (DCMs) The resulting visual change would be weak because the straw bales and temporary irrigation infrastructure would be barely visible and consistent with the other infrastructure that is visible from KOP 2, thereby meeting VRM Class III standards.	NI	None	NA
KOP #3 – LADWP Scenic Overlook Along SR 136 The resulting visual change would be weak because the straw bales and temporary irrigation infrastructure would be barely visible and consistent with the other infrastructure that is visible from KOP 3, thereby meeting VRM Class III standards.	NI	None	NA
KOP #4 – SR 136 Near the Junction with an Existing Haul Road, Northeast of the Proposed DCMs The resulting visual change would be weak because the straw bales and temporary irrigation infrastructure would be barely visible and consistent with the other infrastructure that is visible from KOP 4, thereby meeting VRM Class III standards.	NI	None	NA
CEQA Significance Determination ***Adverse Effect on a Scenic Vista*** No impact to a scenic vista would occur under CEQA during construction, operation and maintenance, or restoration of the staging areas and access routes because the project site is not visible from any designated scenic vista.	NI	None	NA
Damage Scenic Resources within a State Scenic Highway No impact to a state scenic highway would occur under CEQA during construction, operation and maintenance, or restoration of the staging areas and access routes because the project site is located over 16 miles away from the nearest designated state scenic highway and is not visible from any eligible or designated state scenic highway.	NI	None	NA
Degrade Existing Visual Character or Quality of the Site Less than significant impacts under CEQA with regard to substantially degrading the existing visual character or quality of the project site as a result of construction, operation and maintenance, or restoration of the staging areas and access routes because the project components would be consistent with the existing visual character and quality of the site: (1) the straw bales would be consistent in color, arrangement, and size to the existing native vegetation, soften over time as they are degraded and covered by blowing sand, and blend in with the existing vegetation from a distance; (2) the native vegetation is characteristic of stable dune structures in the Owens Lake area; and (3) the temporary project components (access route, staging areas, and equipment used during watering events) would be visible but compatible with the existing landscape of the proposed project site, which contains nearby water storage wells and tanks, vertical electrical transmission line poles passing through the site, vehicles including watering trucks and double rigs traveling along SR 136 and in the Owens Lake dust control area, and 10- to 15- foot high structures and mobile homes in the nearby community of Keeler.	MI	None	NA
New Source of Substantial Light or Glare No new sources of light and glare would adversely affect day or nighttime views in the area as a result of construction, operation and maintenance, or restoration of the staging areas and access routes because construction, operation and maintenance, and restoration activities would only occur during daylight hours and the project components would be non-reflective, would not emanate light, and would not be a source of glare during the daytime when sunlight is present.	NI	None	NA
Alternative 1 – Similar to Proposed Project / Proposed Action as DCMs would be applied to 20 additional acres.	MI	None	NA
Alternative 2 – Similar to Proposed Project / Proposed Action as DCMs would be applied to 3 additional acres.	MI	None	NA
Alternative 3 – More than Proposed Project / Proposed Action but less than significant because (1) dark olive green painted water storage tanks would be barely visible in less than one percent of the viewshed and are consistent with other public infrastructure in the vicinity of Owens Lake, and (2) the temporary PVC pipe irrigation system would be barely visible and could potentially produce a new source of glare during the daytime when sunlight is present below the level of significance.	MI	None	NA

Key: BI = Beneficial Impact DI = Direct Impact (Effect) IE = Indirect Effect MI = Minor Impact NI = No Impact NA = Not Applicable
LTS = Less than Significant PS = Potentially Significant CC = Cumulatively Considerable LCC = Less than Cumulatively Considerable

TABLE ES.5-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES, *CONTINUED*

Environmental Effects	Level of Impact / CEQA Significance Determination before Mitigation	Mitigation Measures Recommended or Required	Level of Impact / CEQA Significance Determination after Mitigation
Alternative 4 – More than Proposed Project / Proposed Action but less than significant because (1) the temporary PVC pipe irrigation system would be barely visible and could potentially produce a new source of glare during the daytime when sunlight is present below the level of significance and (2) the PVC trunk lines connecting the irrigation system to turnouts along SR 136 would be visible between the existing vegetation and dune topography but painted beige/tan to blend in with the surrounding landscape and would likely become partially covered by sand during the course of operation and maintenance, resulting in a less than significant impact on visual character and quality.	MI	None	NA
Alternative 5 – More than Proposed Project / Proposed Action but less than significant because (1) the temporary PVC pipe irrigation system would be barely visible and could potentially produce a new source of glare during the daytime when sunlight is present below the level of significance and (2) the PVC trunk line connecting the irrigation system to the KCSD well would be visible between the existing vegetation and dune topography but painted beige/tan to blend in with the surrounding landscape and would likely become partially covered by sand during the course of operation and maintenance, resulting in a less than significant impact on visual character and quality.	MI	None	NA
Alternative 6 – No new development is proposed under the No Project / No Action Project Alternative. The existing impacts of dust on aesthetics would not be alleviated because DCMs would not be implemented.	MI	None	NA
Air Quality			
Proposed Project / Proposed Action			
Direct and Indirect Impacts			
Construction			
Due to the fact that emissions of PM_{10} would be expected to be below the *de minimis* threshold and that the overall purpose of the project is to reduce PM_{10} emissions, the project would not be subject to a conformity determination. The project generates *de minimis* levels of criteria pollutants from daily regional construction emissions. The annual regional construction emissions associated with construction would not be expected to exceed the U.S. EPA *de minimis* threshold for PM_{10}.	MI/LTS	None	N/A
Operation and Maintenance			
Operational air emissions at the proposed project / proposed action property are likely to result from mobile sources due to monitoring activities and annual watering, as needed. The estimated daily operational emissions of PM_{10} for the monitoring phase of the proposed project / proposed action including mobile-source emissions due to employee commute trips would be below the U.S. EPA *de minimis* thresholds. The annual operational emissions of PM_{10} for the monitoring phase of the proposed project / proposed action would be below the U.S. EPA *de minimis* thresholds. Due to the low number of vehicle trips anticipated for the proposed project / proposed action (8–10 per day), there would be no substantial increase in carbon monoxide (CO) concentrations at sensitive receptor locations. **).** Toxic air contaminants (TACs) impacts at the proposed project / proposed action property would result primarily from diesel particulate emissions associated with heavy-duty equipment operations. the number of heavy-duty delivery trucks accessing the proposed project / proposed action property on a daily basis would be minimal, and the proposed project / proposed action area is remote and largely unpopulated; therefore, TAC emissions would not occur in large concentrations in populated areas and would be minor in nature and duration and would not adversely affect human health. The construction and operations and maintenance phases of the proposed project / proposed action would not generate area-source emissions that would be expected to impair visibility.	MI/LTS	None	N/A
CEQA Significance Determination			
Conflict with Air Quality Plan			
The proposed project / proposed action would not have any impact related to conflicts with the applicable air quality plan, the 2008 Owens Valley PM_{10} Demonstration of Attainment State Implementation Plan. The proposed project has been designed to facilitate implementation of elements of the plan related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.	BI	None	N/A
Violate Air Quality Standard			
The proposed project / proposed action would not have any significant impact to air quality related to a violation of an air quality standard or contribution to an existing or projected air violation. The proposed project has been designed to facilitate implementation of elements of the 2008 Owens Valley PM_{10} Demonstration of Attainment State Implementation Plan related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.	BI	None	N/A
Cumulatively Considerable Net Increase			
The proposed project / proposed action would not contribute to a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment. The OVPA is non-attainment for PM_{10} emissions. The proposed project has been designed to facilitate implementation of elements of the 2008 SIP related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS	BI/LCC	None	N/A
Expose Sensitive Receptors			
The proposed project / proposed action would result in less than significant impacts to air quality as a result of exposure of sensitive receptors to substantial pollutant concentrations of carbon monoxide, toxic air contaminants, or visibility-reducing particles. Implementation of the proposed project would have a net benefit in relation to reduction of exposure of sensitive receptors in the communities of Keeler and Swansea.	NI	None	N/A
Create Objectionable Odors			
The proposed project / proposed action would result in less than significant impacts to air quality related to the creation of objectionable odors. The proposed project is located approximately 0.5 mile away from the nearest population, the community of Keeler. Construction emissions would be expected to be confined within ¼ mile of the construction site, and be limited in duration due to the less than one year construction period and relatively low levels of equipment required.	NI	None	N/A
Alternative 1 – Similar as Proposed Project / Proposed Action as DCMs would be applied to 20 additional acres.	LTS	None	N/A
Alternative 2 – Similar as Proposed Project / Proposed Action as DCMs would be applied to 3 additional acres.	LTS LTS	None None	N/A N/A

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TABLE ES.5-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES, *CONTINUED*

Environmental Effects	Level of Impact / CEQA Significance Determination before Mitigation	Mitigation Measures Recommended or Required	Level of Impact / CEQA Significance Determination after Mitigation
Alternative 3 – Less than Proposed Project / Proposed Action as ATV trips would be reduced by 80%.	LTS	None	N/A
Alternative 4 – Less than Proposed Project / Proposed Action as ATV trips would be reduced by 80%.	LTS	None	N/A
Alternative 5 – Less than Proposed Project / Proposed Action as ATV trips would be reduced by 80% and no water trucks would be required.	IE	None	N/A
Alternative 6 – No new development is proposed under the No Project / No Action Project Alternative. No air quality impacts would occur under CEQA; however, the No Project / No Action Alternative does not accomplish the proposed project / proposed action's goals and objectives for reducing PM_{10} emissions to meet NAAQS and California state standards.			
Biological Resources			
Proposed Project / Proposed Action			
Direct and Indirect Impacts			
Construction			
Construction of the proposed project / proposed action would have no effect on state-designated sensitive habitats; no expected impacts to rare, threatened, or endangered species pursuant to the Federal ESA and California ESA; no expected impacts to sensitive species designated as species of special concern by the CDFW or designated as sensitive species by the BLM; no expected impacts to locally important species; no expected impacts to federally protected wetlands pursuant to Section 404 of the CWA; no expected impacts to migratory routes or nursery sites; no expected impacts to local policies related to threatened or endangered species; no effect on an adopted Habitat Conservation Plan and/or Natural Community Conservation Plan.	NI/LCC	None	N/A
Operation and Maintenance			
Operation and maintenance of the proposed project / proposed action would have no effect on state-designated sensitive habitats; no expected impacts to rare, threatened, or endangered species pursuant to the Federal ESA and California ESA; no expected impacts to sensitive species designated as species of special concern by the CDFW or designated as sensitive species by the BLM; no expected impacts to locally important species; no expected impacts to federally protected wetlands pursuant to Section 404 of the CWA; no expected impacts to migratory routes or nursery sites; no expected impacts to local policies related to threatened or endangered species; no effect on an adopted Habitat Conservation Plan and/or Natural Community Conservation Plan.	NI/LCC	None	N/A
CEQA Significance Determination			
Candidate, Sensitive, Or Special Status Species			
The proposed project / proposed action would not have a substantial adverse effect on candidate, sensitive or special status species. Several sensitive species, including the Owens dune weevil, was found to be present at the proposed project / proposed action study area due to direct observation, historical observation or presence of suitable habitat. However, due to the nature of proposed project / proposed action, impacts are not expected to measurably affect the species.	NI/LCC	None	N/A
Riparian Habitat Or Other Sensitive Natural Community			
The proposed project / proposed action would not be expected to result in impacts to riparian habitat or other sensitive natural community. Biological resource surveys conducted at the proposed project / proposed action study area did not identify any state-designated sensitive habitats on site or in immediately adjacent areas.	NI/LCC	None	N/A
Protected Wetlands			
The proposed project / proposed action would not be expected to result in impacts to federally protected wetlands pursuant to Section 404 of the Clean Water Act. Biological resources surveys conducted at the proposed project / proposed action study area did not identify any protected wetlands.	NI/LCC	None	N/A
Migratory Fish Or Wildlife Species, Wildlife Corridors			
The proposed project / proposed action would not be expected to result in impacts to known migratory routes or nursery sites. Biological resources surveys conducted at the proposed project / proposed action study area did not identify any migratory corridors or nursery sites on site or in adjacent areas.	NI/LCC	None	N/A
Local Policies Protecting Biological Resources			
The proposed project / proposed action would not conflict with local policies or ordinances. A review of the Bishop Resource Management Plan, Inyo County General Plan, and Lower Owens River Project Plan did not identify any conflicts resulting from the proposed project / proposed action.	NI/LCC	None	N/A
Habitat Conservation Plan			
The proposed project / proposed action would not conflict with an adopted HCP or NCCP, or other approved state, local, or regional plan. The proposed project study area is not located within the boundaries of an HCP area, NCCP area, or any other planning area designated by any local, regional, or state agency.	NI/LCC	None	N/A
Alternative 1 - Same as would occur for the proposed project / proposed action.	NI/LCC	None	N/A
Alternative 2 - Same as would occur for the proposed project / proposed action.	NI/LCC	None	N/A
Alternative 3 - Same as would occur for the proposed project / proposed action.	NI/LCC	None	N/A
Alternative 4 - Same as would occur for the proposed project / proposed action.	NI/LCC	None	N/A
Alternative 5 - Same as would occur for the proposed project / proposed action.	NI/LCC	None	N/A
Alternative 6 - No effect on biological resources would occur as the proposed project / proposed action would not be implemented.	NI/LCC	None	N/A

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TABLE ES.5-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES, *CONTINUED*

Environmental Effects	Level of Impact / CEQA Significance Determination before Mitigation	Mitigation Measures Recommended or Required	Level of Impact / CEQA Significance Determination after Mitigation
Cultural Resources			
Proposed Project / Proposed Action **Direct and Indirect Impacts** **Construction** Construction and maintenance of the proposed project / proposed action has been designed to avoid adverse effects to significant cultural resources that may be present within the proposed project / proposed action area. The portions of CA-INY-6502 and KD Site 1 located within the APE primarily fall within the area designated for 85 percent dust control efficiency. The DCM in these areas will be the planting of native vegetation and the placement of straw bales that will act as wind breaks within active dune areas. These materials will be transported to the vicinity of the area using all-terrain vehicles along a temporary access route that will be located north of CA-INY-6502. No vehicular traffic shall occur within the site boundaries. The vegetation and straw bales will be hand-carried along designated footpaths to their respective planting areas in active dune areas. The planting of vegetation will involve the hand excavation of small holes (less than 1 foot in depth) for the placement of individual plants. The plants will be clustered in groups of three along the base of each straw bale. The 85 percent dust control efficiency that would be implemented during the proposed project / proposed action allows some flexibility in the locations of the straw bales and associated plants. As such, areas within CA-INY-6502 and KD Site1 that contain culturally sensitive deposits can be avoided under the proposed project / proposed action. These areas tend to be located in deflated areas between the active dunes where cultural deposits have been exposed by moving sands. Several additional efforts have been incorporated into the proposed project / proposed action to avoid adverse effects to significant cultural deposits within the proposed project / proposed action area. To ensure that no cultural deposits are adversely affected by the transport and placement of the vegetation and straw bales, a qualified archaeologist will undertake an intensive surface survey of the APE, using special consideration for the portions of CA-INY-6502 and KD Site1 falling within the APE, prior to the initiation of construction activities with a Native American monitor present. This work will involve the identification and recording of identified artifacts and features, including those previously identified within the site boundary of CA-INY-6502 and KD Site1 and any newly identified cultural deposits within the APE, using handheld GPS units. A spatial analysis in GIS will then be undertaken to determine the specific placement of vegetation, straw bales, and foot paths within the site boundary of CA-INY-6502 and KD Site1, as well as any other identified cultural deposits within the APE, in order to avoid impacts to significant cultural deposits. Prior to the initiation of ground-disturbing activities, the District shall submit a final proposed construction scenario to the BLM for approval that depicts the location of these proposed project / proposed action elements and their relation to surface artifacts and features.	MI/LTS	None	N/A
Operation and Maintenance Same impacts as with Construction.	MI/LTS	None	N/A
CEQA Significance Determination			
Historical Resource Significance The proposed project APE includes a total of 22 cultural resources, two of which are archaeological resources (CA-INY-6502 and KD Site 1) that have been identified as eligible for listing on the NRHP and CRHR, and thereby are considered significant "historical resources" under CEQA. The three remaining cultural resources (CA-INY-6513H, KD Site 2, BLM Site 1, and 17 archaeological isolates [BLM]) are not considered eligible for listing on the NRHP or CRHR and, therefore, do not fit the definition of a "historical resource" under CEQA. The proposed project has been designed to avoid impacts to significant cultural deposits associated with the two historic resources (see *Cultural Resources Protection* in Section 2.0). As a result of the implementation of these avoidance measures, the construction and operation of the proposed project would not be expected to cause "a substantial adverse change" in the "significance" of the two (CA-INY-6502 and KD site 1) historical resources.	MI/LTS	None	N/A
Archaeological Resource Significance The proposed project APE includes a total of twenty-two cultural resources, two of which are archaeological resources (CA-INY-6502 and KD Site 1) that have been identified as eligible for listing on the NRHP and CRHR, and thereby are considered "significant archaeological resource" under CEQA. The remaining cultural resources (CA-INY-6513H and, KD Site 2, BLM Site 1, and seventeen archaeological isolates [BLM]) are not considered eligible for listing on the NRHP or CRHR, and therefore do not fit the definition of a "significant archaeological resources" under CEQA. The proposed project has been designed to avoid impacts to significant cultural deposits associated with these eligible resources (see Cultural Resources Protection in Section 2.0). As a result of the implementation of these avoidance measures, the construction and operation of the proposed project would not be expected to cause "a substantial adverse change" in the "significance" of these eligible archaeological sites (CA-INY-6502 and KD Site 1).	MI/LTS	None	N/A
Human Remains The site of CA-INY-6502 is part of a larger mortuary complex containing multiple prehistoric and possibly historic period burial features that include human remains. The proposed project has been designed to avoid impacts to these significant cultural deposits, including human remains, at this archaeological site (see *Cultural Resources Protection* in Section 2.0). As a result of the implementation of these avoidance measures, the construction and operation of the proposed project would not be expected to adversely impact human remains or any other significant cultural deposits at CA-INY-6502.	NI	None	N/A
Alternative 1 – Similar as Proposed Project / Proposed Action as DCMs would be applied to 20 additional acres.	MI/LTS	None	N/A
Alternative 2 – Similar as Proposed Project / Proposed Action as DCMs would be applied to 3 additional acres.	MI/LTS	None	N/A
Alternative 3 – Similar as Proposed Project / Proposed Action as a temporary irrigation system would be utilized, however the culturally sensitive areas would still be manually watered.	MI/LTS	None	N/A
Alternative 4 – Similar as Proposed Project / Proposed Action as a temporary irrigation system would be utilized, however the culturally sensitive areas would still be manually watered.	MI/LTS	None	N/A
Alternative 5 – Similar as Proposed Project / Proposed Action as a temporary irrigation system would be utilized, however the culturally sensitive areas would still be manually watered.	MI/LTS	None	N/A
Alternative 6 – No new development is proposed under the No Project / No Action Project Alternative. No cultural resources impacts would occur under CEQA.	NI	None	N/A

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TABLE ES.5-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES, *CONTINUED*

Environmental Effects	Level of Impact / CEQA Significance Determination before Mitigation	Mitigation Measures Recommended or Required	Level of Impact / CEQA Significance Determination after Mitigation
Geology and Soils			
Proposed Project / Proposed Action **Direct and Indirect Impacts** **Construction** The proposed project / proposed action would not involve construction of any type of building; therefore, there would be no exposure of buildings to surface fault ruptures that would expose people or structures to potential substantial adverse effects. Therefore, the proposed project / proposed action would not be expected to result in significant impacts to geology and soils related to the risk of exposure to surface fault rupture. The proposed project / proposed action does not include structures or the addition of a permanent or regular population on site. Therefore, the proposed project / proposed action would not expose people or structures to potential substantial adverse effects related to strong seismic ground shaking. Since habitable structures will not be built as part of the proposed project / proposed action, people or structures will not be exposed to adverse effects involving seismic-related ground failure, including liquefaction. Inyo County is not delineated as a seismic hazard zone, which includes areas prone to landslides by the CGS under the SHZP. Therefore, the proposed project / proposed action would not result in an impact from landslides. The proposed project / proposed action would not result in significant impacts from soil erosion. The proposed project / proposed action does not include plans for septic tanks or alternative waste water disposal systems; therefore, there is no impact on the ability of soils to adequately support the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.	NI	None	N/A
Operation and Maintenance Same impacts as with Construction.	NI	None	N/A
CEQA Significance Determination ***Surface Fault Rupture*** The proposed project / proposed action would not be expected to result in significant impacts related to surface fault rupture. Faults are the planes along which earthquakes occur. Where earthquakes are large enough, or shallow enough, surface rupture can occur along the fault plane where it intersects the earth's surface. Geophysical surveys have revealed numerous fault strands on the bed of Owens Lake, with most roughly following a northwest-southeast trend. The proposed project study area is not delineated by the California Geological Survey as an APEFZ. There are no documented fault scarps in the proposed project study area. The proposed project would not involve construction of any type of building; therefore, there would be no exposure of buildings to surface fault ruptures that would expose people or structures to potential substantial adverse effects. Therefore, the proposed project would not be expected to result in significant impacts to geology and soils related to the risk of exposure to surface fault rupture.	NI	None	N/A
Seismic Ground Shaking The proposed project would not be expected to result in significant impacts from strong seismic ground shaking. All of California is at risk from seismic ground shaking and the Sierra Nevada and Owens Valley Fault Zones are both capable of generating earthquakes with a magnitude of 8.0 or greater. The proposed project study area is not delineated by the California Geological Survey as an APEFZ. The proposed project study area is not delineated by the California Geological Survey under the SHZP. The proposed project does not include structures or the addition of a permanent or regular population on site. Therefore, the proposed project would not expose people or structures to potential substantial adverse effects related to strong seismic ground shaking.	NI	None	N/A
Seismic-Related Ground Failure The proposed project / proposed action would not be expected to result in significant impacts from seismic related ground failure, including liquefaction. Liquefaction occurs when saturated, cohesionless (low relative density) materials (usually sand or silty sand) are transformed from a solid to a near liquid state due to the increase in pore water pressure that can be caused by moderate to severe seismic ground shaking. The depth to groundwater in the proposed project study area ranges from approximately 196 feet on the eastern border, east of SR 136, to within a few feet of the surface along the southwestern study area border. The soils in the proposed project study area vary from loose gravels and sands to compact clays. The conditions for liquefaction may be present along the historic shoreline, in the extreme southern portion of the proposed project study area where the soils are finer texture and the groundwater is close to the surface. Due to the presence of coarse alluvial material over most of the rest of the proposed project study area and the overall depth of the groundwater, the conditions for liquefaction over the rest of the proposed project / proposed actionstudy area is considered to be low. In addition, the proposed project does not expose people or structures to potential substantial adverse effects involving strong seismic-related ground failure, including liquefaction. Since habitable structures will not be built as part of the proposed project, people or structures will not be exposed to adverse effects involving seismic-related ground failure, including liquefaction.	NI	None	N/A
Landslides The proposed project / proposed action would not result in significant impacts from seismically induced landslides. The proposed project / proposed action will not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed project / proposed action, potentially resulting in on- or off-site landslides or lateral spreading. The proposed project / proposed action site is located well away from the Sierra Nevada and Inyo Mountain fronts which have slopes steep enough to initiate a landslide during seismic events. Additionally, since habitable structures will not be built as part of the proposed project / proposed action, people will not be exposed to adverse effects involving landslides. Inyo County is not delineated as a seismic hazard zone, which includes areas prone to landslides by the CGS under the SHZP. Therefore, the proposed project / proposed action would not result in an impact from landslides.	NI	None	N/A
Soil Erosion Within the proposed project / proposed action study area, wind and water erosion are ongoing processes. The proposed project / proposed action would not be expected to result in significant impacts related to a substantial increase in soil erosion or loss of topsoil beyond that that occurs in the existing condition. As evidenced by stable dune systems at other locations around the edge of Owens Lake, the proposed project / proposed action is designed to produce a net increase in vegetative cover and resulting stabilization of the dunes, resulting in a net decrease in the susceptibility to wind erosion. The objective of the proposed project / proposed action is to stabilize the dunes and reduce the levels of windblown dust and prevent erosion, that are causing and contributing to exceedances of federal and state standards for PM_{10} air pollution. Construction activity associated with the proposed project / proposed action includes site preparation and preparation of the staging areas and temporary access routes (temporary disturbance of approximately 33.5 acres), placing the straw bales, planting the native vegetation, and watering activities. This impact is considered short-term in nature since the potential for significant impact will end after construction is finished due to the placement of straw bales and vegetation. As specified in the proposed project / proposed action description, the proposed project / proposed action will comply with all	MI/LTS	None	N/A

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TABLE ES.5-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES, *CONTINUED*

Environmental Effects	Level of Impact / CEQA Significance Determination before Mitigation	Mitigation Measures Recommended or Required	Level of Impact / CEQA Significance Determination after Mitigation
provisions of the NPDES Program administered by the California RWQCB, Lahontan Region, as they relate to avoiding impacts from storm water runoff during construction, including preparation of a SWPPP, which shall be prepared in accordance with the California State Water Resources Control Board Order No. 99-08—DWQ, NPDES General Permit No. CAS000002 (General Construction Permit) prior to the start of soil-disturbing activities. In addition, the construction contractor would be required to incorporate BMPs consistent with the guidelines provided in the *California Storm Water Quality Handbook: Construction Site Best Management Practices Manual*. Therefore, the proposed project / proposed action would not result in significant impacts from soil erosion.			
Stability of Geology and Soil / Expansive Soils	NI	None	N/A
The proposed project / proposed action would not result in significant impacts related to the location of the proposed project / proposed action on a geologic unit that is unstable or that would become unstable as a result of the proposed project / proposed action. The proposed project / proposed action does not include the addition of habitable structures which would be impacted by unstable geology. The proposed project / proposed action would not result in significant impacts from an unstable geology unit. The proposed project / proposed action does not include plans for septic tanks or alternative waste water disposal systems; therefore, there is no impact on the ability of soils to adequately support the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.			
Alternative 1 - Same as would occur for the proposed project / proposed action.	NI	None	N/A
Alternative 2 - Same as would occur for the proposed project / proposed action.	NI	None	N/A
Alternative 3 - Same as would occur for the proposed project / proposed action with an 80 percent reduction in ATV trips than the proposed project / proposed action.	NI	None	N/A
Alternative 4 - Same as would occur for the proposed project / proposed action with an 80 percent reduction in ATV trips than the proposed project / proposed action.	NI	None	N/A
Alternative 5 - Same as would occur for the proposed project / proposed action with an 80 percent reduction in ATV trips than the proposed project / proposed action, and the elimination of vehicle miles traveled for water trucks.	NI	None	N/A
Alternative 6 - No effect on geology and soils would occur as the proposed project / proposed action would not be implemented.	NI	None	N/A
Greenhouse Gases			
Proposed Project / Proposed Action			
Direct and Indirect Impacts			
Construction	LTS	None	N/A
Based on emissions modeling, construction activities would result in the emission of a maximum of approximately 3,668.47 metric tons of CO_{2e} per year.			
Operation and Maintenance	LTS	None	N/A
Operation of the proposed project / proposed action would not be expected to have a significant detrimental impact upon GHG emissions and would reduce GHG emissions in compliance with the goals of AB 32 by providing an additional sink for CO_{2e}, which would reduce GHG emissions compared to a business as usual scenario. Operation of the proposed project / proposed action would result in the emission of approximately 1,869.48 metric tons of CO_{2e} per year.			
CEQA Significance Determination			
Generate GHG Emissions	MI/LTS	None	N/A
The proposed project / proposed action would not result in a significant impact on the environment through the generation of GHG emissions. With the exception of minor emissions associated with construction activities, the proposed project would reduce GHG emissions through sequestration of GHG by the native plants			
Control With an Applicable Plan	BI	None	N/A
The proposed project / proposed action would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. The proposed project would reduce GHG emissions in compliance with the goals of AB 32.			
Alternative 1 – Similar as Proposed Project / Proposed Action as DCMs would be applied to 20 additional acres.	LTS	None	N/A
Alternative 2 – Similar as Proposed Project / Proposed Action as DCMs would be applied to 3 additional acres.	LTS	None	N/A
Alternative 3 – Less than Proposed Project / Proposed Action as ATV trips would be reduced by 80%.	LTS	None	N/A
Alternative 4 – Less than Proposed Project / Proposed Action as ATV trips would be reduced by 80%.	LTS	None	N/A
Alternative 5 – Less than Proposed Project / Proposed Action as ATV trips would be reduced by 80% and no water trucks would be required.	LTS	None	N/A
Alternative 6 – No new development is proposed under the No Project / No Action Project Alternative. No GHG impacts would occur under CEQA.	LTS	None	N/A
Hydrology and Water Quality			
Proposed Project / Proposed Action			
Direct and Indirect Impacts			
Construction	LTS	None	N/A
The proposed project would not include any perennial water bodies within the proposed project limits nor does it would not involve demolition activities or building of any permanent structures or impervious surfaces. The proposed project would include minimal grading and the use of construction vehicles. The existing site surface grade and drainage would be retained as part of the proposed project. Soil erosion, sedimentation, and runoff (e.g. runoff containing grease, oil, sediment and heavy metals) shall be controlled during construction in accordance with an NPDES Construction General Permit, approved SWPPP and associated BMPs. The District has also identified BMPs to reduce the potential for fuel spills and transport of pollutant runoff with the development of approved HMBP and SPCC. The site is not within a 100-year flood zone area and is not subject to flooding. Due to the low surface gradient and the distance from the ocean and other water bodies, the proposed project is not subject to inundation by seiche,			

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TABLE ES.5-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES, *CONTINUED*

Environmental Effects	Level of Impact / CEQA Significance Determination before Mitigation	Mitigation Measures Recommended or Required	Level of Impact / CEQA Significance Determination after Mitigation
tsunami, or mudflow. Therefore, less than significant impacts under CEQA would occur relative to surface water quality, drainage, groundwater, 100-year flood zone, or seiche, tsunami, or mudflow.			
Operation and Maintenance The proposed project has been designed to require minimal maintenance. Operational activities would include operation and maintenance of the air quality monitoring stations, supplemental watering and monitoring of plant growth and straw bale condition, and activities associated with the replacement of broken bales and dead plants. The proposed project elements have been designed to avoid active and inactive blue line drainages, with the exception of limited crossing by rubber-tired vehicles. The staging areas and access routes that have been designed as elements of the proposed project/proposed project have been designed to minimize disturbance. Sufficient groundwater exists for use by the proposed project for the watering of the native vegetation from the District's Fault Test well. Groundwater used for watering would not leave the Owen Lake Hydrological Basin. Therefore, less than significant impacts under CEQA would occur relative to surface water quality, drainage, and groundwater.	LTS	None	N/A
CEQA Significance Determination			
Water Quality Standards The proposed project / proposed action would not be expected to result in significant impacts to hydrology and water quality with the incorporation of the SWPPP, HMBP, and SPCCC in into the proposed project / proposed action design. There are no perennial surface water bodies in the proposed project / proposed action site. The proposed project / proposed action would not involve demolition activities or building of any permanent structures or impervious surfaces that could affect surface water quality.	LTS	None	N/A
Groundwater The proposed project / proposed action's daily water demand during proposed project / proposed action implementation would not result in drawdown of the water table. The proposed project / proposed action would not create impervious surfaces or otherwise affect the recharge of the proposed project / proposed action property. There would be no temporary or permanent structures proposed that would alter groundwater flow or recharge and no dewatering activities would be required as part of the proposed project / proposed action.	NI	None	N/A
Drainage Patterns There are two blue line drainages shown within the study area. The proposed has been designed to avoid the one still active blue-line drainage within the proposed project / proposed action area. There would be no installation of straw bales or native plants within the ephemeral drainage. The proposed project / proposed action does not entail the construction of any impervious areas or structures that would affect drainage patterns.	NI	None	N/A
Runoff The proposed project would not create any impervious surfaces; therefore there would be no anticipated increase of runoff water; therefore, there would be no anticipated significant impacts to existing or planned storm water drainage systems. The District has required, as an element of the proposed project, the control of erosion, sedimentation and runoff (e.g. runoff containing grease, oils, sediment, and heavy metals during construction in accordance with an NPDES Construction General Permit, SWPPP and associated BMPs.	NI	None	N/A
Otherwise substantially degrade water quality The District has required, as an element of the proposed project, the control of erosion, sedimentation and runoff (e.g. runoff containing grease, oils, sediment, and heavy metals during construction in accordance with an NPDES Construction General Permit, SWPPP and associated BMPs; therefore, the proposed project would not expected to otherwise substantially degrade water quality.	NI	None	N/A
100-year Flood Hazard Not Applicable	N/A	None	N/A
Flooding Risk Not Applicable	NA	None	N/A
Seiche, Tsunami, or Mudflow The proposed project would not include any perennial water bodies within the proposed project limits nor does it would not involve demolition activities or building of any permanent structures or impervious surfaces. The proposed project would include minimal grading and the use of construction vehicles. The existing site surface grade and drainage would be retained as part of the proposed project. Soil erosion, sedimentation, and runoff (e.g. runoff containing grease, oil, sediment and heavy metals) shall be controlled during construction in accordance with an NPDES Construction General Permit, approved SWPPP and associated BMPs. The District has also identified BMPs to reduce the potential for fuel spills and transport of pollutant runoff with the development of approved HMBP and SPCC. The site is not within a 100-year flood zone area and is not subject to flooding. Due to the low surface gradient and the distance from the ocean and other water bodies, the proposed project is not subject to inundation by seiche, tsunami, or mudflow. Therefore, less than significant impacts under CEQA would occur relative to surface water quality, drainage, groundwater, 100-year flood zone, or seiche, tsunami, or mudflow	LTS	None	N/A
Alternative 1 – Same as would occur for the proposed project / proposed action.	LTS	None	N/A
Alternative 2 – Same as would occur for the proposed project / proposed action.	LTS	None	N/A
Alternative 3 – Same as would occur for the proposed project / proposed action.	LTS	None	N/A
Alternative 4 – Same as would occur for the proposed project / proposed action.	LTS	None	N/A
Alternative 5 – Same as would occur for the proposed project / proposed action.	LTS	None	N/A
Alternative 6 – No effect on hydrology would occur as the proposed project / proposed action would not be implemented.	LTS	None	N/A

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TABLE ES.5-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES, *CONTINUED*

Environmental Effects	Level of Impact / CEQA Significance Determination before Mitigation	Mitigation Measures Recommended or Required	Level of Impact / CEQA Significance Determination after Mitigation
Land Use and Planning			
Proposed Project / Proposed Action			
Direct and Indirect Impacts			
Construction Construction of the proposed project / proposed action would not result in direct or indirect impacts to land use and planning because the proposed DCMs would be located at least 1 mile away from the nearest established community, maintain the current open space pursuant to applicable land use plans, and the project site is not included in any habitat conservation plan or natural community conservation plan. Additionally, the proposed project / proposed action would not restrict access or maintenance activities to the existing right-of-ways held by Verizon, LADWP, or Caltrans.	NI	None	NA
Operation and Maintenance Construction of the proposed project / proposed action would not result in direct or indirect impacts to land use and planning because the proposed DCMs would be located at least 1 mile away from the nearest established community, maintain the current open space with low-impact recreational use pursuant to applicable land use plans, and the project site is not included in any habitat conservation plan or natural community conservation plan. Additionally, the proposed project / proposed action would not restrict access or maintenance activities to the existing right-of-ways held by Verizon, LADWP, or Caltrans.	NI	None	NA
CEQA Significance Determination			
Physically Divide an Established Community The proposed project / proposed action would not impact an established community because all of the DCMs would be implemented at a distance of at least one mile away from the communities within the vicinity of the project site.	NI	None	NA
Conflict with Applicable Land Use Plans, Policies, or Regulations The proposed project / proposed action would not impact applicable land use plans, policies, or regulation because the proposed DCMs would be consistent with the Federal Land Policy and Management Act of 1976, the Inyo County General Plan, Inyo County Zoning Ordinance, Lower Owens River Project, Owens Valley Management Plan, Owens Lake Master Project, and other applicable local plans. The proposed project would maintain the current open space and support the preservation of natural resources while maintaining low-impact recreational opportunities.	NI	None	NA
Conflict with Applicable Habitat Conservation Plan or Natural Community Conservation Plan The proposed project / proposed action would not result in impacts related to any applicable Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP) because no portion of the project site is included in any applicable HCP or NCCP. The Lower Owens River Project EIR discusses the potential to create an HCP for federally listed species with the potential to occur within the area of the Lower Owens River Project covered in the Draft EIR; however, the goals and objectives of the Draft EIR and any potential HCP that may result would not conflict with the proposed project / proposed action.	NI	None	NA
Alternative 1 – Same as Proposed Project / Proposed Action.	NI	None	NA
Alternative 2 – Same as Proposed Project / Proposed Action.	NI	None	NA
Alternative 3 – Same as Proposed Project / Proposed Action.	NI	None	NA
Alternative 4 – Same as Proposed Project / Proposed Action.	NI	None	NA
Alternative 5 – Same as Proposed Project / Proposed Action.	NI	None	NA
Alternative 6 – No new development is proposed under the No Project / No Action Project Alternative. No land use impacts would occur under CEQA.	NI	None	NA
Paleontological Resources			
Proposed Project / Proposed Action			
Direct and Indirect Impacts			
Construction Direct and indirect impacts to paleontological resources resulting from the proposed project / proposed action would be expected to be minimal. Straw bales placement and the planting and establishment of native vegetation will be conducted with minimal ground disturbance from vehicle and foot traffic in the immediate area and would be implemented on modern active sand deposits that have a minimum potential for containing paleontological resources. These disturbances are expected to disturb the ground surface and uppermost layers of soil only. Direct impacts from the preparation of four staging areas may result from minimal disturbance of the ground surface for each staging area. Indirect impacts from staging area preparation may result from increased vehicle and foot traffic.	NI	None	N/A
Operation and Maintenance Same impacts as construction.	NI	None	N/A
CEQA Significance Determination			
Unique Paleontological Resource/Unique Geologic Feature The proposed project would not be expected to result in significant impacts related directly or indirectly to the destruction of a unique paleontological resource or unique geologic feature. The proposed project area is located within an area of surficial aeolian sediments consisting of active sand sheets and sand dunes interspersed with smaller surficial deposits of Quaternary alluvium. Given that the geologic units within the project area exhibit a Class 2 – Low sensitivity, the placement of straw bales and the use of temporary access routes as well as shallow excavations associated with the planting of vegetation would have little potential of encountering fossil remains. A small portion of the proposed project area, which includes Staging Areas 1 and 2 and the central and southern access routes, is situated within Class 2 – Low sensitivity surficial aeolian sediments consisting of active sand sheets and sand dunes interspersed with smaller surficial deposits of quaternary alluvium that overlay Class 4 – High sensitivity lacustrine sediments. However, due to shifting nature of the dune sands, some portions of the proposed project may have Class 4 - High sensitivity lacustrine sediments at shallow depths, less than one foot. The proposed project is not anticipated to result in significant impacts	NI	None	N/A

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TABLE ES.5-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES, *CONTINUED*

Environmental Effects	Level of Impact / CEQA Significance Determination before Mitigation	Mitigation Measures Recommended or Required	Level of Impact / CEQA Significance Determination after Mitigation
to these geological deposits.			
Alternative 1 – Similar as Proposed Project / Proposed Action as DCMs would be applied to 20 additional acres.	NI	None	N/A
Alternative 2 – Similar as Proposed Project / Proposed Action as DCMs would be applied to 3 additional acres.	NI	None	N/A
Alternative 3 – Similar as Proposed Project / Proposed Action as a temporary irrigation system would be utilized.	NI	None	N/A
Alternative 4 – Similar as Proposed Project / Proposed Action as a temporary irrigation system would be utilized.	NI	None	N/A
Alternative 5 – Similar as Proposed Project / Proposed Action as a temporary irrigation system would be utilized.	NI	None	N/A
Alternative 6 – No new development is proposed under the No Project / No Action Project Alternative. No paleontological resources impacts would occur under CEQA.	NI	None	N/A
Recreation			
Proposed Project / Proposed Action			
Direct and Indirect Impacts			
Construction	NI	None	NA
Construction of the proposed project / proposed action would not result in any significant direct impacts to recreation because it would not require closure or restrict access on any roads or walkways that provide access to the Keeler Dunes by Keeler residents. Temporary restrictions with regard to passive recreation on the 194 acres of active construction of the Keeler Dunes may result in a increase in use to recreational facilities within a 15-mile radius of the project site, but these facilities have the capacity to absorb an increase in use, resulting in no significant indirect impacts from construction. The proposed project / proposed action would not conflict with any recreation goals, policies, and regulations set forth by the Bishop Resource Management Plan, Inyo County General Plan, and the Lower Owens River Project Plan.			
Operation and Maintenance	NI	None	NA
Operation and maintenance of the proposed project / proposed action would not result in any significant direct or indirect impacts to recreation because it would not require closure or restrict access on any roads or walkways that provide access to the Keeler Dunes by Keeler residents and it would not exclude access to or cause excessive use of a federal, state, or local park.			
CEQA Significance Determination			
Increase the Use of Existing Neighborhood and Regional Parks or Other Recreational Facilities	NI	None	NA
The proposed project / proposed action would not result in a significant impact to recreation from increased use of neighborhood and regional parks and other recreational facilities because (1) there are no neighborhood parks in the vicinity of the project site and (2) the limited size of the construction team and the short duration (3 years) of the time required to install the native plants would not be expected to result in an increase in use at the nearest regional park, Diaz Lake.			
Construction or Expansion of Recreational Facilities	NI	None	NA
The proposed project / proposed action would not result in a significant impact to recreation from construction or expansion of recreational facilities because construction, operation and maintenance, and restoration activities would not involve the construction or expansion of recreational facilities or involve the construction of any buildings that would cause a rise in population requiring a need to construct or expand any recreational facilities.			
Alternative 1 – Same as Proposed Project / Proposed Action.	NI	None	NA
Alternative 2 – Same as Proposed Project / Proposed Action.	NI	None	NA
Alternative 3 – Same as Proposed Project / Proposed Action.	NI	None	NA
Alternative 4 – Same as Proposed Project / Proposed Action.	NI	None	NA
Alternative 5 – Same as Proposed Project / Proposed Action.	NI	None	NA
Alternative 6 – No new development is proposed under the No Project / No Action Project Alternative. No recreation impacts would occur under CEQA.	NI	None	NA
Transportation/Traffic			
Proposed Project / Proposed Action			
Direct and Indirect Impacts			
Construction	MI/LTS	None	N/A
All ingress and egress points will continue to operate at a Level of Service (LOS) of A and would not exceed V/C ratios. The construction phase of the proposed project / proposed action would not adversely affect the capacity of the local highways to accommodate vehicular traffic during an emergency response or evacuation, provide inadequate parking, create a hazardous roadway design, impact adopted policies for congestion management or alternative transportation, or impact air traffic patterns.			
Operation and Maintenance	MI/LTS	None	N/A
Same impacts as construction.			
CEQA Significance Determination			
Conflict with an Applicable Plan	MI/LTS	None	N/A
The proposed project / proposed action would not substantially increase traffic volumes under Year 2012 Plus Proposed Project / Proposed Action Conditions. (Intersection LOS calculations are included in Appendix G of the Traffic Impact Study. All study area highway segments would continue to operate at LOS A. Likewise construction traffic on roadway and freeway segments would not exceed V/C ratios. Therefore, construction traffic impacts under Year 2012 Plus Proposed Action Conditions are considered less than significant under CEQA.			

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TABLE ES.5-1
SUMMARY OF ENVIRONMENTAL CONSEQUENCES, *CONTINUED*

Environmental Effects	Level of Impact / CEQA Significance Determination before Mitigation	Mitigation Measures Recommended or Required	Level of Impact / CEQA Significance Determination after Mitigation
Operations and maintenance traffic would consist of hauling water in water trucks and transporting water within the project area using ATVs during the 3 years following completion of the installation of plants and straw bales. Water would be delivered using 8,000-gallon capacity water trucks to the temporary staging areas 1, 2, and 3. Each watering event would include up to 46 trips, for a total of 92 trips per year. As with the construction phase of the proposed project / proposed action, the water truck trips required for operations and maintenance would not adversely impact traffic conditions. Similarly, the supplemental watering activities would be expected to be limited to a maximum of 10 personnel on a given day; substantially lower than the 72 personnel analyzed for the construction phase of the proposed project / proposed action. All study area highway segments would continue to operate at LOS A. Likewise construction traffic on roadway and freeway segments would not exceed V/C ratios.			
Change in Air Traffic Patterns	NI	None	N/A
The proposed project / proposed action would not affect air traffic patterns or air traffic levels; therefore there are no impacts to transportation and traffic related to air traffic.			
Increase Hazards	NI	None	N/A
Construction does not involve any roadway design elements with the exception of use of the existing access route (haul road) turnouts to the proposed project / proposed action site. During construction, access to the proposed project / proposed action would be provided from SR 136. Trips are substantially reduced during the operations and maintenance phase of the proposed project / proposed action. As with the construction phase, access would be provided from SR 136 using an existing access route (haul road) and the Old State Highway. Potential impacts associated with driveways encroaching on California Department of Transportation (Caltrans) right-of-ways would be addressed by obtaining a Caltrans encroachment permit to protect public safety. In addition, any work requiring traffic control on SR 136 would be conducted in accordance with a traffic control plan approved by Caltrans. Therefore, compliance with Caltrans requirements would reduce the potential for direct impacts associated with design features to below the level of significance.			
Inadequate Emergency Parking	NI	None	N/A
Emergency access to the proposed project / proposed action site during the construction and operations and maintenance phases of the proposed project / proposed action would be provided from SR 136. No direct or indirect impacts are anticipated to occur with regard to emergency access during construction.			
Public Transit/Bicycle/Pedestrian Facilities	NI	None	N/A
There are no existing or proposed facilities for public transit, bicycles or pedestrians in the vicinity of the proposed project / proposed action; therefore there are no impacts to such facilities.			
Alternative 1 – Similar as Proposed Project / Proposed Action as DCMs would be applied to 20 additional acres.	MI/LTS	None	N/A
Alternative 2 – Similar as Proposed Project / Proposed Action as DCMs would be applied to 3 additional acres.	MI/LTS	None	N/A
Alternative 3 – Less than Proposed Project / Proposed Action as ATV trips would be reduced by 80%.	MI/LTS	None	N/A
Alternative 4 – Less than Proposed Project / Proposed Action as ATV trips would be reduced by 80%.	MI/LTS	None	N/A
Alternative 5 – Less than Proposed Project / Proposed Action as ATV trips would be reduced by 80% and no water trucks would be required.	MI/LTS	None	N/A
Alternative 6 – No new development is proposed under the No Project / No Action Project Alternative. No traffic/transportation impacts would occur under CEQA.	NI	None	N/A

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ES.6 AREAS OF CONTROVERSY

Among the areas of controversy is the choice between the proposed project / proposed action, one of the five proposed project / proposed action alternatives, and the no project / no action alternative. Among the issues to be resolved is how best to minimize the level of work undertaken in close proximity to 17 acres characterized by sensitive resources that were identified as of particular concern to the Native American Tribes during the consultation pursuant to Section 106 of the National Historic Preservation Act. Other issues of concern included the use of a temporary aboveground irrigation system or delivery of water using small portable tanks mounted on ATV trailers. Similarly, there were concerns identified about the use of three temporary 22,000-gallon water tanks at three of the four staging areas.

ES.7 ISSUES TO BE RESOLVED

Among the issues to be resolved is whether the proposed project / proposed action, one of the five proposed project / proposed action alternatives, or the no project / no action alternative, best addresses the areas of controversy while achieving attainment of the National Ambient Air Quality Standard (NAAQS).

The proposed project / proposed action and Alternatives 1, 2, 3, 4, and 5 provide for expeditious attainment of the NAAQS. In an effort to avoid and minimize impacts to the emissive areas that contain the most sensitive environmental resources, the District has agreed to install the straw bales and native plants on the portions of the project with the lesser level of environmental sensitivity. If sufficient PM_{10} reduction is achieved with implementation of this initial control area, the sensitive areas specified in the proposed project / proposed action and Alternatives 1, 2, 3, 4, and 5 would be delayed until the monitoring results demonstrate that treatment is not required to achieve attainment or that exceedances are occurring from those areas and that treatment is required. The proposed project / proposed action and proposed project / proposed action alternatives were analyzed on the full build-out scenario, as a reasonable worst case scenario.

Alternatives 3, 4, and 5 integrate refinements to the proposed project / proposed action by providing for a supplemental irrigation system during the first years following the vegetation effort. The proposed project / proposed action and Alternatives 1, 2, 4, and 5 address concerns that were raised by representatives of the Native American tribes during the consultation that was undertaken pursuant to Section 106 of the National Historic Preservation Act related to the temporary use of water tanks at the staging areas. In the proposed project / proposed action and Alternatives 1 and 2, direct delivery of water to the ATV trailers from water trucks was used to replace the temporary use of water tanks. Alternative 4 avoids the temporary use of 22,000-gallon water tanks at three of the four staging areas, by utilizing direct delivery of water to a temporary irrigation system from water trucks staged on State Route 136. Similarly, Alternative 5 avoids the temporary use of 22,000-gallon water tanks at three of the four staging areas, by direct delivery of water to a temporary irrigation system via a pipeline from the Keeler Community Services District well.

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CHAPTER 1.0
INTRODUCTION

1.1 PURPOSE OF THE DOCUMENT

This document is a joint Environmental Impact Report / Environmental Assessment (EIR/EA) that meets the requirements of both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) for the Keeler Dunes Dust Control Project (proposed project / proposed action). The EIR/EA describes the existing environment that would be affected by, and the environmental consequences that could result from, the proposed project / proposed action and alternatives, as described in Section 2, *Proposed Project / Proposed Action and Alternatives*, of this document.

The EIR/EA (State Clearinghouse No. 2011101065/EA) is a public document that analyzes the potential environmental effects associated with the approval of the proposed project / proposed action in accordance with both CEQA and NEPA.

This document has been prepared by both the Great Basin Unified Air Pollution Control District (District; state lead agency pursuant to CEQA and cooperating agency for NEPA) and the U.S. Department of the Interior Bureau of Land Management (BLM) Bishop Field Office (federal lead agency under NEPA [40 Code of Federal Regulations {CFR} 1508.15]). The EIR/EA provides sufficient evidence and analysis for determining the significance of effects from the proposed project / proposed action consistent with 40 CFR 1508.9 and serves as a basis for reasoned choice among proposed alternatives. Additional explanation of the joint nature of this document is provided in Subsection 1.6.

1.2 BACKGROUND

California law requires all counties to have or belong to an Air Pollution Control District (APCD). Inyo, Mono, and Alpine Counties joined together in 1974 in a joint powers agreement to form the District, which covers the whole Great Basin Valleys Air Basin. The total size of the District is 13,975 square miles or almost 9 million acres. The District population is about 32,000 people. The purpose of an APCD is to enforce federal, state, and local air quality regulations and to ensure that the federal and state air quality standards are met. These standards are set to protect the health of sensitive individuals by restricting how much pollution is allowed in the air. To meet these standards, the District enforces those federal laws for which they are responsible and state laws on stationary (as opposed to mobile) sources of pollution, and passes and enforces regulations established by the District to meet the broader objectives of federal and state statutes and regulations related to air quality.

The District regulates fugitive dust (PM_{10}) emissions in the Owens Valley Planning Area (OVPA) (Figure 1.2-1, *Study Area Boundary in Relation to Owens Valley Planning Area*), consistent with the requirements of the National Ambient Air Quality Standards (NAAQS). In January 1993, the United States Environmental Protection Agency (U.S. EPA) classified the Owens Valley as a serious nonattainment area for PM_{10}. The federal Clean Air Act required that the District produce a State Implementation Plan (SIP) in 1997 that detailed how the PM_{10} problem would be brought into conformance with federal standards.

The dried Owens Lake bed has been the largest single source of PM_{10} emissions in the United States, with annual PM_{10} emissions of more than 80,000 tons and 24-hour concentrations as high

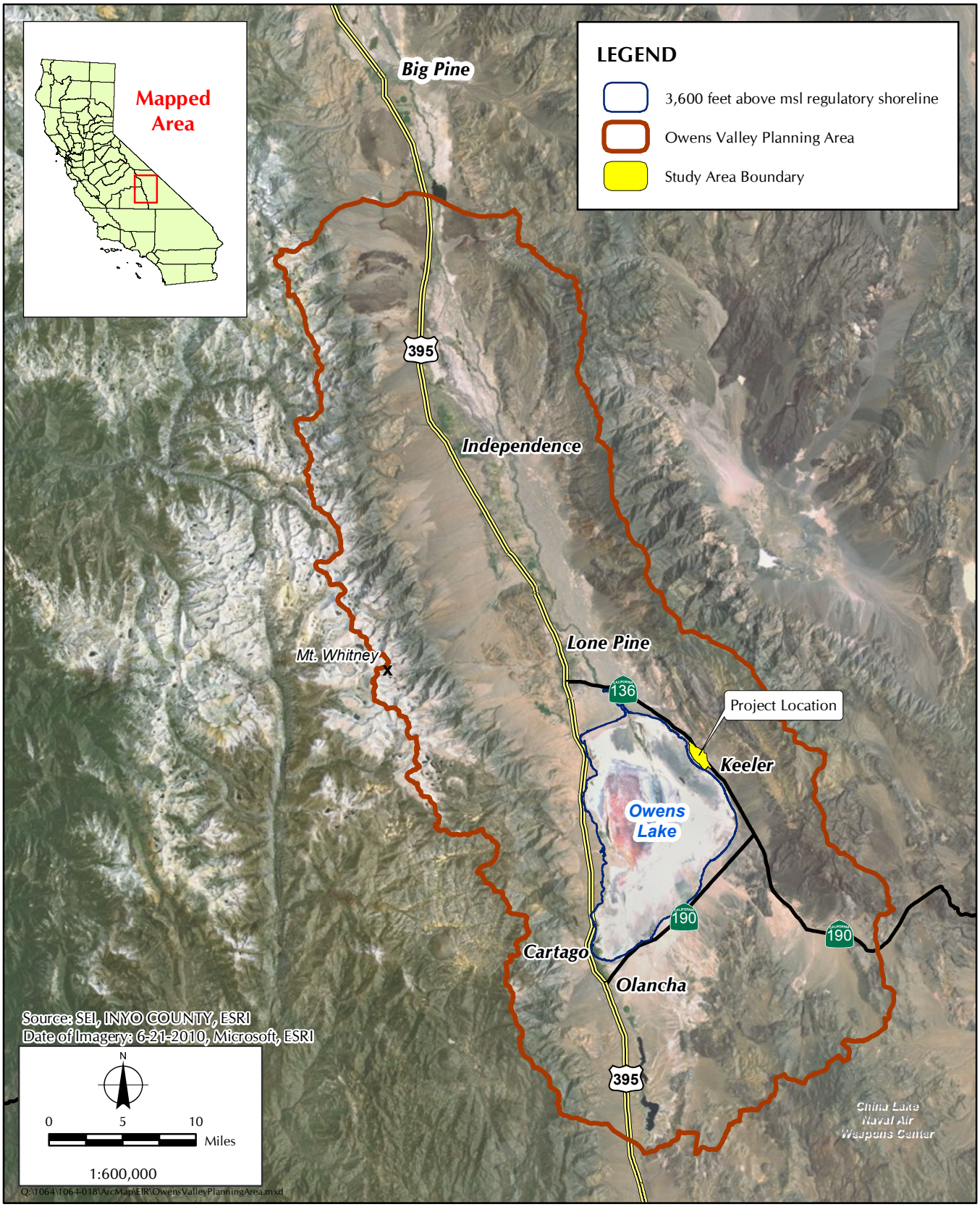


FIGURE 1.2-1

Study Area Boundary in Relation to Owens Valley Planning Area

as 130 times the federal air quality standard.[1] The air pollution from Owens Lake is caused by wind dispersing exposed dry lake bed sediments into the air. The Owens River has terminated in the Owens Lake for at least 2,000 years. In the mid-1800s, Owens Lake had a surface area of 71,000 acres, which declined to 44,000 acres by 1905 as a result of climatic conditions and agricultural irrigation.[2] By the 1920s, all that remained of the lake was a 26-square-mile hyper-saline brine pool, and by 1924, Owens Lake was virtually dry.[3] The federal Clean Air Act required that the District produce a State Implementation Plan (SIP) in 1997 that detailed how the PM_{10} problem would be brought into conformance with federal standards.

In the settlement of a dispute over the 1997 SIP, the District signed an agreement with the City of Los Angeles in 1998 that set a schedule for implementing controls in the Owens Valley Planning Area. These controls were approved by the U.S. EPA. The PM_{10} levels were required to be reduced to the federal standard by 2006 or the District would be subject to federal sanctions, which could include withholding of federal highway funds. The District's 2003 SIP revision required a total of 29.8 square miles to be controlled by the end of 2006 and additional areas, if necessary, to meet the standard as they are identified. The 2008 SIP incorporates provisions of the 2006 Settlement Agreement between the District and the Los Angeles Department of Water and Power (LADWP) to expand DCMs to additional areas at Owens Lake in order to attain the NAAQS as soon as practicable.[4] In 2006, an additional 12.7 miles of dust controls were ordered by the District. The 2008 SIP was to include the provisions of the 2006 Settlement Agreement. The 2008 SIP requires that the NAAQS can be attained by March 23, 2017 (CAAA §179[d][3]).

The 2008 SIP identified the Keeler Dunes as one of the off-lake-bed areas consistently exceeding NAAQS and state standards for PM_{10}. The Keeler Dunes are located adjacent to Owens Lake, immediately north-northwest of the community of Keeler, California. Sand and dust from the Keeler Dunes become mobile during high-wind events and, since dust sources on the bed of Owens Lake are about 90 percent controlled, constitute one of the last main dust sources contributing to exceedances of the state and federal 24-hour PM_{10} standard in the communities of Keeler and Swansea.[5] The District has identified the Keeler Dunes as one of the areas that need to be controlled to attain the NAAQS for PM_{10} within the OVPA. The Keeler Dunes have continued to cause an average of six PM_{10} standard exceedances every year since 1993 (Figure 1.2-2, *Federal PM_{10} Standard Exceedances at the Keeler Dunes and Owens Lake, 1993–2013*).

Exceedances of the NAAQS for PM_{10} threaten the health, property, and environment of the residents of the Keeler/Swansea and visitors to the area. The airborne particulate matter from dust events can be inhaled deeply by humans and may result in serious respiratory ailments. There are

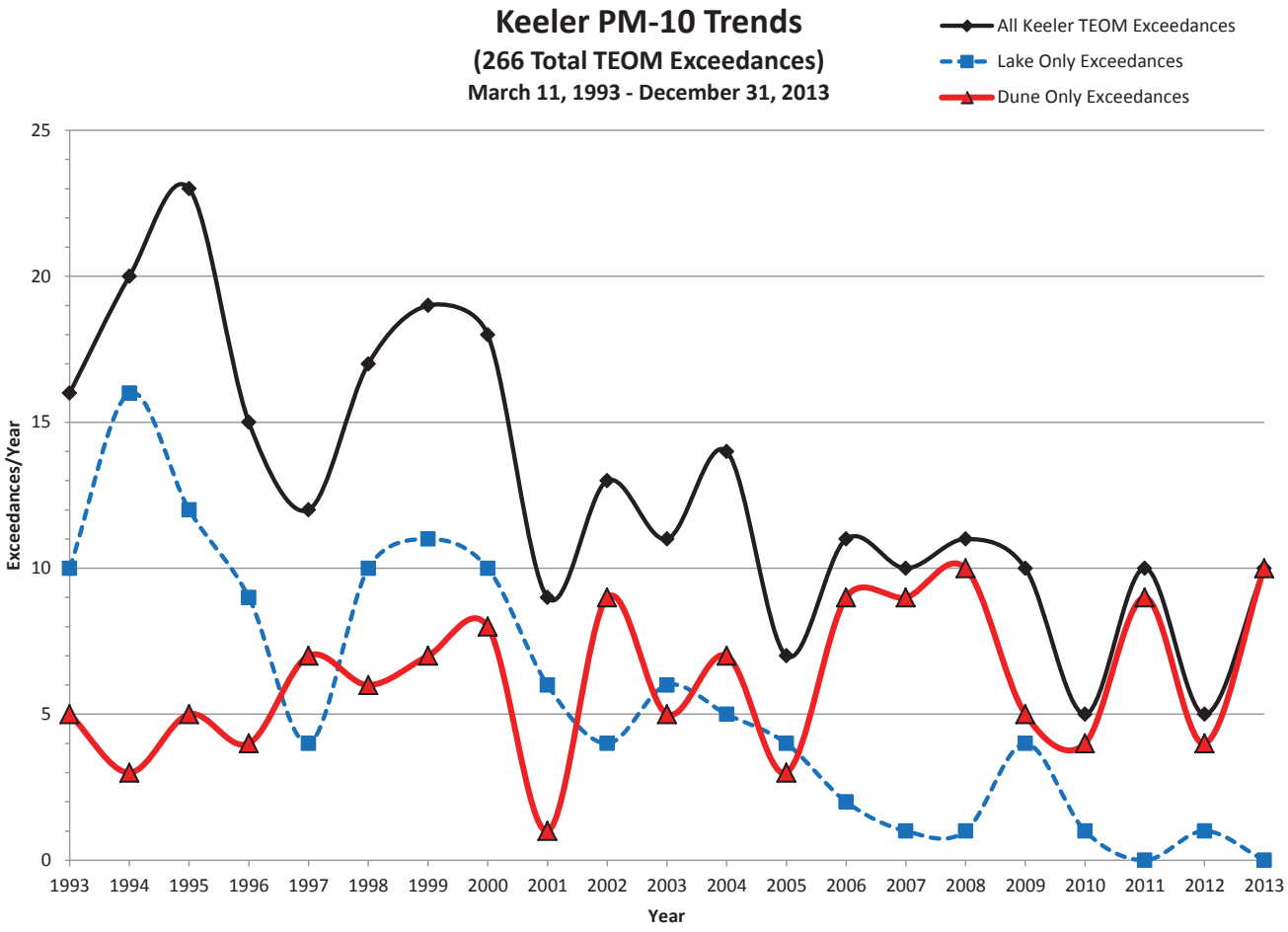
[1] Great Basin Unified Air Pollution Control District. January 2008. *2008 Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan—Final Subsequent Environmental Report*. Prepared by: Sapphos Environmental, Inc., Pasadena, CA. Bishop, CA.

[2] Mihevc, Todd M., and Gilbert F. Cochran. October 1992. *Simulation of Owens Lake Water Levels: A Preliminary Model*. Prepared by: Water Resources Center, Desert Research Institute, University of Nevada System. Prepared for: Great Basin Unified Air Pollution Control District, Bishop, CA.

[3] Great Basin Unified Air Pollution Control District. January 2008. *2008 Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan—Final Subsequent Environmental Report*. Prepared by: Sapphos Environmental, Inc., Pasadena, CA. Bishop, CA.

[4] Great Basin Unified Air Pollution Control District and City of Los Angeles Department of Water and Power. November 2006. Settlement Agreement Resolving City's Challenge to the District's Supplemental Control Requirement (SCR) Determination for the Owens Lake Bed. Los Angeles, CA.

[5] Great Basin Unified Air Pollution Control District. 28 January 2008. *2008 Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan*. Bishop, CA.



SOURCE: Great Basin Unified Air Pollution Control District. 2012. Final Staff Report on the Origin and Development of the Keeler Dunes. 16 November 2012.

FIGURE 1.2-2
Federal PM_{10} Standard Exceedances at the Keeler Dunes and Owens Lake, 1993-2012

66 residents of the community of Keeler and about 70 employees of the LADWP and the District who work in the Keeler area affected by the emissions from the Keeler Dunes. The federal[6] and state standards[7] for PM_{10} 24-hour average are 150 micrograms per cubic meter ($\mu g/m^3$) and 50 $\mu g/m^3$, respectively, measured over 24 hours. The federal standard is not to be exceeded more than once per year on average over 3 years. The goal for the more stringent state standard is not to exceed the daily standard on any day. The maximum 24-hour PM_{10} exceedance in the community of Keeler during the period of 2009 through 2012 was 13,380 $\mu g/m^3$. During this same period, there were 31 federal exceedances and 126 state PM_{10} exceedancesfor particulate matter.[8] The District issues Stage 1 Health Advisories to communities when hourly PM_{10} is greater than 400 $\mu g/m^3$ and Stage 2 Health Advisories when hourly PM_{10} is greater than 800 $\mu g/m^3$. During a Stage 1 event, children, the elderly, and people with heart or lung problems are recommended to refrain from strenuous outdoor activities in the impacted area. During a Stage 2 event, everyone should refrain from strenuous outdoor activities in the impacted area. During the 2009 to 2012 period, there were 156 hourly events where PM_{10} exceeded the criteria for a Stage 1 Health Advisory, and 105 hourly events exceeded the Stage 2 criteria.[9]

Although dust storms from the dunes can occur during anytime of the year, severe dust storms occur primarily from October through June, with the highest frequency of dust events occurring in December and March through May. The Keeler Dunes sand deposits extend over an approximately 1.3-square-mile area and are spreading to the east and southeast, at an approximate rate of 30 meters per year,[10] toward the community of Keeler and the foothills of the Inyo Mountains.

The District conducts monitoring in the Keeler area, with PM_{10} monitoring in the community of Keeler since 1990 and sand motion monitoring at two sites in the Keeler Dunes since 2000. In response to commitments made by the District in its 2006 Settlement Agreement with the LADWP and the 2008 SIP, an additional 12 sand motion monitoring sites were added in 2010 and five (5) in 2011 for the purpose of establishing a monitoring program to gather information on the location and magnitude of dust emissions in the dunes and with the goal of developing a strategy for PM_{10} emission control. The 2008 SIP requires control of the dust emissions from the Keeler Dunes on or before December 31, 2013, in order to demonstrate attainment of the federal standard within the OVPA by 2017.[11] It is currently anticipated that project installation will be complete by spring 2015. The federal Clean Air Act requires three years of data to demonstrate attainment; therefore, the District is seeking to demonstrate attainment by 2018. The District is responsible for developing and implementing a dust control strategy and plan for the Keeler Dunes PM_{10} emissions.

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[6] U.S. Environmental Protection Agency. Accessed 10 October 2011. *National Ambient Air Quality Standards*. Available at: http://www.epa.gov/air/criteria.html

[7] California Air Resources Board. Accessed 11 October 2011. "California Ambient Air Quality Standards." Available at: http://www.arb.ca.gov/research/aaqs/caaqs/pm/pm.htm

[8] Kiddoo, P., Great Basin Unified Air Pollution Control District, Bishop, CA. November 8, 2013. Air quality data provided to Sapphos Environmental, Inc., Pasadena, CA.

[9] Kiddoo, P., Great Basin Unified Air Pollution Control District, Bishop, CA. November 8, 2013. Air quality data provided to Sapphos Environmental, Inc., Pasadena, CA.

[10] Bacon and Lancaster, 2012. Geomorphic Mapping of the Keeler Dunefield and Surrounding Areas Final Report. Available at: http://www.gbuapcd.org/keelerdunes/originanddevelopment/finalstaffreport/Attachment%20D%20-%20Geomorphology/Bacon%20and%20Lancaster%202012_FINAL_REPORT_Geomorphic_Mapping_of_the_Keeler_Dunefield_and_Surrounding_Areas20121114.pdf

[11] Great Basin Unified Air Pollution Control District. 28 January 2008. *2008 Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan*. Bishop, CA.

It is anticipated that the District will submit an Application for Transportation and Utility Systems and Facilities on Federal Lands (Standard Form 299 [05/2009] or "SF-299") to the BLM. The SF 299 would be required to implement the project on lands managed by the BLM. The District will also need to obtain a lease from the LADWP for implementing controls on LADWP lands within the Keeler Dunes.

In addition to the District, BLM, and LADWP, other stakeholders have an interest in the proposed project / proposed action and alternatives: Inyo County, Lahontan Regional Water Quality Control Board (RWQCB), Lone Pine Paiute-Shoshone Tribe, Big Pine Band of Owens Valley, Bishop Paiute Tribe, Fort Independence Indian Community of Paiute Indians, Timbisha Shoshone Tribe, Office of Historic Preservation, Native American Heritage Commission, California Department of Transportation (Caltrans) District 9, Keeler Community Services District, and Keeler and Swansea residents.

1.3 PROPOSED PROJECT / PROPOSED ACTION OVERVIEW

The proposed project / proposed action consists of installation and monitoring of a DCM, consisting of straw bales and native vegetation, on 194 acres within a total study area of approximately 870 acres of active and mobile sand deposits. Construction would require four staging areas and a temporary access route from each staging area to the proposed project / proposed action site.

1.3.1 LOCATION

The area requiring dust control is located north-northwest of the community of Keeler, California, and east of the 110-square-mile (70,000-acre) Owens Lake bed within the Owens Valley, Inyo County, California (Figure 1.3.1-1, *Regional Vicinity Map*). The proposed project / proposed action area is located in Sections 30, 31, and 32, Township 16 South, Range 37 East; and Sections 24, 25, and 36, Township 16 South, Range 38 East, Mount Diablo Baseline and Meridian, California, approximately 65 miles south of the City of Bishop, 10 miles west of the boundary of Death Valley National Park, 11 miles to the east of the boundary of Sequoia National Park, and 48 miles north of the City of Ridgecrest (Figure 1.3.1-1). In the vicinity of and adjacent to the proposed project / proposed action area, there are two communities located in the unincorporated area of Inyo County, the community of Keeler to the southeast and the community of Swansea to the north (Figure 1.3.1-2, *Study Area Location Map*). One designated Native American reservation (Lone Pine Paiute-Shoshone Indian Reservation) and the town of Lone Pine are approximately 10 miles to the northwest (Figure 1.3.1-1).

The proposed project / proposed action is located on lands administered by the BLM and the LADWP. The proposed project / proposed action site is approximately 194 acres in size and is located within a 1.4-square-mile (approximately 870-acre) study area. The study area is located on the Keeler alluvial fan situated between the base of the Inyo Mountains to the east-northeast and the dried bed of Owens Lake to the west-southwest. The study area extends approximately 2.5 miles to the northwest from the community of Keeler and is bisected by California State Route 136 (SR 136).

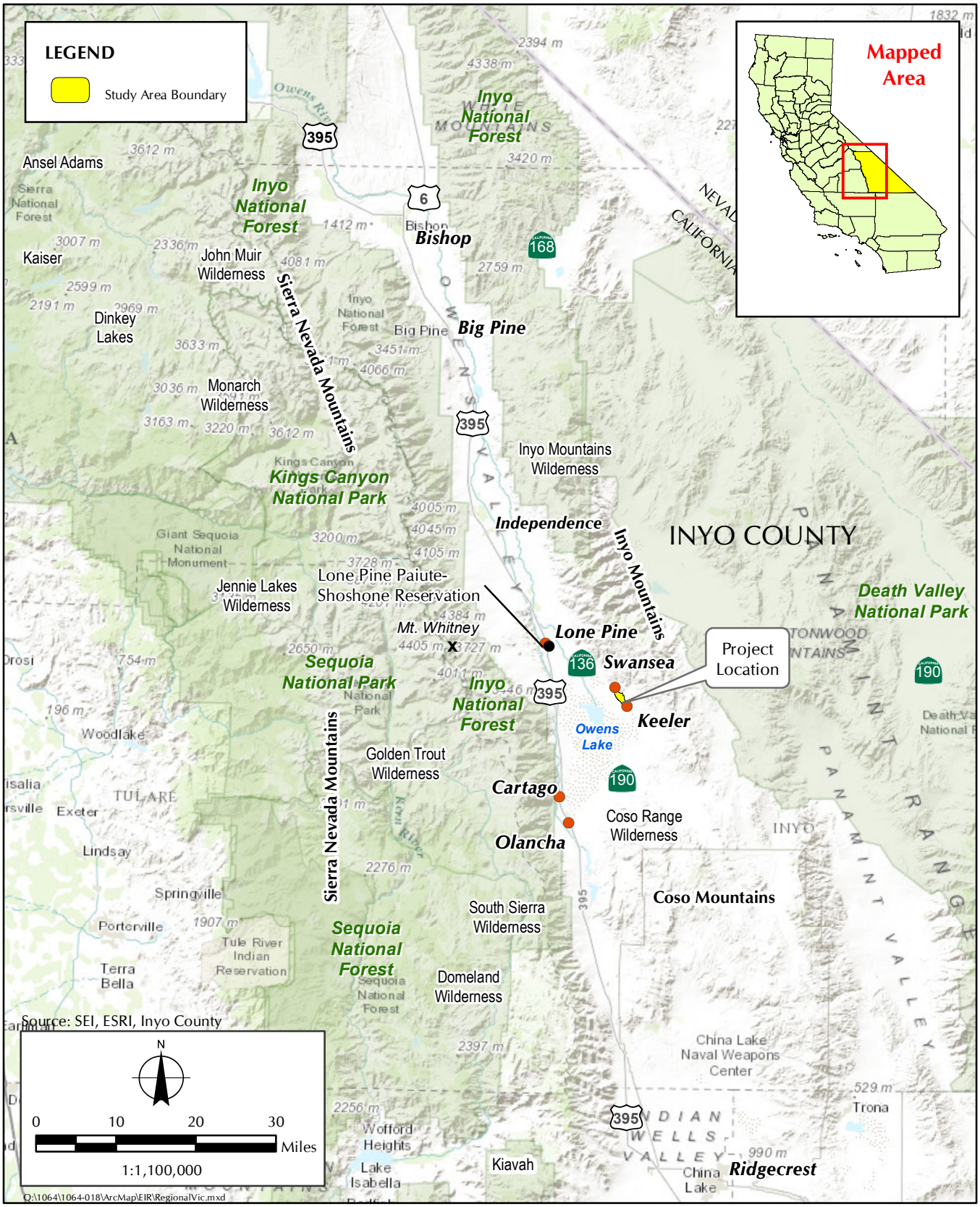


FIGURE 1.3.1-1

Regional Vicinity Map

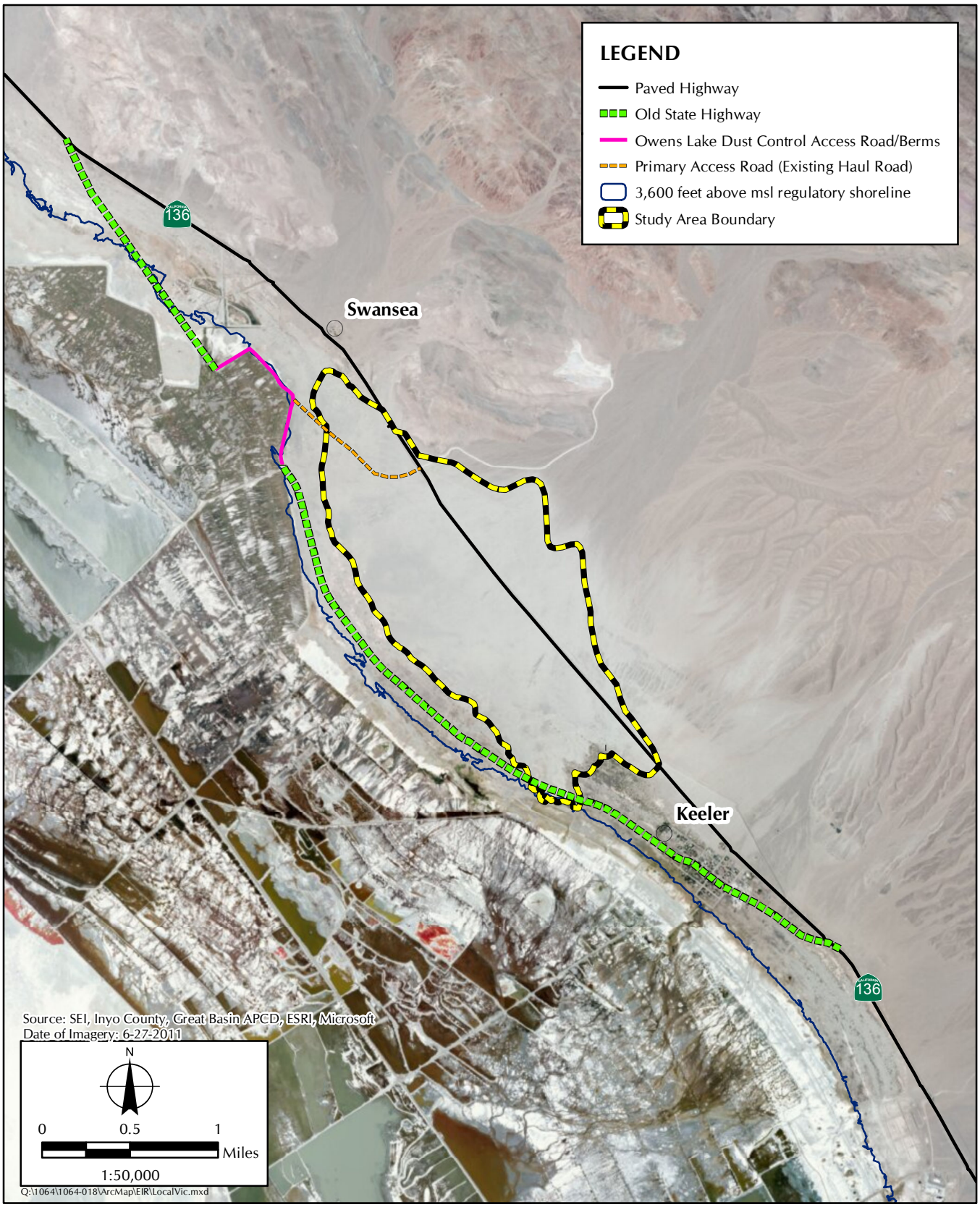


FIGURE 1.3.1-2

Study Area Location Map

Within the approximately 870-acre study area, land ownership is as follows:

- BLM: approximately 780 acres (89 percent)
- LADWP: 67 acres (8 percent)
- Other Private/Business: 1 acre (< 1 percent)
- State of California right-of-way: 24 acres (3 percent)

1.4 OBJECTIVES OF, AND PURPOSE AND NEED FOR, THE PROPOSED PROJECT / PROPOSED ACTION

Pursuant to both CEQA and NEPA, goals and objectives and purpose and need for the proposed project / proposed action have been established. Section 15124 of the CEQA Guidelines requires that the EIR include a statement of objectives sought by the proposed project / proposed action. These objectives identify the underlying purpose of the proposed project / proposed action and provide a basis for identification of alternatives evaluated in the EIR. A clearly written statement of objectives allows the lead agency to develop a reasonable range of alternatives to evaluate in the EIR and aids the decision-makers in preparing findings or a statement of overriding considerations, if necessary. The stated objectives should include the underlying purpose of the proposed project / proposed action.

Similarly, pertaining to the BLM's analysis, the regulations that implement NEPA require that an EA include brief discussions of the purpose and need for the proposed project / proposed action, a reasonable range of alternatives, the environmental impacts of the proposed project / proposed action and alternatives, and a listing of the agencies and persons consulted (40 CFR 1508.9(b)).

The overall purpose of the proposed project / proposed action is to reduce the exposure of residents of the communities of Keeler and Swansea to unhealthful levels of PM_{10} emissions and to bring the communities of Keeler and Swansea into attainment with the federal NAAQS and California State 24-hour PM_{10} standard as soon as possible. The 2008 SIP requires that the OVPA (including the emissions from the Keeler Dunes) be in attainment of the federal PM_{10} NAAQS by March 2017, but due to delays in getting funding for the project and in completing this EIR/EA, this deadline will not be achieved. Implementation of the proposed project / proposed action will reduce the PM_{10} emissions from the Keeler Dunes to levels below the federal and state 24-hour standards such that the communities of Keeler and Swansea would be in attainment by spring 2018.

1.4.1 DISTRICT

The District's goal for control of dust emissions, consistent with the provisions of the federal and state Clean Air Acts, is to utilize measures that reduce PM_{10} exceedances while minimizing impacts to natural and cultural resources located within the Keeler Dunes and surrounding area. The dust control strategy includes establishment and management of native vegetation and the use of straw bales as temporary wind breaks to provide immediate control and to aid in vegetation establishment. The ultimate goal of the proposed project / proposed action is to implement a strategy that not only controls dust emissions from the Keeler Dunes but also protects resources and creates a natural landscape that is self-sustaining and can be operated and maintained with minimal inputs.

The District identified and prioritized six basic objectives that are important to achieving the proposed project / proposed action goals:

- Reduce the levels of windblown dust that are causing and contributing to exceedances of the NAAQS and California State standard for particulate matter (PM_{10}) air pollution
- Attain the NAAQS and California State PM_{10} standards in the communities of Keeler and Swansea
- Minimize impacts to natural resources
- Minimize impacts to historic properties below the threshold of adverse effect
- Create a landscape that mimics comparable natural environments
- Be self-sustaining and operated with minimal resources

1.4.2 BLM PURPOSE AND NEED

The BLM's purpose and need for action is to respond to the District's application for a right-of-way (ROW) to implement the proposed dust control measures (DCMs) on public land in the Keeler Dunes. Based on the analyses in this EIR/EA, the Bishop Field Manager will decide whether to grant a ROW for the proposed action or one of the alternatives and, if granted, what terms and conditions including minimizing measures and mitigation will be applied to the grant.

The BLM is authorized to grant ROWs on public lands for "facilities which are in the public interest and which require rights-of-way over, upon, under, or through such lands" (Section 501 [a][7]). A ROW application is required to implement the District's project to construct, operate, and maintain DCMs on public land under the jurisdiction of the BLM.

1.5 JOINT CEQA/NEPA DOCUMENT

The EIR/EA was prepared as a joint state/federal environmental document. The EIR portion of the document has been prepared pursuant to CEQA[12] and the CEQA Guidelines.[13] The EA portion of this joint EIR/EA has been prepared pursuant to NEPA[14] and the Council on Environmental Quality's (CEQ's) NEPA regulations.[15]

1.5.1 CEQA EIR

As provided in the CEQA Guidelines, public agencies are charged with the duty to avoid or minimize environmental damage where feasible. In discharging this duty, the District has an obligation to balance a variety of public objectives, including economic, environmental, and social issues (Section 15021 of the CEQA Guidelines). The findings and conclusions of the EIR regarding

[12] California Public Resources Code Section 21000 et seq.

[13] California Code of Regulations, Title 14, Section 15000 et seq.

[14] 42 U.S.C.§ 4321 et seq.

[15] 40 CFR § 1500-1508.

environmental impacts do not control the District's discretion to approve, deny, or modify the proposed project, but instead are presented as information intended to aid the decision-making process. Sections 15122 through 15132 of the CEQA Guidelines describe the required content of an EIR: a description of the project and the environmental setting (existing conditions), an environmental impact analysis, mitigation measures, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. As a project-level EIR, this document primarily focuses on the changes in the environment that would result from construction and operation of the proposed project. The District is required to consider the information in the EIR, along with any other relevant information, in making final decisions on the proposed project as stated in Section 15121 of the CEQA Guidelines.

1.5.2 NEPA EA

Under the NEPA process, the CEQ regulations for implementing NEPA require federal agencies to identify and assess reasonable alternatives to the proposed actions that will restore and enhance the quality of the human environment and avoid or minimize adverse environmental impacts. Project planning activities are required to include environmental issues and to integrate impact studies required by other environmental laws and Executive Orders into the NEPA process. The BLM must also comply with the Department of the Interior's regulations for implementing the procedural requirements of NEPA[16] in addition to the BLM's NEPA Handbook[17] in processing ROW applications.

The CEQ's regulations for implementing NEPA describe the purpose of the environmental review as "ensure(ing) that environmental information is available to public officials and citizens before decisions are made and before actions are taken."[18] In this case, the District's application for the installation, monitoring, and management of DCMs on public land managed by the BLM triggers the need for NEPA environmental review. The Bishop Field Manager will use the information contained in this EIR/EA to make a decision on whether to grant an ROW for project implementation and, if so, to grant it as requested or modified.

1.5.3 Review and Certification Process

1.5.3.1 CEQA Process

A. Notice of Preparation

In accordance with California Code of Regulations (CCR) Section 15082, a Notice of Preparation (NOP) concerning the EIR for the proposed project was circulated for a 30-day review period that began on October 25, 2011, and was closed on November 25, 2011.

The NOP was sent to the State Clearinghouse on October 26, 2011, and distributed to various federal, state, regional, and local government agencies. A public Notice of Availability (NOA) of the NOP was provided in *The Inyo Register* on November 5 and 8, 2011. The NOP was mailed

[16] 43 CFR Part 46.

[17] Bureau of Land Management, 2008. National Environmental Policy Act Program. January 2008. Available at: http://www.blm.gov/pgdata/etc/medialib/blm/ak/aktest/planning/planning_general.Par.2116.File.dat/Handbook.NEPA.H-1790-1.2k8.01.30%255B1%255D.pdf

[18] 40 CFR § 1500.1 (b).

directly to more than 160 agencies and interested parties and posted at the District's Keeler Office, 190 Cerro Gordo Avenue, Keeler, California; at the Eastern Sierra InterAgency Visitor Center, Highway 395, Lone Pine, California; and at the Keeler, Lone Pine, and Olancha post offices. The NOP advertised two public scoping meetings for interested parties and agencies to receive information on the proposed project / proposed action and the CEQA and NEPA process, as well as to provide an opportunity for the submittal of comments. All verbal and written comments related to environmental issues that were provided during public review of the NOP and at scoping meetings have been taken into consideration in the preparation of this EIR. This EIR considers alternatives that are capable of avoiding or reducing significant effects of the proposed project. The comment period on the NOP closed on November 25, 2011. Five comment letters were received in response to the NOP (Appendix A, *Notice of Preparation*).

B. Draft EIR

The Draft EIR provides a detailed description of the proposed project, the regional and local environmental setting, identification of project impacts, and mitigation measures. Six project alternatives, including the No Project Alternative, are provided, as well as a discussion of cumulative impacts, other CEQA-required considerations, and impacts found not to be significant. A Notice of Completion (NOC) announcing the start of the public review period for the Draft EIR was filed with the State Office of Planning and Research by the District.

C. Public Notice / Public Review

Although CEQA requires only a 30-day public review period, this Draft EIR/EA has been distributed to various federal, state, regional, and local government agencies and interested organizations and individuals for a 45-day public review period. The Draft EIR/EA was provided to the State Clearinghouse on March 21, 2014, for additional distribution to agencies. In addition, a public NOA and NOC of the EIR/EA appeared in *The Inyo Register* and was mailed directly to interested parties requesting the document. The dates of the public review period are specified on the transmittal memo accompanying this Draft EIR/EA. The Great Basin Unified Air Pollution Control District anticipates hosting two public workshops to solicit comments from public agencies and the general public on the Draft EIR/EA. One public workshop is expected to be held in Keeler, while the other workshop is expected to be held in either Lone Pine or Independence.

Written comments provided by the general public and public agencies will be evaluated, and written responses will be prepared for all comments received during the designated comment period. Upon completion of the evaluation, a Final EIR/EA will be prepared and provided to the District for certification of compliance with CEQA and to the BLM for certification of compliance with NEPA and for review and consideration as part of the decision-making process for the proposed project / proposed action.

Public agencies and the general public will have additional opportunities to submit comments on the Final EIR/EA during the consideration of the EIR by the Great Basin Unified Air Pollution Control District Governing Board scheduled for July 2014, at the Board of Supervisors Chambers located at 224 North Edwards Street, Independence, California 93526.

D. Response to Comments / Final EIR

A Final EIR will be prepared following the public review and comment period for the Draft EIR. The Final EIR will include the response to comments; revisions to the Draft EIR developed as a result of the public review period; and letters of comment organized by federal, state, regional, and local agencies and organizations, followed by individual and topical responses to the issues.

E. Certification of the EIR

In accordance with CCR 15090, the District will certify that the Final EIR has been completed in compliance with CEQA; that the information contained in the Final EIR was presented to the District's Governing Board for review and consideration; and that the Final EIR reflects the District's independent judgment and analysis. If the Final EIR is determined to be adequate and complete, the District may certify the EIR at a public hearing.

F. Mitigation Monitoring and Reporting Program

According to CCR Section 15097, the District must adopt a Mitigation Monitoring and Reporting Program (MMRP) for mitigation measures that have been incorporated into or imposed on the proposed project / proposed action to reduce or avoid significant effects on the environment.

The specific reporting or monitoring program required by CEQA is not required to be included in the EIR. However, any mitigation measures that are adopted as part of the certified Final EIR will be considered as conditions for approval of the proposed project and will be included in the MMRP to ensure and verify compliance.

1.5.3.2 NEPA PROCESS

The EA will be circulated for public comment and review simultaneously with the Draft EIR during the 45-day public review period.

The EA may result in a Finding of No Significant Impact (FONSI) or a finding that there are unavoidable significant impacts. A FONSI must provide a basis for the conclusion that the proposed action would not have a significant effect on the human environment or, if the effects are significant, that they can be reduced or avoided through mitigation to below the level of significance. In such a case, the FONSI must clearly identify whether the mitigation measures are needed to reduce the effects to below the level of significance. If there is a finding that there are unavoidable significant impacts, then an Environmental Impact Statement (EIS).A Decision Record will be issued by the Bishop Field Manager to document the BLM's decision based on the EA.

1.6 AGENCY ROLES AND RESPONSIBILITIES

1.6.1 DISTRICT

As noted previously, the District is responsible for developing a dust control strategy and plan for the Keeler Dunes PM_{10} emissions. Although the 2008 SIP requires control of the dust emissions from the Keeler Dunes on or before December 31, 2013, in order to demonstrate attainment of the

federal standard within the OVPA by 2017, it is anticipated that, if approved, the project would be installed by spring 2015 and be able to demonstrate attainment by 2018.[19]

Pursuant to CEQA, the proposed project will require three District actions:

- Certification of the Final EIR
- Approval of a project MMRP for any required mitigation measures
- Approval of CEQA Findings pursuant to CEQA Guidelines Section 15091

1.6.2 BLM

The proposed action is located in part on approximately 780 acres of public lands managed by the BLM Bishop Field Office. Upon review of the EA, the BLM will decide whether to grant or deny a ROW request to carry out the proposed action on public lands.

1.6.3 OTHER AGENCY REVIEWS AND/OR CONSULTATIONS

The proposed project / proposed action would require permits and approval from various federal and state regulatory agencies. The agencies and potential permits and approvals are identified in the following sections.

1.6.3.1 FEDERAL

A. United States Fish and Wildlife Service

The United States Fish and Wildlife Service (USFWS) is responsible for oversight of the federal Endangered Species Act (ESA) and the Migratory Bird Treaty Act. There are no plant or wildlife species listed under the ESA that are known or expected to be present with the study area; therefore, consultation with the USFWS is not required.

B. BLM and California State Historic Preservation Office

The BLM will comply with Section 106 of the National Historic Preservation Act (NHPA),through the use of the California State Protocol Agreement . The proposed project / proposed action and alternatives would not adversely impact historical resources on state-owned lands. The BLM is the lead federal agency, so the District has no Section 106 consultation responsibility.

The BLM consulted with interested Native American tribes and individuals to identify archaeological sites to which the tribe attached cultural or religious importance within the proposed action area. The BLM sent letters and organized meetings and field visits that included tribal representatives, the proposed action proponent, and members of local government. These meeting were held to discuss the proposed action and to obtain their comments and concerns about the possible impacts of the proposed action.
Section 106 requires that all compliance with the NHPA be completed prior to a Record of Decision (ROD). The CEQA process, however, allows for SHPO review when the document is circulated for

[19] Great Basin Unified Air Pollution Control District. 28 January 2008. *2008 Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan*. Bishop, CA.

public review. This review is accomplished through distribution of the Draft EIR/EA to the Governor's Office of Planning and Research, who in turn distributes the EIR to all appropriate state agencies.

1.6.3.2 STATE

A. California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) is responsible for overseeing the California ESA, approving Streambed Alteration Agreements (SAA) (Section 1600 of the California Fish and Game Code), and enforcing the California Native Plant Protection Act (NPPA).

CDFW will review the proposed project / proposed action for potential impacts on state-listed species. No streambeds would be altered by the proposed project / proposed action; therefore, a SAA would not be required. Several species listed under the NPPA have been identified with the potential to occur near or within the proposed project / proposed action, and the CDFW will be responsible for reviewing the proposed project / proposed action to ensure compliance with the NPPA requirements.

B. California Regional Water Quality Control Board Lahontan Basin Region 6

RWQCB Lahontan Region 6 is responsible for regulating water quality. In accordance with the federal Clean Water Act (CWA) of 1972, which regulates point-source and non-point-source discharges to receiving waters, a National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities will be required for the proposed project / proposed action. The permit requires a public Notice of Intent (NOI) to discharge storm water to be filed. The proposed project / proposed action would be required to develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The RWQCB will be consulted regarding potential impacts to jurisdictional waters. If applicable, CWA Section 401 Water Quality Certification, and permitting under the California Porter-Cologne Act, will be obtained for the proposed project / proposed action.

C. California Department of Transportation

Caltrans has jurisdiction over all of the state's highways and roads. The District has coordinated with Caltrans in the evaluation of the effects of storm water diversion structures built upstream of the Keeler Dunes and the design of the DCMs. Two of the action alternatives under consideration would require work within the State Highway 136 ROW. Access to the site will be via State Highway 136. An encroachment permit will be required.

D. California Environmental Protection Agency

The OVPA was designated to be in serious nonattainment of the NAAQS for PM_{10} by the California Environmental Protection Agency (CEPA). Subsequently, the State of California delegated the District to prepare a SIP for the OVPA that demonstrated how PM_{10} emissions would be decreased to prevent violations of the NAAQS. As noted previously, the 2008 SIP requires control of the dust emissions from the Keeler Dunes on or before December 31, 2013, in order to demonstrate attainment of the federal standard within the OVPA by 2017; however, it is anticipated that if

approved, the proposed project / proposed action would be installed by spring 2015 and be able to demonstrate attainment by 2018.[20] CEPA establishes findings on the OVPA's status in meeting NAAQS as required by the Clean Air Act Amendments in the SIP.

E. California Air Resources Board

The California Air Resources Board (CARB) is a part of the CEPA and is responsible for attaining and maintaining healthy air quality in the state. The CARB reviewed and approved the 2008 SIP for the OVPA.

F. California Native American Heritage Commission

The California Native American Heritage Commission's (NAHC's) duties include the inventory of places of religious or social significance to Native Americans and the identification of known graves and cemeteries of Native Americans on private and state lands. Section 5097.98 of the Public Resource Code specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner. The NAHC was consulted regarding the proposed action's potential to affect Native American resources.

1.6.3.3 LOCAL

A. Inyo County

Although the majority of the proposed project / proposed action is located on federal lands, BLM regulations require that resource management plans be consistent with local governments' officially approved resource-related plans.[21] Coordination was undertaken with the Inyo County Planning Department. The proposed project / proposed action area is zoned Open Space in the Inyo County Zoning Ordinance. The proposed project / proposed action is considered Agricultural, which is a permitted use in the Open Space Zone. As a result, Inyo County has determined that no discretionary action will be required by Inyo County.[22]

1.7 POSSIBLE BENEFITS OF THE PROPOSED PROJECT / PROPOSED ACTION

1.7.1 PROTECTING PUBLIC HEALTH

The proposed project / proposed action is designed to be protective of public health, particularly residents of the communities of Keeler and Swansea who are exposed to adverse levels of PM_{10} during high wind events. The maximum 24-hour PM_{10} exceedance of the NAAQS in the community of Keeler during the period of 2009 through 2012 was 13,380 $\mu g/m^3$. During this same period, there were 31 federal exceedances and 126 state PM_{10} exceedances[23] for particulate matter.

[20] Great Basin Unified Air Pollution Control District. 28 January 2008. *2008 Owens Valley PM10 Planning Area Demonstration of Attainment State Implementation Plan*. Bishop, CA.

[21] FLPMA, Sec. 202(c)(9).

[22] Great Basin Unified Air Pollution Control District September 13, 2013 email regarding discussion with Josh Hart, Inyo County Planning Director.

[23] Kiddoo, P., Great Basin Unified Air Pollution Control District, Bishop, CA. November 8, 2013. Air quality data provided to Sapphos Environmental, Inc., Pasadena, CA.

When inhaled, small particles can avoid the natural defenses of the human respiratory system and damage the respiratory tract. Studies have strongly linked elevated particulate to premature deaths, hospital admissions, emergency room visits, and asthma attacks.[24] Particulate matter inhalations can also significantly reduce development of lung function in children.[25] In addition, inhalation of high levels of PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infection.[26] Of greatest concern are recent studies that link PM_{10} exposure to the premature death of people who have preexisting heart and lung disease, especially the elderly. The goal of the proposed project / proposed action is to meet NAAQS for PM_{10} that would be protective of public health.

1.7.2 IMPROVING AIR QUALITY

The proposed project / proposed action is designed to result in an improvement in the air quality of the OVPA, which is in nonattainment for PM_{10}. The 2008 SIP provides a dust control plan using BACM methods applied to specific areas of the desiccated Owens Lake and for addressing the Keeler Dunes emissions located adjacent to Owens Lake. Ongoing air monitoring has identified the Keeler Dunes as one of the last remaining dust sources causing exceedances of the NAAQS in the OVPA. As a result of data collected since April 2000, the District has identified the Keeler Dunes as one of the areas that need to be controlled to attain the NAAQS for PM_{10} within the OVPA.

1.7.3 PROTECTING ENVIRONMENTALLY SENSITIVE AREAS FROM ACCELERATION OF EXPOSURE

Sensitive resources within the Keeler Dunes are adversely affected by the deposit and constant reworking of these sands. The proposed project / proposed action would create a stable natural dune environment that would reduce wind speed at the ground surface and, consequently, act as a stabilizing measure during high wind events, reducing adverse impacts to sensitive resources within the dunes.

1.8 RELATIONSHIP TO OTHER STATUTES, REGULATIONS, AND PLANS

Implementation of DCMs in the proposed project / proposed action area would be consistent with federal laws and regulations, as well as other plans, programs, and policies of state and local government agencies, to the extent practical. Specific approvals, permits, and regulatory requirements would be required for constructing, operating, and maintaining the proposed project / proposed action.

[24] California Air Resources Board. November 2007. *Recent Research Findings: Health Effects of Particulate Matter and Ozone Air Pollution, November 2007*. Available at: http://www.arb.ca.gov/research/health/fs/pm_ozone-fs.pdf

[25] California Air Resources Board. November 2007. *Recent Research Findings: Health Effects of Particulate Matter and Ozone Air Pollution, November 2007*. Available at: http://www.arb.ca.gov/research/health/fs/pm_ozone-fs.pdf

[26] Great Basin Unified Air Pollution Control District. Accessed 4 January 2012. *Particular Matter Air Pollution*. Available at: http://www.gbuapcd.org/pm10.htm

1.8.1 FEDERAL POLICY CONSISTENCY AND LAND USE PLAN CONFORMANCE

1.8.1.1 FEDERAL CLEAN AIR ACT

The Clean Air Act of 1990 modified and extended legal authority provided by earlier Clean Air Acts and contains the legal authority for federal programs regarding air pollution control and authorizes the EPA to establish the NAAQS to protect public health and the environment.

1.8.1.2 FEDERAL LAND POLICY AND MANAGEMENT ACT, 1976 AS AMENDED

Title V of the FLPMA addresses ROWs and establishes pubic land policy and guidelines for administration; and it provides for management, protection, development, and enhancement of public lands. The Secretary of the Interior is authorized to grant ROWs on public lands for "facilities which are in the public interest and which require rights-of-way over, upon, under, or through such lands."[27] The proposed project / proposed action is necessary to meet the NAAQS for the benefit of public health and improvement of air quality.

1.8.1.3 FEDERAL ENDANGERED SPECIES ACT

The federal ESA defines species as endangered and threatened when they are at risk of extinction and provides regulatory protection for any species thus designated. The purposes of the federal ESA are to provide a means to conserve the ecosystems on which endangered and threatened species depend and to provide a program for conservation and recovery of these species. Section 9 of the federal ESA prohibits the take of species that are listed by the USFWS as threatened or endangered. In recognition that take cannot always be avoided, Section 10(a) of the federal ESA includes provisions for take that is incidental to, but not the purpose of, otherwise lawful activities. The ESA requires that federal agencies ensure that their actions do not jeopardize the continued existence of a listed species or result in destruction or adverse impacts and modifications of designated critical habitat of the species.

1.8.1.4 NATIONAL HISTORIC PRESERVATION ACT

Section 106 of the NHPA requires that federal agencies with direct or indirect jurisdiction over federally funded, assisted, or licensed undertakings must take into account the effect of the undertaking on any historic property, regardless of jurisdiction. The BLM, through the California Protocol Agreement has the jurisdiction to identify historic properties and treat them accordingly. Historic properties are defined as "any prehistoric or historic district, site, building, structure, or object included, or eligible for inclusion in, the National Register of Historic Places (NRHP)."[28]

1.8.1.5 BISHOP RESOURCE MANAGEMENT PLAN

This proposed project / proposed action is subject to the BLM's Bishop Resource Management Plan (RMP). The RMP provides guidance and policies for management for 750,000 acres of public land administered by the Bishop Field Office in Inyo and Mono Counties. All actions approved or authorized by the BLM must be consistent with the terms, conditions, and decisions of the RMP.

[27] FLPMA, Section 501 (a)(7).

[28] 36 CFR Part 800.2.

The proposed project / proposed action must conform to the General Policies, Area Manager's Guidelines, Valid Existing Management, Standard Operating Procedures, Decisions and Support Needs prescribed in the Bishop RMP.

The Keeler Dunes are located within the Owens Lake Management Area and South Inyo Management Area, two of nine management areas identified in the RMP. The proposed DCMs would be implemented within the Owens Lake Management Area only. The management plan's policies and guidelines applicable to the Owens Lake Management Area address several key issues: preservation and protection of the environment, archaeological artifacts, wildlife habitat, management of land tenure adjustment, domestic sources of mineral, off-highway vehicle use, grazing, and recreation on public lands. In this EIR/EA, the RMP's stipulations are discussed further in Section 3: Environmental Setting.

1.8.2 STATE POLICY CONSISTENCY

1.8.2.1 CALIFORNIA CLEAN AIR ACT

The California Clean Air Act was signed into law in 1988 and spelled out in statute and in California's air quality goals, planning mechanisms, regulatory strategies, and standards of progress. The California Clean Air Act provides the state with a comprehensive framework for air quality planning regulation.

1.8.2.2 CALIFORNIA PORTER-COLOGNE WATER QUALITY CONTROL ACT

The federal CWA provides for delegation of certain water-quality control and planning responsibilities to the states. Water Quality Control Plans (Basin Plans) are required for the nine state-designated hydrologic basins by the CWA and the California Porter-Cologne Water Quality Control Act. The Basin Plan for Region 6, Lahontan Basin, serves to guide and coordinate the management of water quality in this region.

1.8.2.3 CALIFORNIA ENDANGERED SPECIES ACT

The California ESA prohibits the take of listed species except as otherwise provided in California law. Unlike the federal ESA, the California ESA applies the take prohibitions to species petitioned for listing (state candidates). State lead agencies are required to consult with the CDFW to ensure that any actions undertaken by that lead agency are not likely to jeopardize the continued existence of any state-listed species or result in destruction or degradation of required habitat.

1.8.3 LOCAL POLICY AND LAND USE PLAN CONFORMANCE

1.8.3.1 INYO COUNTY GENERAL PLAN AND LAND USE ORDINANCE

The Inyo County General Plan provides the Land Use and Conservation and Open Space Elements that establish goals and policies for the Inyo County land use designations. Any development within the jurisdiction of the County must be consistent with the General Plan and the Land Use Ordinance. BLM-managed lands and areas of the proposed project / proposed action not located on BLM land must be consistent with the intent of the General Plan.

1.9 AVAILABILITY OF REPORTS

Copies of this EIR/EA and appendices are available during the public review period at the following libraries:

Independence Library, 168 North Edwards Street, Independence, CA 93526
Telephone number: (760) 878-0260
Hours of operation: Monday, Tuesday, Thursday, and Friday (12:00 p.m.–8:00 p.m.)
Wednesday (6:00 p.m.–9:00 p.m.)
Saturday (10:00 a.m.–1:00 p.m.)

Big Pine Library, 500 South Main Street, Big Pine, CA 93513
Telephone number: (760) 938-2420
Hours of operation: Monday, Tuesday, Thursday, and Friday (12:00 p.m.–5:00 p.m.)
Wednesday (2:00 p.m.–7:00 p.m.)
Saturday (10:00 a.m.–12:00 p.m. and 1:00 p.m.–5:00 p.m.)

Bishop Library, 210 Academy Avenue, Bishop, CA 93514
Telephone number: (760) 873-5115
Hours of operation: Monday, Wednesday, and Friday (10:00 a.m.–6:00 p.m.)
Tuesday and Thursday (12:00 a.m.–8:00 p.m.)
Saturday (10:00 a.m.–4:00 p.m.)

Lone Pine Library, Intersection of Washington and Bush Streets, Lone Pine, CA 93545
Telephone number: (760) 876-5031
Hours of operation: Monday and Wednesday (12:30 p.m.–7:00 p.m.)
Tuesday and Thursday through Saturday (10:00 a.m.–12:00 p.m. and 1:00 p.m.–5:00 p.m.)

The EIR/EA and supporting materials will also be available for review at the following locations:

Great Basin Unified Air Pollution Control District
157 Short Street
Bishop, CA 93514-3537
Contact Ms. Tori DeHaven
for an appointment at (760) 872-8211
Available online at: http://www.gbuapcd.org/

Bureau of Land Management Bishop Field Office
351 Pacu Lane, Suite 100, Bishop, CA 93514-3537
Contact Mr. Steve Nelson, Field Manager,
for an appointment at (760) 872-5011

Sapphos Environmental, Inc.
430 North Halstead Street
Pasadena, CA 91107
Contact Ms. Marie Campbell
for an appointment at (626) 683-3547

Written comments on this EIR/EA should be transmitted during the public review period to Mr. Theodore D. Schade, Great Basin Unified Air Pollution Control District, 157 Short Street, Bishop, California 93514-3537.

1.10 ORGANIZATION AND CONTENT

This EIR/EA consists of the following sections:

- **Section 1, Introduction,** provides information related to the purpose and scope of the EIR/EA, environmental review process, and the organization and content of the EIR/EA. The introduction further provides the location and boundaries of the proposed project / proposed action; including the general location in Inyo County and township, range, and section specifications; and purpose and need for the proposed project / proposed action.

- **Section 2, Proposed Project / Proposed Action and Alternatives,** provides a description of the technical and environmental characteristics of the proposed project / proposed action and alternatives, including the supporting project elements and construction scenario.

- **Section 3, Environmental Setting,** addresses existing conditions, or environmental setting, of the proposed project / proposed action and alternatives. The environmental setting is described in accordance with CEQA and NEPA. As required by CEQA, the physical conditions existing at the time that the NOP and NOI are published are used for the basis of the evaluation.

- **Section 4, Environmental Consequences,** will evaluate the environmental consequences (direct and indirect impacts) associated with the implementation of the proposed project / proposed action and alternatives and identifies available mitigation measures to reduce significant impacts.

- **Section 5, Cumulative Impacts,** examines the cumulative environmental consequence of the proposed project / proposed action in conjunction with other related projects.

- **Section 6, Other CEQA Required Considerations,** includes an analysis of significant irreversible environmental changes, growth inducing impacts, and unavoidable significant environmental impacts.

- **Section 7, Effects Found Not to Be Significant,** will briefly describe any potential environmental effects that were determined not to be significant during the initial project scoping and, therefore, were not discussed in detail in the EIR.

- **Section 8, Consultation and Coordination,** provides a list of all governmental agencies, community groups, and other organizations consulted during the preparation of this EIR/EA. This section also provides a list of all personnel that provided technical input to this EIR/EA.

- **Section 9, References,** lists all sources, communications, and correspondence used in the preparation of this EIR/EA.

- **Appendices**

  A Notice of Preparation
  B Visual Resources Technical Report
  C Air Quality and Greenhouse Gas Emissions Technical Report
  D Biological Resources Technical Report
  E Cultural Resources Technical Report
  F Paleontological Survey Report
  G Phase I Environmental Site Assessment
  H Traffic Impact Study
  I Keeler Dunes Investigation: Project Study Plan
  J Keeler Dunes Project Irrigation System Analysis
  K Using Roughness (Solid Elements and Plants) to Control Sand Movement and Dust Emissions: Keeler Dunes Dust Demonstration Project, Interim Report
  L Preliminary Results of Plant Establishment in the Straw Bale Demonstration Dust Control Project

1.11 ISSUES TO BE ADDRESSED

1.11.1 CEQA EIR

The issues evaluated in this EIR include the physical, biological, cultural, recreational, and other resources that have the potential to be affected by the activities related to the proposed project and alternatives. The District reviewed previous Initial Studies and EIRs prepared for the analysis of environmental issues associated with dust control activities at Owens Lake,[29,30,31] analyzed a variety of potential DCMs applicable to the proposed project area, and conducted public information meetings to disseminate information of ongoing research.[32,33] In accordance with CEQA Guidelines Section 15060(d), "if a lead agency can determine that an EIR will be clearly required for a project, the agency may skip the initial review of the project and begin work directly on the EIR process." As a result of its review of past work, the District determined that the proposed project may result in significant impacts to 10 environmental resources warranting further analysis necessitating the preparation of an EIR. The District determined that, pursuant to the CEQA, an EIR

[29] Great Basin Unified Air Pollution Control District. January 2008. *2008 Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan—Integrated Subsequent Environmental Impact Report*. State Clearinghouse Number 2007021127. Prepared by Sapphos Environmental, Inc. Pasadena, CA.

[30] Great Basin Unified Air Pollution Control District. February 2004. *2003 Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan Integrated Environmental Impact Report*. State Clearinghouse House No. 2002111020. Prepared by: Sapphos Environmental, Inc., Pasadena, CA. Bishop, CA.

[31] Great Basin Unified Air Pollution Control District. February 2007. *2008 Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan Initial Study*. State Clearinghouse Number 2007021127. Bishop, CA.

[32] Great Basin Unified Air Pollution Control District. 2011. *Preliminary Constraints Analysis*. Prepared by: Sapphos Environmental, Inc., Pasadena, CA. Bishop, CA.

[33] Great Basin Unified Air Pollution Control District. 2011. "Public Meeting Presentation Materials for January 20, 2010 and August 24, 2011 Public Meetings." Available at: http://www.gbuapcd.org/keelerdunes/reports/index.htm

is the appropriate environmental document to support the decision-making process to be undertaken by the Governing Board in relation to the proposed project.

The issue areas analyzed in the EIR are:

- Aesthetics / Visual Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gases / Global Climate Change
- Hydrology and Water Quality
- Land Use and Planning
- Recreation
- Transportation and Traffic

1.11.2 NEPA EA

Working in concert with District staff, the BLM determined that an EA pursuant to the NEPA would be the appropriate environmental document to support the decision-making process related to the proposed ROW by the Bishop Field Manager. The following issue areas for the EA will be addressed in the context of the EA/EIR:

- Air Quality
- Biological Resources
- Cultural Resources Including Native American Cultural Values
- Paleontological Resources
- Floodplains
- Global Climate Change
- Invasive, Non-native Species
- Soils
- Vegetation
- Visual
- Water Quality
- Wetlands
- Wilderness Including the Inventory of Wilderness Characteristics

1.12 ISSUES SCOPED OUT FROM FURTHER ENVIRONMENTAL REVIEW

1.12.1 CEQA

In accordance with CEQA Guidelines Section 15060(d), the lead agency decided to begin work directly on the EIR process for the proposed project and must "indicate briefly its reasons for determining that other effects would not be significant or potentially significant." The District determined, based on its extensive knowledge of the project study area and on input from multiple public meetings, that there was no evidence that the proposed project would cause significant

environmental effects related to seven environmental resources included in the CEQA Guidelines Appendix G.

1.12.1.1 AGRICULTURE AND FORESTRY RESOURCES

An impact analysis was undertaken to determine if the proposed project may have a significant impact to agriculture and forestry that would require the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines.[34] The project site consists of a sand sheet and active sand dunes. Agricultural resources at the proposed project site were evaluated with regard to the California Department of Conservation Farmland Mapping and Monitoring Program.[35]

Would the proposed project have any of the following effects:

(a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use that exceeds the California LESA Model Scoring Thresholds?

The proposed project would not be expected to result in impacts to agricultural resources in relation to the conversion of farmland. There are no designated or proposed prime farmlands, unique farmlands, farmlands of statewide importance, or any existing farmlands present at the proposed project site.[36] The California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) has not mapped Inyo County as part of the FMMP.[37] Therefore, the land within the project study area is not designated farmland pursuant to the FMMP. No conversion of designated farmland would occur as part of the proposed project. In addition, the Bishop RMP does not designate any areas of Inyo County as prime or unique agricultural or farmlands.[38] Therefore, there would be no expected impacts to agricultural resources related to the conversion of farmland. No further analysis is warranted.

(b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

The proposed project would not be expected to result in impacts to agricultural resources in relation to a conflict with existing zoning for agriculture, or a Williamson Act contract. The County of Inyo General Plan land use designation for the proposed project area is Open Space.[39] There are no parcels zoned for or used for agriculture, nor are state lands subject to the Williamson Act.[40,41]

[34] *California Code of Regulations*. Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[35] California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. 2004. *Important Farmland in California, 2002*. Sacramento, CA.

[36] Inyo County Planning Department. December 2001. *Inyo County General Plan, Conservation and Open Space Element*. Independence, CA.

[37] California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. Accessed 3 October 2012. Available at: http://www.conservation.ca.gov/DLRP/fmmp/Pages/Index.aspx

[38] Bureau of Land Management, Bakersfield District. April 1993. *Bishop Resource Management Plan Record of Decision*. Bakersfield, CA.

[39] Inyo County Planning Department. December 2001. *Inyo County General Plan, Conservation and Open Space Element*. Independence, CA.

[40] City of Los Angeles Department of Water and Power. February 2000. *Initial Study for North Sand Sheet Shallow Flooding Project; Owens Lake Dust Mitigation Program, Owens Lake, California*. Prepared by: CH2M HILL, Santa Ana, CA.

Therefore, there would be no expected impacts to agricultural resources related to a conflict with existing zoning for agricultural use or a Williamson Act contract. No further analysis is warranted.

(c) Conflict with existing zoning for, or cause rezoning of, forest land or timberland?

The proposed project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland. There is no zoned forest land or timberland present at the proposed project site. No further analysis is warranted.

(d) Result in the loss of forest land or conversion of forest land to non-forest use?

The proposed project would not be expected to result in the loss of forest land or conversion of forest land to non-forest use. There is no forest land present at the proposed project site. No further analysis is warranted.

(e) Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

The proposed project would not be expected to result in impacts to agricultural resources in relation to changes in the existing environment that, due to their location or nature, could result in conversion of farmland to non-agricultural use. As stated above, no farmland or forest is present on or adjacent to the proposed project site. Therefore, there would be no expected impacts to agricultural resources related to changes in the existing environment that, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use. No further analysis is warranted.

1.12.1.2 HAZARDS AND HAZARDOUS MATERIALS

The project site is currently an undeveloped area, although historical records indicate that in 1883, the narrow-gauge Carson & Colorado Railroad was built to Keeler, California, and transects the property north to south between the Old Highway and SR 136.[42] The railroad operated until 1960, when it was abandoned and removed. Based on a review of available historical topographic maps and aerial photographs, a government regulatory database records search of hazardous waste sites, and a site walkover, development of the project site was limited to the narrow gauge railroad. The government regulatory database compilation identified one solid waste facility within a 1-mile radius of the proposed project area referred to as the Keeler Disposal Site, a former landfill located approximately 1/8 mile southeast on Old Highway 136. The address is incorrectly reported as Olancha Dump Road.[43] Records indicate this facility operated between 1973 and 1991 and accepted inert and nonhazardous solid waste from the community of Keeler. The facility was located on land owned by the LADWP and was operated by the County of Inyo Integrated Waste Management. The Keeler transfer station, also operated by the County, is currently located on the

[41] City of Los Angeles Department of Water and Power. August 2001. *Mitigated Negative Declaration Southern Zones Dust Control Project, Owens Lake Dust Mitigation Program, Owens Lake, California*. Prepared by CH2M HILL, Santa Ana, CA.

[45] *Code of Federal Regulations*, Title 40, Chapter 1, Part 261.

[45] *Code of Federal Regulations*, Title 40, Chapter 1, Part 261.

site of the former landfill.[44] Records indicate the former landfill was properly closed in accordance with the requirements of the Lahontan RWQCB.

An impact analysis was undertaken to determine if the proposed project may have a significant impact to hazards and hazardous materials, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines.

Hazardous wastes are by-products of society that can pose a substantial or potential hazard to human health or the environment when improperly managed. Hazardous wastes possess at least one of four characteristics (ignitability, corrosivity, reactivity, or toxicity), or appear on special Environmental Protection Agency lists.[45] Hazards and hazardous materials at the proposed project site were evaluated based on expert opinion supported by facts, a review of environmental databases[46] and additional technical reports, and environmental investigations related to the proposed project site. State CEQA Guidelines recommend the consideration of eight questions when addressing the potential for significant impact to hazards and hazardous materials.

Would the proposed project:

(a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The impact from hazards and hazardous materials related to creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials from the proposed project would be expected to be below the level of significance. The proposed project do not involve the use of hazardous materials. The proposed project consists of installation and monitoring for dust control measures, using straw bales and native vegetation on up to 194 acres in a study area consisting of 870 acres of destabilized sand deposits. The project construction would require four staging areas and an access route from each of the staging areas to the project site. The proposed project does not involve the routine transport, use, or disposal of hazardous materials, other than fuel and oil used in project vehicles and equipment during project construction. No hazardous or solid waste would be generated within the project area. Routine transport, use, and storage of hazardous materials during proposed project operations will not result in their potential exposure to people or the environment. Impacts from hazards and hazardous materials in relation to creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials would be expected to be below the level of significance. Further analysis is required.

(b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous material into the environment?

The impact from hazards and hazardous materials related to the creation of a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous material from the proposed project would be expected to be below the level of significance. The proposed project would not involve the transport, use, or

[45] *Code of Federal Regulations*, Title 40, Chapter 1, Part 261.

[45] *Code of Federal Regulations*, Title 40, Chapter 1, Part 261.

[46] Environmental Data Resources, Inc. 6 July 2005. *EDR Report for Rancho Los Amigos NRC South Campus, Downey, CA 90242*. Inquiry No. 1460019.2s. Milford, CT.

disposal of hazardous materials, other than fuel and oil used in project vehicles and equipment during project construction. No hazardous or solid waste would be generated within the project area. No hazard will be posed to the public and the environment by the presence of hazardous materials during the construction or operation of the proposed project because no hazardous materials will be transported, used, or disposed at the proposed project. Therefore, impacts from hazards and hazardous materials in relation to the creation of a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous material would below the level of significance with the incorporation of project design and BMPs. No further analysis is required.

(c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The impact from hazards and hazardous materials with respect to the emission of hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school from the proposed project would be expected to be below the level of significance. There are no schools within 0.25 mile of the proposed project site. The nearest school to the proposed project is Lone Pine High School in Lone Pine, California, over 10 miles to the northwest.[47] Impacts from hazards and hazardous materials with respect to the emission of hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school would be below the level of significance. No further analysis is required.

(d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to the Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?

Impacts from hazards and hazardous materials related to the proposed project being located on a site that is included on a list as a hazardous materials site would be expected to be below the level of significance with mitigation. Government database listings of hazardous materials were reviewed to determine the locations of hazardous materials sites within 0.5 mile of the proposed project study area. Based on the review of a recent compilation of environmental regulatory databases,[48] there are no hazardous waste sites pursuant to Government Code Section 65962.5. Therefore, the proposed project's impacts from hazards and hazardous materials related to location on a hazardous waste site would be expected to be below the level of significance. No further analysis is warranted.

(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

The proposed project would not be expected to result in impacts from hazards and hazardous materials in relation to the proximity from an airport and the safety hazard for people residing or working in the proposed project area. No airports are located in the vicinity of the proposed project area. Therefore, there are no expected impacts from hazards and hazardous materials in

[47] The Thomas Guide. 2001. California Road Atlas & Driver's Guide.

[48] Environmental Data Resources, Inc. 14 May 2013. *The EDR Radius Map Report with Geocheck, Rancho Los Amigos National Rehabilitation Center, 7601 East Imperial Highway, Downey, CA 90242*. Inquiry No. 3605501.1s. Milford, CT.

relation to the proximity from an airport and the safety hazard for people residing or working in the proposed project area. No further analysis is warranted.

(f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

The proposed project would not be expected to result in impacts from hazards and hazardous materials due to being within the vicinity of a private airstrip and the potential for safety hazards for people residing or working in the proposed project area. There are no private airstrips located in the vicinity of the proposed project area. Therefore, there would be no expected impacts from hazards and hazardous materials due to the proposed project being within the vicinity of a private airstrip and the potential for safety hazards for people residing or working in the proposed project area. No further analysis is warranted.

(g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The proposed project would not be expected to result in impacts from hazards and hazardous materials from impairing the implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan. The County of Inyo currently does not have an adopted emergency response plan or emergency evacuation plan.[49] In the event of emergency, the County Fire Department would evaluate the situation and, if necessary, would evacuate the areas determined to be the most likely to be affected. Therefore, there would be no expected impacts from hazards and hazardous materials that would impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No further analysis is warranted.

(h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

The proposed project would not be expected to result in impacts from hazards and hazardous materials that would expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. The proposed project is located entirely within a non-urbanized, undeveloped wildlands area. The proposed project site is not located within a Fire Hazard Severity Zone.[50] Therefore, there would be no expected impacts from exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. No further analysis is warranted.

1.12.1.3 MINERAL RESOURCES

An impact analysis was undertaken to determine if the proposed project may have a significant impact to mineral resources, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines. Mineral resources at the proposed

[49] County of Inyo Planning Department. March 2012. General Plan Annual Progress Report 2011.

[50] California Department of Forestry and Fire Protection. 2007. Fire Hazard Severity Zones Maps. Sacramento, CA. Available at: http://www.fire.ca.gov/wildland_zones.php

project site were evaluated with regard to California Division of Mines and Geology publications,[51,52] the Inyo County General Plan,[53] and various published studies. The State CEQA Guidelines recommend the consideration of two questions when addressing the potential for significant impact to mineral resources.

Would the proposed project have either of the following effects:

(a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

The proposed project would not be expected to result in potentially significant impacts to mineral resources in relation to the loss of availability of a known mineral resource of value to the State of California. Based on a review of California Division of Mines and Geology publications and available literature, there are known mineral resources of statewide or regional importance located within Owens Valley, but not within the project study area.[54,55] Inyo County is rich in mineral resources, with over 150 minerals identified in the last century.[56] Minerals in the Inyo Mountains immediately to the east of the proposed project study area include gold, silver, lead, zinc, tungsten, talc, and bismuth.[57] The proposed project study area is located in or adjacent to an alluvial plane expanding west out of the Inyo Mountains. Trace amounts of valued mineral resources may have been transported into the proposed project study area through the alluvial plane, but there are no substantial mineral resources identified within the proposed project study area.

Historically, Keeler and the Owens Lake area have been used for talc processing, salt extraction, and soda ash processing; however, Rio Tinto Minerals (U.S. Borax) is the only current mineral extraction company operating at Owens Lake.[58,59] The existing mineral lease is held by Rio Tinto Minerals–Owens Lake Operations (referred to as the U.S. Borax Lease by the California State Lands Commission), which mines trona (sodium carbonate and sodium bicarbonate mineral) and leases a large area at the central portion of Owens Lake nearly 10 miles southwest of the project area for mineral extraction activities. There are no active mineral resource recovery sites within the proposed project site.[60,61] The proposed project site is located on young sediments located a considerable

[51] California Division of Conservation, Division of Mines and Geology. 1966. *Minerals of California Volume (1866-1966). Bulletin 189*. Los Angeles, CA.

[52] California Division of Conservation, Division of Mines and Geology. 1990. *Mines and Mineral Producers Active in California (1988-89). Special Publication 103*. Los Angeles, CA.

[53] Inyo County Planning Department. 2013. *Inyo County General Plan, Conservation and Open Space Element*. Independence, CA.

[54] California Division of Conservation, Division of Mines and Geology. 1966. *Minerals of California Volume (1866-1966). Bulletin 189*. Los Angeles, CA.

[55] California Division of Conservation, Division of Mines and Geology. 1990. *Mines and Mineral Producers Active in California (1988-89). Special Publication 103*. Los Angeles, CA.

[56] California Division of Conservation, Division of Mines and Geology. 1966. *Minerals of California Volume (1866-1966). Bulletin 189*. Los Angeles, CA.

[57] Conrad, J., Kilburn, J., Blakely, R. 1987. "Mineral Resources of the Southern Inyo Wilderness Study Area, Inyo County, California." *U.S. Geological Survey Bulletin 1705-B*. Washington D.C.

[58] Sapphos Environmental, Inc. 2012. *Keeler Dunes Dust Control Project Cultural Resources Technical Report*. Pasadena, CA.

[59] U.S. Borax. "Key Facts." Available at: http://www.borax.com/about-borax/key-facts

[60] "Active Mines and Plants, Inyo County." Available at: http://active-mines.findthedata.org/d/d/California/Inyo

[61] Inyo County Planning Department. 2013. *Inyo County General Plan, Conservation and Open Space Element*. Independence, CA.

distance from valuable mineral-bearing rocks in the Inyo Mountains. Although soda ash mining has historically occurred in the area of the project site, the only current mineral extraction operation on Owens Lake is located nearly 10 miles southwest of the project site.[62] Therefore, there would be no expected impacts to mineral resources related to the loss of availability of a known mineral resource recovery site important to the State of California. No further analysis is warranted.

(b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

The proposed project would not be expected to result in impacts to mineral resources in relation to the loss of availability of a known mineral resource recovery site. Based on a review of California Division of Mines and Geology publications, parts of Inyo County and the Owens Valley are rich in mineral deposits. Several existing active mines surround the Owens Lake bed area, including sources of aggregate materials, dolomite, and decomposed granite.[63] However, according to the Conservation and Open Space element of the Inyo County General Plan,[64] there are no known mineral resource recovery sites of local importance located within the proposed project study area. The proposed project study area is designated by the Inyo County Zoning Code as OS – 40 - Open Space, 40-Acre Minimum.[65] The proposed project area is zoned Open Space in the Inyo County Zoning Ordinance. The proposed project is considered Agricultural, which is a permitted use in the Open Space Zone.[66] Therefore, there would be no expected impacts to mineral resources related to the loss of availability of a known locally important mineral resource recovery site. No further analysis is warranted.

1.12.1.4 NOISE

The DCMs would not require the development of permanent facilities, such as buildings or other infrastructure, or increase traffic to the project site that could result in noise impacts. An impact analysis was undertaken to determine if the proposed project may have a significant impact to noise, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines.[67] Noise at the proposed project site was evaluated with regard to the Noise Element of the Inyo County General Plan.[68]

The ambient noise in the vicinity of the project are primarily characterized by adjacent roadways, including California Highway 136 and Old State Highway, which both intersect with the project site. The State CEQA Guidelines recommend the consideration of six questions when addressing the potential for significant impact to noise.

[62] Inyo County Planning Department. 2013. *Inyo County Zoning Code*. Independence, CA.

[63] California Department of Conservation, Division of Mines and Geology. 1999. *Mines and Mineral Producers Active in California (1997–1998)*. Special Publication 103. Sacramento, CA.

[64] Inyo County Planning Department. 2013. *Inyo County General Plan, Conservation and Open Space Element*. Independence, CA.

[65] Inyo County Planning Department. 2013. *Inyo County Zoning Code*. Independence, CA.

[66] Great Basin Unified Air Pollution Control District September 13, 2013 email regarding discussion with Josh Hart, Inyo County Planning Director.

[67] *California Code of Regulations*. Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[68] County of Inyo, Inyo County Planning Department, *Noise Element of the General Plan*. December 2001.

Would the proposed project have any of the following effects:

(a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

The proposed project is expected to result in less than significant impacts to noise in relation to exposure or generation of noise levels in excess of established standards. The proposed project consists of installation and monitoring for DCMs, consisting of straw bales and native vegetation, on up to 194 acres in a study area consisting of 870 acres of destabilized sand deposits. The project construction would require four staging areas and an access route from each staging area to the project site. There are no structures of commercial establishments associated with the proposed project.

The construction phase of the proposed project is anticipated to require up to 11 months. During this time period, workers and delivery vehicles, all-terrain vehicles (ATVs), and other equipment will be operating on site. However, noise impacts to residents are not expected to be significant because all site access would occur approximately 0.4 mile from the nearest resident, and construction work will comply with the Noise Element of the Inyo County General Plan as well as all relevant codes and ordinances. Therefore, the proposed project is expected to result in less than significant impacts in relation to exposure or generation of noise levels in excess of established standards.

(b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

The proposed project is expected to result in less than significant impacts to noise in relation to generation of excessive groundborne vibration or groundborne noise. Significant groundborne vibrations generally occur as a result of construction activities such as blasting, pile-driving, and operating heavy earth-moving equipment. Due to the nature of the proposed project, groundborne vibrations are expected to be negligible and only occur as a result of infrequent vehicular traffic during construction and maintenance of DCM. Additionally, the groundborne vibration impacts to residents are not expected to be significant because all site access would occur approximately 0.4 mile away. Therefore, the proposed project is expected to result in less than significant impacts in relation to exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

(c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

The proposed project is expected to result in less than significant impacts to noise in relation to permanent increases in ambient noise levels. The Inyo County General Plan's Noise Element would regulate all future ambient noise associated with the proposed project. Although the construction phase of the proposed project may result in intermittent increases in ambient noise levels from construction equipment, operation and maintenance of the DCM would require minimal usage of construction equipment, and thus not result in a substantial permanent increase in ambient noise levels in the vicinity of the proposed project.

(d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity about levels existing without the project?

The proposed project is expected to result in less than significant impacts to noise in relation to temporary or periodic increases in ambient noise levels. As discussed above, the proposed project is expected to result in intermittent increases in ambient noise levels during construction of DCM, and minimal noise from operations and maintenance. Therefore, due to the nature of the proposed project, increases in temporary or periodic ambient noise levels are expected to be less than significant.

(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The proposed project is not expected to result in impacts to noise in relation to public airports. The nearest public use airport is the Lone Pine Airport located approximately 9.7 miles northwest from the proposed project boundary. The proposed project would not increase noise levels in the vicinity of the airport, alter air traffic patterns, or conflict with Federal Aviation Administration (FAA) regulations, including established FAA flight protection zones. Therefore, there are no expected impacts to noise related to public airports, and no further analysis is warranted.

(f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The proposed project is not expected to result in impacts to noise in relation to private airstrips. The nearest private airstrip is Saline Valley Airstrip, located approximately 26.9 miles (northeast) from the proposed project boundary. The proposed project is not within the vicinity of a private airstrip and would not expose people residing or working in the project area to excessive noise levels. Therefore, there are no expected impacts to noise related to private airstrips, and no further analysis is warranted.

1.12.1.5 POPULATION AND HOUSING

An impact analysis was undertaken to determine if the proposed project may have a significant impact to population and housing that would require the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines.[69] The DCMs would not provide housing or infrastructure that would cause a substantial population growth in the Keeler area. The project site is undeveloped, and implementation of DCMs would not displace substantial numbers of people. The State CEQA Guidelines recommend the consideration of three questions when addressing the potential for significant impacts to population and housing.

Would the proposed project have any of the following effects:

(a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

[69] *California Code of Regulations*. Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

The proposed project would not be expected to result in the creation of new housing or infrastructure that would induce or accelerate population or household growth. The proposed dust control measures would provide a small number of temporary employment opportunities during construction. These jobs would be expected to be filled with the local workforce in the surrounding communities; therefore, no indirect population growth is anticipated. The proposed project is a program to implement dust control measures to comply with national ambient air quality standards; no new homes or businesses are proposed as a part of the proposed project.

No growth-inducing extensions of infrastructure, including roadways, are proposed as a part of the proposed project. The proposed project would not affect the existing supply or demand for permanent housing or rental housing in the community of Keeler or surrounding communities. There is little need for future housing near the proposed project study area, as the nearby community of Keeler contains 67 housing units, 40 percent of which were recorded as vacant in the 2010 Census.[70] The population in Inyo County is forecasted by the California Department of Transportation to grow at a slow average rate of 1.0 percent per year from 2012 to 2017, which indicates a low future housing need within the land surrounding Owens Lake.[71,72] As such, the proposed project would not be expected to stimulate population growth beyond that already projected to occur. Therefore, the proposed project is not expected to result in significant impacts to population growth. No further analysis is warranted.

(b) Displace substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere?

The proposed project would not result in adverse impacts to population and housing in relation to the displacement of substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere. There are currently no housing units located within the boundary of the proposed project study area or within 650 feet of the boundary; therefore, no housing units would be removed. The proposed project would not alter the location, distribution, density, or growth of the population in the area. Therefore, the proposed project is not expected to result in impacts to population and housing related to displacement of housing necessitating the construction of replacement housing. No further analysis is warranted.

(c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The proposed project would not result in adverse impacts to population and housing related to the displacement of substantial numbers of people, necessitating the construction of replacement housing elsewhere. Implementation of the proposed project includes the construction of dust control measures, including temporary dune stabilization with straw bales, establishing native vegetation, and building temporary access routes and staging areas during project construction. No

[70] United States Census Bureau. 15 July 2013. "American Fact Finder: General Housing Characteristics: 2010". QT-H1. 2010 Census. Geography: Keeler CDP, California. Available at: http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_10_SF1_QTH1&prodType=table Main website: http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml

[71] California Department of Transportation. 15 July 2013. "Inyo County Economic Forecast". PDF available from website: http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic_files/2012/Inyo.pdf#zoom=65 PDF from 2012. Main website: http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic.html

[72] California Department of Transportation. 15 July 2013. "Inyo County Economic Forecast". PDF available from website: http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic_files/2011/Inyo.pdf PDF from 2011. Main website: http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic.html

residential buildings would be demolished as part of the proposed project. As such, there would be no displacement of any person or persons. Therefore, there would be no impacts to population and housing in relation to the displacement of substantial numbers of people, necessitating the construction of replacement housing elsewhere. No further analysis is warranted.

1.12.1.6 PUBLIC SERVICES

The proposed project is a program to control dust emissions and would not provide housing, commercial development, infrastructure, and so forth that would result in a need for new or physically altered governmental agencies for fire/police protection, schools, or other public facilities. An impact analysis is undertaken to determine if the proposed project may have a significant impact to public services that would require the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines.[73] State CEQA Guidelines recommend consideration of one question when addressing the potential for significant impacts to public services.

Would the proposed project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

1. Fire protection?

The proposed project would not be expected to result in significant impacts to public services in relation to fire protection. The proposed dust control measures would not entail the construction of housing, commercial space, or other developments that would substantially affect the provision of fire protection services. Construction workers are anticipated to be supplied locally from surrounding communities and would cause only a temporary increase in the daytime population of the community of Keeler. The California Department of Forestry and Fire Protection (CAL FIRE) is responsible for fire protection for the nearby community of Keeler and land owned by the LADWP and Southern Pacific Railroad within the southern and southwestern edges of the proposed project boundary.[74] The BLM owns and holds responsibility for fire protection of the remaining majority of the proposed project site.[75] Cooperation for fire protection services during a large wildfire within or near the project boundary would occur between the BLM, CAL FIRE, LADWP, Lone Pine Volunteer Fire Department, U.S. Forest Service, and Inyo County Sheriff.[76,77] The Keeler Volunteer Fire Department provides fire protection to the community of Keeler from a small fire station located 0.7 mile southeast from the proposed project study area on Old State Highway, and the

[73] *California Code of Regulations*. Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[74] State of California 19 July 2013. "Fire Hazard Severity Zones in SRA" map. Adopted by CAL FIRE on 7 November 2007. PDF available at: http://frap.cdf.ca.gov/webdata/maps/inyo/fhszs_map.14.pdf Main website: http://calfire.ca.gov/index.php

[75] State of California 19 July 2013. "Fire Hazard Severity Zones in SRA" map. Adopted by CAL FIRE on 7 November 2007. PDF available at: http://frap.cdf.ca.gov/webdata/maps/inyo/fhszs_map.14.pdf Main website: http://calfire.ca.gov/index.php

[76] State of California. 19 July 2013. "River Fire Incident Information". Website. Last modified 28 February 2013. Available at: http://cdfdata.fire.ca.gov/incidents/incidents_details_info?incident_id=769

[77] Inyo County Planning Department. 15 July 2013. "Inyo County General Plan: Guide to Inyo County Communities". Last updated December 2001. Website. Available at: http://www.inyoplanning.org/general_plan/index.htm Page 4-30 of PDF.

Lone Pine Fire District provides fire protection and ambulance services to communities within the area from the Lone Pine Fire Department station, located approximately 12 miles northwest of the proposed project boundary.[78,79] Construction would not significantly affect fire protection response times because temporary access routes and staging areas would be located along Old State Highway instead of California State Route 136 to reduce traffic impacts. Periodic maintenance and monitoring of the proposed project would not create a substantial increase in population in the area. Therefore, the proposed project is not expected to result in significant impacts to public fire protection services, and no further analysis is warranted.

2. Police protection?

The proposed project would not be expected to result in significant impacts to public services in relation to police protection. The proposed dust control measures would not entail the construction of housing, commercial space, or other developments that would substantially affect the provision of police protection services. Construction workers are anticipated to be supplied locally from surrounding communities and would cause only a temporary increase in the daytime population of the community of Keeler. Police protection is provided by the Inyo County Sheriff's Department.[80] An Inyo Sheriff Station is located in the community of Lone Pine approximately 12 miles northwest of the project study area.[81] Construction would not affect police protection response times because temporary access routes and staging areas would be located along Old State Highway instead of California State Route 136 to reduce traffic impacts. Periodic maintenance and monitoring of the proposed project would not create a substantial increase in population in the area. Therefore, the proposed project is not expected to result in significant impacts to public police protection services, and no further analysis is warranted.

3. Schools?

The proposed project would not be expected to result in significant impacts to public services in relation to schools. The proposed dust control measures would not entail the construction of housing or other developments that would substantially affect the provision of schools. Construction workers are anticipated to be supplied locally from surrounding communities and would cause only a temporary increase in the daytime population of the community of Keeler. The Lone Pine Unified School District serves the communities surrounding the proposed project study area, including Keeler, Olancha, and Lone Pine.[82] Lo-Inyo Elementary School and Lone Pine High School, which are both located approximately 12 miles northwest of the project study area in the community of Lone Pine, provide K-12 education for Lone Pine and the surrounding rural

[78] Inyo County Planning Department. 15 July 2013. "Inyo County General Plan: Guide to Inyo County Communities". Last updated December 2001. Website. Available at: http://www.inyoplanning.org/general_plan/index.htm Page 4-30 of PDF.

[79] Inyo County Planning Department. 15 July 2013. "Inyo County General Plan: Guide to Inyo County Communities". Last updated December 2001. Website. Available at: http://www.inyoplanning.org/general_plan/index.htm Page 2-17 of PDF.

[80] Inyo County Planning Department. 15 July 2013. "Inyo County General Plan: Guide to Inyo County Communities". Last updated December 2001. Website. Available at: http://www.inyoplanning.org/general_plan/index.htm Page 4-31 of PDF.

[81] Inyo County Planning Department. 15 July 2013. "Inyo County General Plan: Guide to Inyo County Communities". Last updated December 2001. Website. Available at: http://www.inyoplanning.org/general_plan/index.htm Page 4-31 of PDF.

[82] Inyo County Planning Department. 15 July 2013. "Inyo County General Plan". Last updated December 2001. Website. Available at: http://www.inyoplanning.org/general_plan/index.htm Page 2-17 to 2-22 of PDF.

communities.[83] Construction would not affect commute times from the community of Keeler to the K-12 schools in Lone Pine because temporary access routes and staging areas would be located along Old State Highway instead of California State Route 136 to reduce traffic impacts. Periodic maintenance and monitoring of the proposed project would not create a substantial increase in population in the area. Therefore, the proposed project is not expected to result in significant impacts to public school services, and no further analysis is warranted.

4. Parks?

The proposed project would not be expected to result in significant impacts to public services in relation to parks. No parks are located within the vicinity of the proposed project site. The two closest parks to the proposed project are County-maintained Diaz Lake Recreation Area and Spainhower Park (formerly Lone Pine Park), located approximately 9 and 11 miles, respectively, northwest of the proposed project site within the community of Lone Pine.[84] Diaz Lake Recreation Area contains boating, fishing, picnic, and campground facilities surrounding an 80-acre lake, whereas Spainhower Park is an active recreation park with playgrounds, shaded picnic facilities, basketball and tennis courts, a gazebo, horseshoes, and a creek running through it.[85,86] The proposed dust control measures would not entail the construction of housing, commercial space, or other developments that would substantially affect the provision of parks. Construction workers are anticipated to be supplied locally from surrounding communities and would cause only a temporary increase in the daytime population of the community of Keeler. Periodic maintenance and monitoring of the proposed project would not create a substantial increase in population in the area. Therefore, the proposed project is not expected to result in significant impacts to public services, and no further analysis related to parks is warranted.

5. Other public facilities?

The proposed project would not be expected to result in impacts to public services in relation to other public facilities. The Southern Inyo Local Healthcare District provides medical services to the area including the proposed project site, with Southern Inyo Hospital located approximately 12 miles northwest of the proposed project site in the community of Lone Pine.[87] The proposed dust control measures would not entail the construction of housing, commercial space, or other developments that would substantially affect the provision of medical services or other public facilities. Construction workers are anticipated to be supplied locally from surrounding communities and would cause only a temporary increase in the daytime population of the community of Keeler. Periodic maintenance and monitoring of the proposed project would not create a substantial increase in population in the area. Therefore, there are no expected impacts to public services related to other public facilities, and no further analysis is warranted.

[83] Inyo County Planning Department. 15 July 2013. "Inyo County General Plan". Last updated December 2001. Website. Available at: http://www.inyoplanning.org/general_plan/index.htm Page 2-17 to 2-22 of PDF.

[84] Inyo County Planning Department. 15 July 2013. "Inyo County General Plan". Last updated December 2001. Website. Available at: http://www.inyoplanning.org/general_plan/index.htm Page 2-17 to 2-22 of PDF.

[85] Inyo County Parks and Recreation. 19 July 2013. "Diaz Lake Campground (Concessionaire Operated)". Website. Accessible at: http://www.inyocountycamping.com/diaz_lake_campground.html

[86] Inyo County Parks and Recreation. 19 July 2013. "Spainhower Park (formerly Lone Pine Park)". Website. Accessible at: http://www.inyocountycamping.com/lone_pine_park.html

[87] Southern Inyo Healthcare District. 19 July 2013. "Welcome to Southern Inyo Healthcare District". Website. Accessible at: http://www.sihd.org/getpage.php?name=index

1.12.1.7 UTILITIES AND SERVICE SYSTEMS

An impact analysis was undertaken to determine if the proposed project may have a significant impact to utilities and services that would require the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines.[88] The DCMs would not require permanent utilities or service systems such as wastewater treatment plants, permanent storm water drainage facilities, permanent water supply, or landfill. Therefore, this issue was scoped out from further environmental review. The State CEQA Guidelines recommend the consideration of seven questions when addressing the potential for significant impact to utilities and service systems.

Would the proposed project:

(a) Exceed wastewater treatment requirements of the applicable regional water quality control board?

Impacts to utilities and service systems related to exceeding wastewater treatment requirements of the Regional Water Quality Control Board from the proposed project would be expected to be reduced to below the level of significance with the incorporation of project design or through implementation of BMPs during construction. The proposed project would not result in the construction of new water treatment or wastewater treatment facilities. Construction crews would use portable bathrooms. Therefore, there would be no expected impacts from the proposed project to utilities and service systems resulting from the construction of new water or wastewater treatment facilities or expansion of existing facilities. No further analysis is warranted.

(b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The proposed project would not result in the construction of new water treatment or wastewater treatment facilities. Construction crews would use portable bathrooms. Therefore, there would be no expected impacts from the proposed project to utilities and service systems resulting from the construction of new water or wastewater treatment facilities or expansion of existing facilities. No further analysis is warranted. Water for plant irrigation will be supplied from the District's 12-inch production well, located at the Fault Test Site, located about 0.7 mile northwest of the proposed project boundary. The Fault Test Site well can supply all of the project irrigation needs for the proposed project.[89] Another available water source includes purchased water from the Keeler Community Services District Well located within the proposed project / proposed action study area, approximately 0.25 miles to the southeast (Figure 2.1.5.2-3, *Water Supply*). Therefore, there would be no expected impacts from the proposed project to utilities and service systems, resulting in the construction of new water or wastewater treatment facilities. No further analysis is warranted.

[88] *California Code of Regulations*. Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[89] Holder, G., Great Basin Unified Air Pollution Control District, Bishop, CA. 9 October 2012. Telephone conversation with D. Grotzinger, Sapphos Environmental, Inc., Pasadena, CA.

(c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?

The impact to utilities and service systems related to the construction of new storm water drainage facilities or expansion of existing facilities, which could cause significant environmental impacts from the proposed project, would be expected to be below the level of significance.The proposed project requires the placement of straw bales on top of the Keeler Dunes and the planting of native vegetation to control dust emissions. The establishment of native vegetation will require hand watering for the first three years. Water would be transferred to the small ATV water tanks directly from water trucks that would park in the staging areas for the proposed project/proposed action, and Alternatives 1 and 2. In Alternatives 3, 4, and 5, the water be distributed from temporary water tanks, water trucks, or existing wells via a temporary above-ground irrigation system. The plants will be watered by hand using ATVs and trailers traveling along temporary access routes. No storm water drainage facilities will be constructed. Therefore, no further analysis is warranted.

(d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The impact to utilities and service systems with regard to having sufficient water supplies would be expected to be reduced to below the level of significance with the incorporation of mitigation measures. The project proposes to effectively utilize existing water supplies to facilitate the expanded dust control measures. Approximately 5 gallons of water will be applied under each straw bale prior to planting, and another 3 gallons at the time of planting.[90] Total water needs during planting are expected to amount to approximately 3.02 acre-feet (985,480 gallons). It is expected that supplemental watering will be implemented when rainfall is less than 50 percent of the average annual rainfall during the first 3 years until plants are well established. It is assumed that up to 2.26 acre-feet of water would be applied annually during this time period. The total water demand for the proposed project and alternatives is estimated at up to 9.83 acre-feet (3.2 million gallons) over a 3-year period.

The proposed project and alternatives assume that the water for plant irrigation will be supplied from the District's 12-inch production well, located at the Fault Test Site, located about 0.7 mile northwest of the proposed project boundary (Figure 2.1.5.2-3). The Fault Test Site well is an artesian (flowing) well and is capable of producing 250 gallons per minute (gpm).[91] An initial application of water at each straw bale installed in the dust control areas is expected to require approximately 985,480 gallons, which would be applied over a 2- to 4-month period. The Fault Test Site production well can supply 120,000 gallons over an 8-hour period, almost 8 times more than would be needed per day of watering. Another available water source includes purchased water from the Keeler Community Services District Well located within the proposed project / proposed action study area, approximately .25 mile to the southeast (Figure 2.1.5.2-3). No further analysis is warranted.

[90] Groeneveld, D.P., HydroBio Advanced Remote Sensing. 12 September 2012. Telephone conversation with D. Grotzinger, Sapphos Environmental, Inc., Pasadena, CA.

[91] Holder, G., Great Basin Unified Air Pollution Control District, Bishop, CA. 9 October 2012. Telephone conversation with D. Grotzinger, Sapphos Environmental, Inc., Pasadena, CA.

(e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The proposed project does not require wastewater treatment through a regional provider. Construction crews would use portable bathrooms. Therefore, there would be no expected impacts from the proposed project to utilities and service systems resulting from reduced capacity of the existing wastewater treatment provider to continue to serve existing commitments. No further analysis is warranted.

(f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Solid waste generated during construction of the proposed project would be transported to the Lone Pine Landfill, a permitted solid waste facility. Based on previous documentation, the Lone Pine Landfill has a remaining site life of approximately 15 years.[92] In addition, the proposed project would be expected to generate relatively small amounts of solid waste during construction and operation. Therefore, the proposed project would not be expected to result in significant impacts to utilities and service systems in relation to being served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. No further analysis is warranted.

(g) Comply with federal, state, and local statutes and regulation related to solid waste?

The impact to utilities and service systems related to compliance with federal, state, and local statutes and regulations related to solid waste from the proposed project would be expected to be reduced to below the level of significance through the incorporation of project design or through implementation of BMPs. Any solid waste generated at the site would be disposed of at a permitted landfill with sufficient capacity. Therefore, impacts to utilities and service systems in relation to compliance with federal, state, and local statutes and regulations related to solid waste would be expected to be reduced to below the level of significance through compliance with the California Solid Waste Reuse and Recycling Access Act of 1991. No further analysis is warranted.

1.12.2 NEPA

There are nine resources that do not exist in the study area and therefore do not warrant analysis in the EA:

- Agricultural Land / Forestry Resources
- Essential Fish Habitat
- Farmlands, Prime or Unique
- Rangelands/Livestock Management
- Threatened and Endangered Species
- Wild and Scenic Rivers
- Wild Horses and Burros
- Wilderness Characteristics
- Wilderness and/or Wilderness Study Areas

[92] City of Los Angeles Department of Water and Power. 2007. *Urban Water Management Plan*. Los Angeles, CA. Available at: www.ladwp.com/water/supply/uwmplan/index.htm.

CHAPTER 2.0
PROPOSED PROJECT / PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED PROJECT / PROPOSED ACTION

2.1.1 INTRODUCTION

This chapter of the EIR/EA provides descriptions of the proposed project / proposed action; five proposed project / proposed action alternatives proposed by the District to implement dust control measures (DCMs), through placement of straw bales and establishment of native vegetation, in order to attain the NAAQS and California State 24-hour standard for PM_{10}; and a No Project / No Action alternative. The difference between the proposed project / proposed action and the five proposed project / proposed action alternatives include differences in the amount of area controlled as well as the source of water and method of irrigation for the native vegetation. The proposed project / proposed action involves DCMs applied to 194 acres using irrigation water transported by water trucks from the Fault Test (FT) well to staging areas and transferred to all-terrain vehicle (ATV) trailer tanks. Alternatives 1 and 2 are the same as the proposed project / proposed action with an increase in DCMs applied to 214 and 197 acres, respectively.

Alternatives 3, 4, and 5 integrate refinements to the proposed project / proposed action that resulted from lessons learned from the pilot study that was undertaken by the District to assess the feasibility of the proposed project / proposed action and to address concerns that were raised by representatives of the Native American tribes during the consultation that was undertaken pursuant to Section 106 of the National Historic Preservation Act. Alternative 3 involves DCMs applied to 194 acres using a combination of irrigation water delivers by temporary aboveground polyvinyl chloride (PVC) pipelines and manual watering in selected areas. Alternative 3 also involves the placement of on-site 20,000-gallon water tanks within the staging areas along the Old State Highway. Alternative 4 involves dust control measures applied to 194 acres using water transported by water trucks to roadside staging areas off of State Route 136 for direct connection to a combination of irrigation water delivered by temporary aboveground PVC pipelines and manual watering in selected areas. Alternative 5 involves DCMs applied to 194 acres using water supplied via the existing Keeler Community Services District (KCSD) well/pipeline and delivered using a combination of irrigation water delivered by temporary aboveground PVC pipelines and manual watering in selected areas.

Each of the action alternatives provides for implementation of the DCMs by spring of 2015, to demonstrate attainment by spring 2018. The proposed project / proposed action and each of the action alternatives require a ROW from the BLM Bishop Field Office and a lease agreement with the LADWP. This document provides information to the authorized BLM officer to make a decision on whether to grant a ROW and, if so, to grant it as requested or modified. In accordance with CEQA Title 14 CCR Chapter 3 Section 15126.6(e) and NEPA 40 CFR 1502.14, this section also describes a no project / no action alternative, as well as alternatives considered but eliminated from detailed analysis.

Alternatives considered in the EIR/EA are based on issues identified by the BLM, as well as comments received during workshops hosted by the District during the development of the dust control strategy and comments received during the public scoping process. The BLM is required to consider, in detail, a range of alternatives that are considered "reasonable," usually defined as alternatives that are realistic (not speculative), that are technologically and economically feasible, and that respond to the purpose and need for the proposed action. The requirement is also identified as part of the CEQA Guidelines in Section 15126.6.

The District conducted an extensive literature review, field investigations, and both an air quality modeling and an empirical modeling of the straw bale array to support the development of the proposed action. Established empirical relationships were used in the model of the straw bale array to provide information to guide development of the control strategy. The results of this model analysis were used to design a 1.2-acre pilot demonstration project of the dust control strategy to test effectiveness in the field.[1]

Vegetation has been shown to reduce sediment dispersed by wind in three primary ways: (1) sheltering of the ground surface by direct coverage; (2) extracting momentum from the wind, thereby reducing wind shear stress at the ground surface; and (3) trapping particulates that are transported by the wind.[2] Utilizing different spacing of roughness features in the model analysis, including straw bales and differently sized shrubs, the density of roughness elements required to achieve the required level of dust control was determined. The District is currently conducting a pilot study using straw bales and native vegetation to stabilize and reduce dust emissions from an active portion of the Keeler Dunes, as well as to provide site-specific information that will be utilized for the final design of the dust control project. Although the pilot study is ongoing, results from the first several months of data collection are provided in Section 2.1.5.2, *Project Elements*, and demonstrate the effectiveness of the proposed action in attaining the required reductions in PM_{10} emissions in order to attain the federal and state PM_{10} standards. Information referring to land disturbance, equipment, schedule, mileage, and workforce are based on the most up-to-date engineering developed by the District and the initial results of the pilot study.

The No Project / No Action scenario describes the anticipated future environmental conditions in the absence of approval of the proposed project / proposed action or one of the five proposed project / proposed action alternatives being evaluated to assess the feasibility of minimizing or avoiding potentially adverse alterations to the physical environment.

If the final project design differs substantially from what is analyzed by the EIR/EA, the need for supplemental or additional environmental analysis will be determined by the District and BLM.

2.1.2 PROJECT BACKGROUND AND DEVELOPMENT

The requirement to control dust emissions from the Keeler Dunes in order to demonstrate attainment of the federal standard within the OVPA is specified in the 2008 SIP.[3] The District is responsible for developing a dust control strategy and plan for the Keeler Dunes PM_{10} emissions.

2.1.2.1 OVERVIEW AND SUMMARY OF DUST CONTROL IMPLEMENTATION IN THE KEELER DUNES

One of the largest remaining sources of uncontrolled PM_{10} emissions in the Owens Valley is the Keeler Dunes. The Keeler Dunes were specifically identified in the 2006 Settlement Agreement and the 2008 SIP as a source of PM_{10} that require controls in order for the OVPA to meet the

[1] Gillies, J. A. July 2012. *Using Plants to Control Sand Movement and Dust Emissions: Keeler Dunes Pilot Project*. Prepared for: Great Basin Unified Air Pollution Control District. Prepared by: Desert Research Institute, Reno, NV.

[2] Wolfe, S.A, and W.G. Nickling. 1993. "The Protective Role of Sparse Vegetation in Wind Erosion." *Prog Phys Geogr*, *17*:50–68.

[3] Great Basin Unified Air Pollution Control District. 28 January 2008. *2008 Owens Valley PM10 Planning Area Demonstration of Attainment State Implementation Plan*. Bishop, CA.

federal PM_{10} standard and to meet the California State PM_{10} standard in Keeler and Swansea. Dust from the dunes cause an average of six violations of the National Ambient Air Quality Standards for PM_{10} every year in the community of Keeler.[4] These violations affect the residents of the communities of Keeler and Swansea, as well as local workers and visitors that travel through the area, and are a documented cause of safety problems on SR 136. As a result, the District began a focused investigation of the Keeler Dunes in 2008 to develop and implement a control strategy for dust emissions from the dunes.[5,6]

The process of investigating the source and responsibility for emissions and possible best available control measures, which was undertaken between 2011 and 2013, generated substantial controversy among the stakeholders. However, in 2013, the District and the LADWP executed the 2013 Settlement Agreement that allows the District to move ahead expeditiously with implementation of the dust control project in the Keeler Dunes with the support of LADWP.[7] According to the terms of the 2013 Settlement Agreement, the LADWP will provide ten million dollars ($10,000,000) to the District as a public benefit contribution for implementing dust controls in the Keeler Dunes (paragraph II.a.i). In return, the District agreed to forever release the LADWP from any and all liability for dust emissions, regardless of origin, from the Keeler Dunes (paragraph II.b.i). The funds from the LADWP for the "Keeler Project" were received by the District in December 2013.

2.1.3 ALTERNATIVES DEVELOPMENT AND SCREENING

This section outlines the process used by the District, with input from BLM, to develop alternatives for dust controls in the Keeler Dunes. Alternatives considered by the District and the BLM were developed in accordance with CEQA and NEPA and were evaluated by three criteria:

- Does the alternative feasibly obtain most of the purposes, needs, and objectives?
- Could the alternative avoid or substantially lessen any of the significant effects of the proposed project /proposed action on human/environmental resources?
- Is the alternative feasible to construct, operate, maintain, and decommission?

Alternatives that met the criteria above were carried forward for analysis. Those that did not meet the criteria were eliminated from further analysis and are described in Section 2.6, along with the reasons for elimination.

[4] Great Basin Unified Air Pollution Control District. 16 November 2012. "Final Staff Report on the Origin and Development of the Keeler Dunes". Available at: http://gbuapcd.org/keelerdunes/originanddevelopment/finalstaffreport/Final%20Staff%20Report_Final20121116%20complete.pdf

[5] Kiddoo, Phill, Great Basin Unified Air Pollution Control District, Bishop, CA. November 2013. Email to Adam Furman, Sapphos Environmental, Inc., Pasadena, CA.

[6] California Department of Transportation. 6 March 2013. Public comments from the District Governing Board Meeting, Bridgeport, CA.

[7] Great Basin Unified Air Pollution Control District and Los Angeles Department of Water and Power. 25 June 2013. Phase 7a and Keeler Dunes Settlement Terms. Available at: http://www.gbuapcd.org/owenslake/Phase7a/LADWP-GBUAPCD-Phase7a&KeelerDunesSettlementTermsProposedFinal20130625.pdf

2.1.4 OVERVIEW OF ALTERNATIVES CONSIDERED IN DETAIL

The proposed project / proposed action and five project action alternatives are described in Section 2.2, and the no project / no action alternative is described in Section 2.3:

- Proposed Project / Proposed Action, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / ATVs
- Alternative 1, Dust Control Measures Applied to 214 Acres Using Irrigation Water Delivered via Water Trucks / ATVs
- Alternative 2, Dust Control Measures Applied to 197 Acres Using Irrigation Water Delivered via Water Trucks / ATVs
- Alternative 3, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / Tanks / PVC Irrigation System and Selected Manual Watering
- Alternative 4, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / PVC Irrigation System and Selected Manual Watering
- Alternative 5, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via KCSD Water Well / Pipeline to Irrigation System and Selected Manual Watering
- Alternative 6, No Project / No Action

2.1.5 FEATURES COMMON TO THE PROPOSED PROJECT / PROPOSED ACTION AND ALL PROPOSED PROJECT / PROPOSED ACTION ALTERNATIVES

The features common to the proposed project / proposed action and all proposed project / proposed action alternatives are detailed in this section. Project elements and construction methods listed in this section will be evaluated in the environmental assessment in Section 4.0, *Environmental Consequences*.

The proposed project / proposed action and the proposed project / proposed action alternatives have a common description of site location; project components, including temporary access routes, staging areas, and water supply; effectiveness monitoring program; and project maintenance. The primary differences between the proposed project / proposed action and the proposed project / proposed action alternatives are the areal extent to which the dust controls are applied, and whether ATVs or a combination of ATVs and a temporary irrigation system would be used to deliver water to support plant establishment, during the initial 3 years of the vegetation efforts. The proposed project/proposed action and three of the action alternatives involve the use of temporary water tanks at three of the four staging areas during the initial three years of the revegetation efforts. These differences will be separately identified with corresponding figures and tables in Section 2.2. The proportion of the project area with differing designed percent reduction of PM_{10} emissions (or control efficiency/level) as well as the footprint of the control area varies slightly from one alternative to another. The changes in the extent of different control levels within the alternatives correspond to differences in the number of straw bales and plants required in the different proposed project / proposed action alternatives.

2.1.5.1 SITE LOCATION AND ENVIRONMENTAL SETTING

The proposed project / proposed action and action alternatives consist of vegetation establishment primarily on lands managed by the BLM. The southern boundary of the study area is located 1,650 feet north-northwest of the community of Keeler, California, and east of the Owens Lake bed, in the unincorporated territory of Inyo County, California (Figure 1.3.1-1). The boundary of the project study area meets the regulatory shoreline of Owens Lake in the southwest and is located up to 7,420 feet away from the shoreline at its most distant point. The project study area is shown, including land ownership parcels, on a satellite image base (Figure 2.1.5.1-1, *Study Area Location and Parcel Ownership Map*). The DCMs for the proposed project / proposed action and alternatives would occur within the study area limits. Access to the proposed project / proposed action area would be via the gravel haul road (constructed for the Owens Lake dust control activities) from SR 136 between Keeler and Swansea.

A. Regional Environmental Setting

The proposed project / proposed action is located in the southern end of the Owens Valley, which is approximately 121 miles long and 16 miles wide, and is located in Inyo County. The Owens Valley is defined by the Sierra Nevada Mountains to the west and the White Mountains and Inyo Mountains on the east. The watershed defined by these mountain ranges drains toward Owens Lake. The Owens River is a north-south trending perennial river in the Owens Valley that terminates at the north end of Owens Lake. The Los Angeles Aqueduct transports surface water and groundwater from the valley to the City of Los Angeles. The diversion and export of surface water resources from the Owens Valley caused the lowering of the water level of Owens Lake. Before dust control implementation on the lake bed, exposed dry lake sediments were dispersed into the air by prevailing winds during high wind events, resulting in severe dust storms. Dust emissions from the lake bed sources were and still are the primary source causing and contributing to exceedances of the federal and state PM_{10} standards within the OVPA. However, another significant source of PM_{10} that directly affects the Keeler-Swansea area is the active and mobile portions of the Keeler Dunes.

The climate of the Owens Valley is semiarid to arid and is characterized by low precipitation, abundant sunshine, frequent winds, moderate to low humidity, and high potential evapotranspiration. The Sierra Nevada Mountains, trending north to south, west of the proposed project / proposed action area, greatly influence the climate (Figure 1.3.1-1, *Regional Vicinity Map*). A rain shadow is present east of the crest of the range such that the Owens Valley floor, the Inyo and White Mountains, and the Coso Range receive appreciably less precipitation, ranging from 7 to 14 inches (in) / year in the Inyo and White Mountains to approximately 5 in/year on the valley floor.[8] Air temperatures within the Owens Valley can range greatly from –2 degrees Fahrenheit (° F) in the winter to nearly 110° F in the summer and can also range widely during a single day spanning more than 50° F.[9]

The Owens Valley has attracted the interest of archaeologists since at least the 1930s. The Riddells first conducted major work in the region in the 1940s and 1950s, recording several sites on the

[8] Hollett, K., Danskin, W., McCaffrey, W., and Walti, G. 1991. *Geology and Water Resources of Owens Valley, California*. U.S. Geological Survey Water Supply Paper 2370-B. Denver, CO: U.S. Geological Survey.

[9] Danskin, W.R. 1998. "Evaluation of the Hydrologic System and Selected Water-Management Alternatives in the Owens Valley, California." U.S. Geological Survey Water-Supply Paper 2370. Prepared in cooperation with Inyo County and the Los Angeles Department of Water and Power. Denver, CO: U.S. Geological Survey.

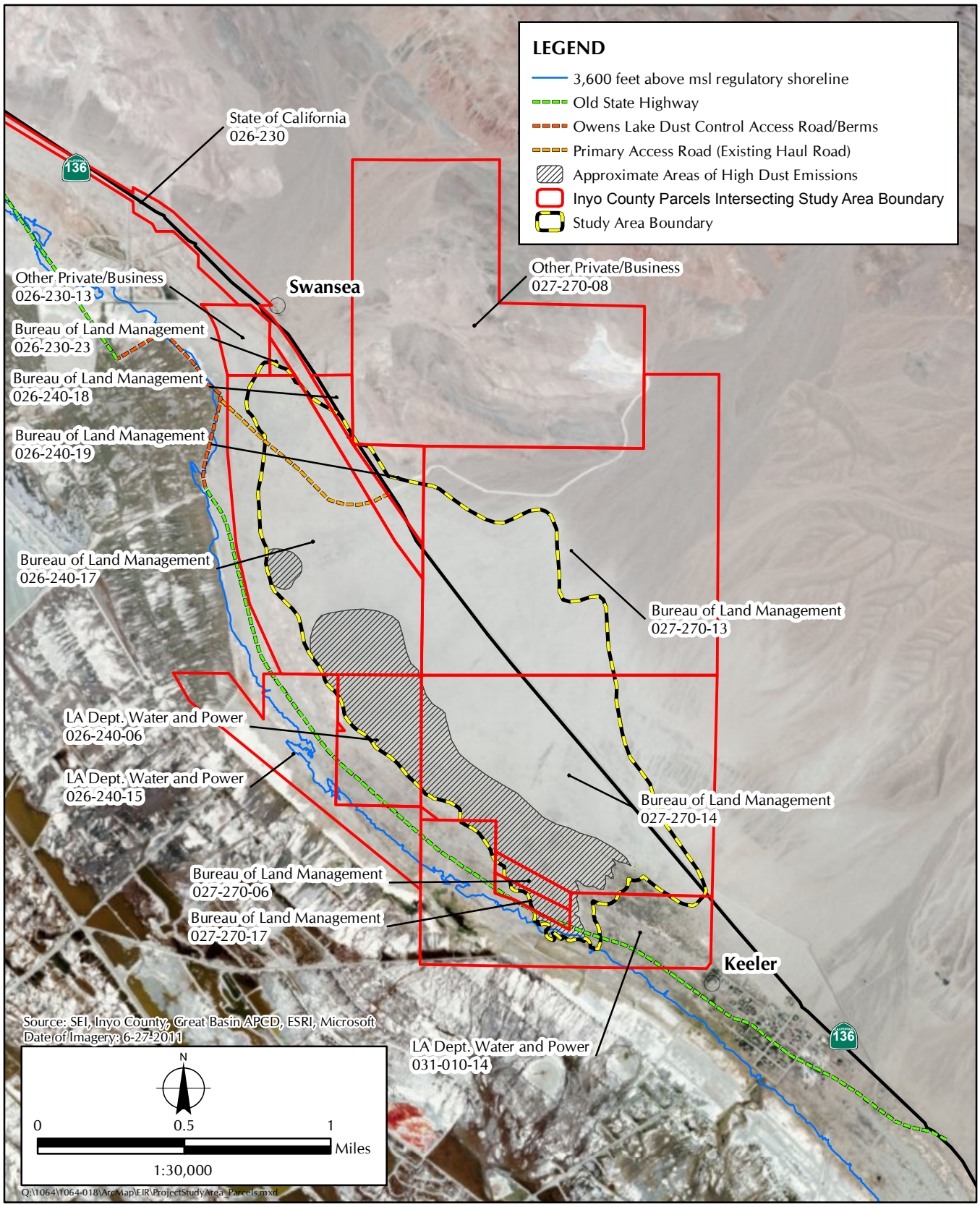


FIGURE 2.1.5.1-1

Study Area Location and Parcel Map

perimeter of Owens Lake, including important sites at Cottonwood Creek and Rose Spring.[10, 11] Two California State Historic Landmarks and two California Points of Historic Interest are located in the vicinity of Owens Lake. Ethnographic data indicate that the east shore of Owens Lake was used by Native American groups.[12] Historic resources related to mining and transportation have also been identified along the stranded historic shoreline along the eastern shore of Owens Lake and in the vicinity of the Keeler Dunes.[13]

Current land uses in the Owens Valley are predominantly recreation, ranching, and agriculture. There are approximately 12,000 irrigated acres including approximately 2,900 acres of alfalfa. The City of Los Angeles owns most of the land on the Owens Valley floor with the exception of the bed of Owens Lake, which is primarily state land managed by the California State Lands Commission, and land within the five towns in the valley. The BLM manages federal land on the valley floor and on the slopes of the White, Inyo, and Sierra Nevada mountain ranges. The five towns in the Owens Valley are Bishop, Big Pine, Independence, Lone Pine, and Olancha/Cartago. The Owens Valley transportation system is largely made up of U.S. Highway 395, which runs north-south through the valley, and SR 190 and SR 136, which serve the Owens Lake area (Figure 1.3.1-1).

The communities of Swansea to the north and the community of Keeler to the southeast are in the vicinity of the proposed project / proposed action located in the unincorporated area of Inyo County; Figure 2.1.5.1-1). Existing activities in the vicinity of the study area include agricultural cattle grazing; mining; recreation, such as bird-watching, fishing, and camping; dust control operations; and air quality monitoring. The LADWP and the District both have Owens Lake operation/monitoring facilities in Keeler on Sulfate Road and Cerro Gordo Road, respectively.

B. Local Environmental Setting

The proposed project / proposed action study area is situated on the western portion of the Keeler alluvial fan that slopes from the Inyo Mountains on the east to the bed of Owens Lake on the west. The topographic relief of the study area is 285 feet and extends from 3,600 feet above mean sea level (MSL) at the historic shore of Owens Lake to approximately 3,885 feet above MSL on the alluvial fan. The location of the proposed project / proposed action is depicted on U.S. Geological Survey (USGS) 7.5-minute series topographic quadrangles Owens Lake[14] and Dolomite[15] (Figure 2.1.5.1-2, *Topographic Map with USGS 7.5-minute Quadrangle Index*).

The majority of the proposed project / proposed action study area is composed of open, sparsely vegetated areas containing active sand dunes and sand sheets. Vegetated areas within the study area are characteristic of the Shadscale Scrub plant community, which is dominated by Parry's

[10] Riddell, 1951. Riddell, H.S., *The Archaeology of a Paiute Village Site in Owens Valley*, Reports of the University of California Archaeological Survey No. 12, Berkeley, California, 1951.

[11] Riddell and Riddell, 1956. Riddell, H.S., and F.A. Riddell, *The Current Status of Archaeological Investigations in Owens Valley, California*, Reports of the University of California Archaeological Survey, No. 33, Paper 38, Berkeley, California, 1956.

[12] Liljeblad, S., and Fowler, C.S. 1986. "Owens Valley Paiute." In *Handbook of North American Indians*, Volume 11, Great Basin, pp. 412–434. Washington, DC: Smithsonian Institution.

[13] Jones & Stokes. 1997. Cultural Resources Inventory and Evaluation of Historic Resources on the Eastern Side of Owens Lake for the Great Basin Unified Air Pollution Control District. Report prepared for Great Basin Unified Air Pollution Control District, Bishop.

[14] U.S. Geological Survey. 1987. *7.5-Minute Series, Owens Lake, California, Topographic Quadrangle*. Denver, CO.

[15] U.S. Geological Survey. 1987. *7.5-Minute Series, Dolomite, California, Topographic Quadrangle*. Denver, CO.

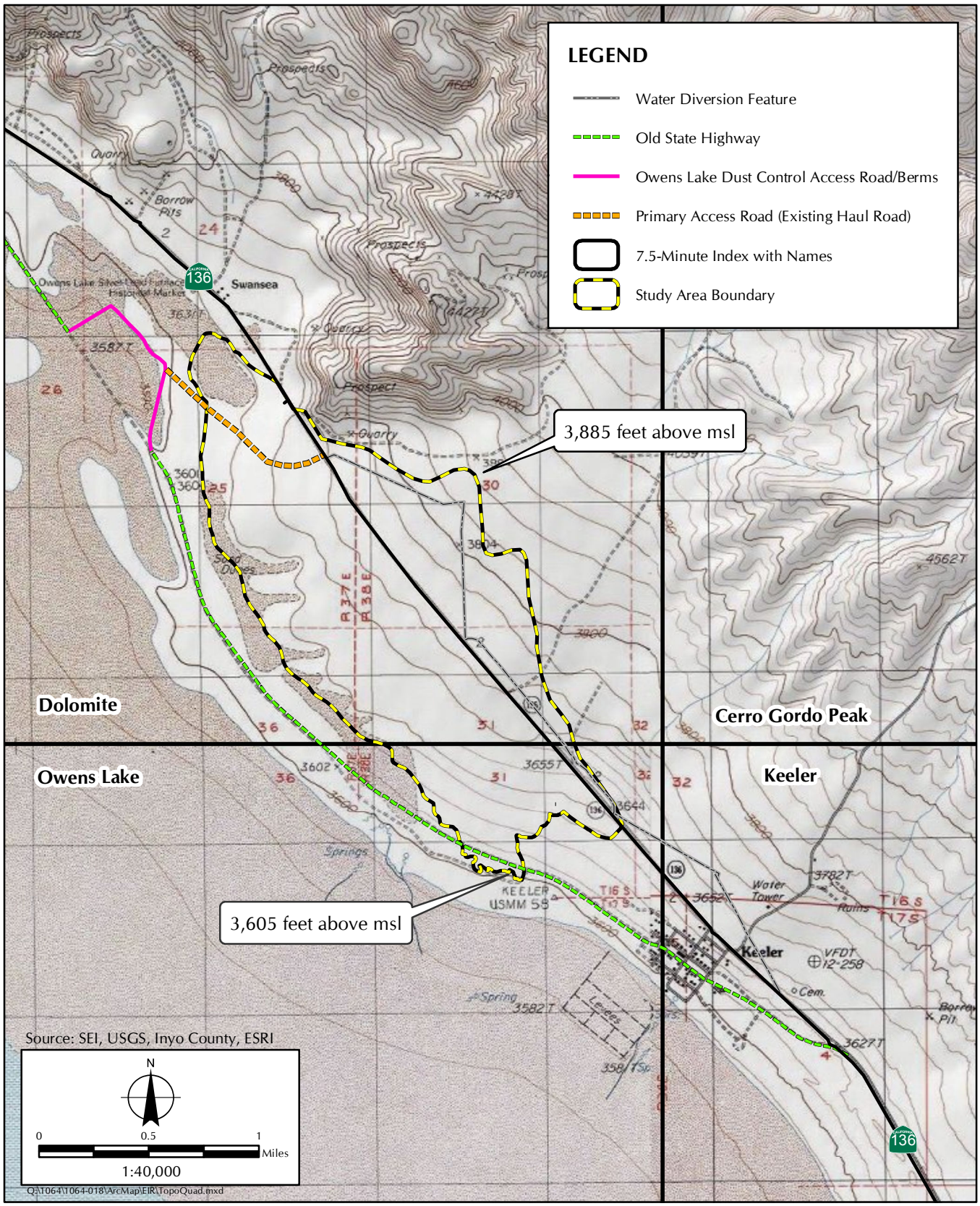


FIGURE 2.1.5.1-2

Topographic Map with USGS 7.5-Minute Quadrangle Index

saltbush (*Atriplex parryi*) and greasewood (*Sarcobatus vermiculatus*).[16, 17] The mobile dune and sand sheet deposits within the study area are a dynamic geomorphological feature that shift or move based on winds within the region. As a result, due to the prevailing wind in the area, they are migrating to the south east an average of 66 feet per year (Figure 2.1.5.1-3, *Geomorphic Map of the Keeler Dunes Area*).

Accordingly, as the active dunes and sand deposits shift over time, the footprint of proposed project / project action area may migrate to the southeast. To account for the shifting location of dust emissions and, therefore, of the proposed project / proposed action area, the proposed project / proposed action boundary for this EIR/EA includes approximately 14 acres to the southeast where dunes do not currently exist, but where they are anticipated to exist in 2015.

C. Existing Dust Control Areas at Owens Lake

The proposed project / proposed action and alternatives are located adjacent to the bed of Owens Lake where DCMs have been implemented and are ongoing to control particulate emissions resulting from the desiccation of the Owens Lake. The District has established that the desiccation of Owens Lake and the exposure of the alkaline soils that are characteristic of the exposed dry lake bed resulted from City of Los Angeles water diversions from the Owens River and its tributaries into the Los Angeles Aqueduct. Approved BACMs for Owens Lake include shallow flooding; managed vegetation; gravel cover; and combinations of these methods, termed a hybrid. Shallow flooding composes approximately 87 percent of the existing 42 square miles of DCMs implemented on the lake bed, with managed vegetation and gravel cover composing the remainder as of December 2013.

2.1.5.2 PROJECT ELEMENTS

Common elements of the proposed project / proposed action and alternatives include placement of straw bales as temporary wind breaks and planting and establishing native vegetation along the base of the straw bales to eventually replace the bales as a permanent DCM.

A. Existing Uses and Features

The proposed project / proposed action study area is 870.6 acres of undeveloped rural land, primarily owned by the BLM (approximately 778.5 acres; 89 percent) and LADWP (66.7 acres; 8 percent). DCMs will be implemented on the most emissive deposits located west of SR 136 and east of the Old State Highway between the communities of Swansea to the north and Keeler to the southeast. An ROW permit from the BLM and a lease from the LADWP will be required for implementation of the proposed project / proposed action. The proposed project / proposed action site is natural habitat open space that is utilized by the residents of Keeler for recreational purposes.

[16] Holland, Robert F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Sacramento, CA.

[17] Sawyer, J.O., and T. Keeler-Wolf. 2009. *A Manual of California Vegetation*. 2nd Edition. Sacramento, CA: California Native Plant Society.

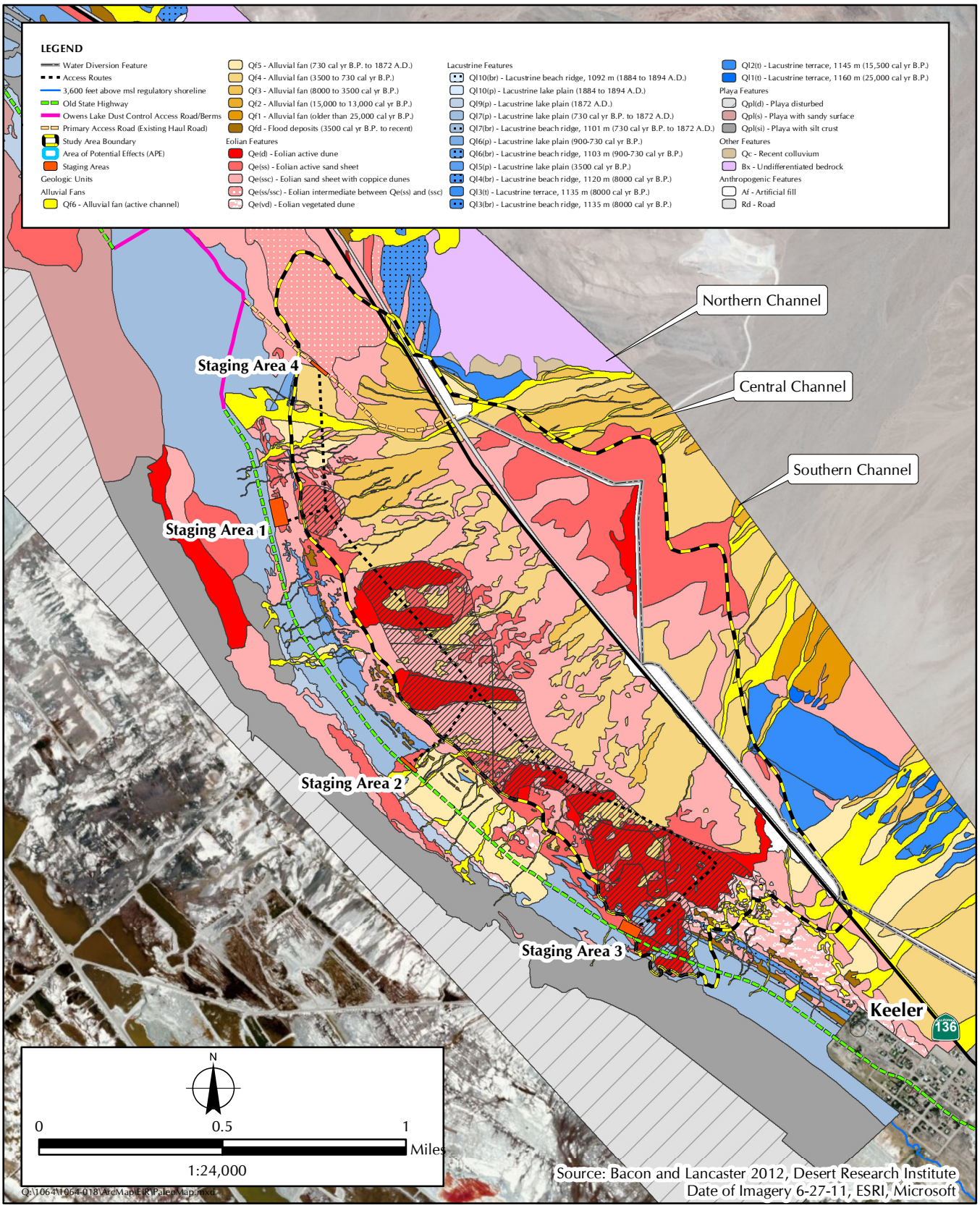


FIGURE 2.1.5.1-3

Geomorphic Map of the Keeler Dunes Area

B. General Plan and Zoning Designations

The proposed project / proposed action site is located on lands subject to the BLM Bishop RMP as part of the Owens Lake Management Area and on lands owned by the LADWP.[18] The Land Use Element of the Inyo County General Plan designates the project site as State and Federal Lands, Natural Resources, and Rural Protection.[19] The Inyo County Zoning Ordinance designates the proposed project / proposed action study area as predominantly OS-40, Open Space Zone, and a 40-acre minimum lot size.[20] The OS-40 designation encourages the preservation and protection of mountainous, hilly upland, valley, agricultural, potential agricultural, fragile desert areas, and other mandated lands from fire erosion, soil destruction, pollution, and other detrimental effects of intensive land use activities.[21]

C. Dust Control Measure Design

The goal of the proposed project / proposed action would be to temporarily stabilize the surface with straw bales and then create a permanently stabilized natural vegetated dune environment that mimics natural environments such as the existing Swansea Dunes (located to the northeast) and other stable shoreline dunes in the region (found both at Owens Lake and Mono Lake). The established native shrubs would act to prevent high emissions of dust by disrupting the wind and lowering the wind speed at the surface in order to reduce sand motion activity (Figure 2.1.5.2-1, *Example of Vegetated Swansea Dunes*). The District designed the proposed project / proposed action and proposed project / proposed action alternatives to minimize environmental impacts. The District is currently conducting a pilot study to test the effectiveness of this DCM within the Keeler Dunes. A description of each DCM component, specifically straw bales and native vegetation, is presented below, along with the preliminary results of the pilot study.

Straw Bales

This is an element of the DCM that would be used to stabilize emissive dust areas and provide a sheltered environment for plants during establishment. The bales will degrade over time as the plants are established. The proposed project / proposed action and proposed project / proposed action alternatives will utilize straw bales (24 x 16 x 48 inches or similar size) installed in an irregular pattern across the proposed project / proposed action area. All straw bales used at the dunes would be certified weed free to minimize the threat from invasive weeds. Straw bales are anticipated to degrade and would provide organic material to the existing soil. Limited maintenance of straw bales (replacement of broken bales) is anticipated. After the project maintenance period of approximately 3 years, when the plants are expected to be established, any non-organic material used to bind the bales would be removed from the proposed project / proposed action site and disposed of properly in a landfill or recycled to avoid the potential of litter in the proposed project / proposed action area.

[18] U.S. Department of the Interior, Bureau of Land Management, Bakersfield District. 1993. *Bishop Resource Management Plan Record of Decision*. Bakersfield, CA.

[19] Inyo County Planning Department. December 2001. *Inyo County General Plan, Land Use Element*. Independence, CA.

[20] Inyo County. 30 June 2003. "Zoning Ordinance," Title 18, *Inyo County Code*. Independence, CA.

[21] Inyo County. 30 June 2003. "Zoning Ordinance," Title 18, *Inyo County Code*. Independence, CA.

FIGURE 2.1.5.2-1
Example of Vegetated Swansea Dunes

Recent research has found that surface roughness can influence the rate of sand transport (and associated dust emissions[22]) and that, using established relationships, the prediction of sand flux reduction using known geometric properties is possible.[23,24] The District designed a pilot test study for an active and emissive portion of the Keeler Dunes to evaluate a specific array of roughness elements (straw bales), designed based on published empirically defined relationships between sand flux reduction and roughness density (Appendix K, *Using Roughness [Solid Elements and Plants] to Control Sand Movement and Dust Emissions: Keeler Dunes Dust Demonstration Project, Interim Report,* and Appendix L, *Preliminary Results of Plant Establishment in the Straw Bale Demonstration Dust Control Project*). Using the modeled relationship between predicted sand flux and roughness elements, the number of straw bales required to meet the design criterion of 85 percent control efficiency was calculated.[25] From this, it was estimated that 502 bales were required within the 5,000 m^2 test area.

The pattern of the straw bale array in the test area was developed by copying a natural vegetation pattern adjacent to the Keeler Dunes. This pattern was then scaled until 502 points fell within the 50 x 100 m test area, representing the 502 straw bales. Each of the 502 points was assigned a geographic position within the test area, and bales were then placed at these positions in the field. The winds causing the highest magnitude dust emissions come from the northwest, thus the centerline of the array was oriented to 326 degrees azimuth to best capture the highest-magnitude sand transport events. The longest side of each bale was oriented perpendicular to the mean prevailing wind direction. Instrumentation to monitor sand motion and wind was installed within and adjacent to the test area.

In April 2013, prior to placement of the straw bales, the sand motion and wind monitoring instrumentation was installed to measure the baseline sand flux within the test area. Between April 30 and May 22, 2013, 18 wind events that resulted in measurable sand motion were recorded. Based on the measurements captured throughout the test area, it was determined that sand flux was relatively uniform across and along the test area prior to the placement of the straw bales.

Straw bales were placed on the site on two dates, May 23 and June 12, 2013. Between the time of the first bale placement and August 7, 2013, 74 separate sand transport events of varying duration and magnitude were recorded. The mean sand flux was observed to decrease from both the north and south border of the test area to its interior. Data from the middle of the straw bale array measured a sand flux reduction of 94 percent as compared to the outside of the array.[26] The predicted control level for the test was 85 percent; thus the initial measurement of 94 percent sand flux reduction in the array interior indicates the roughness may be performing better than expected. Similar rates of sand flux decrease were recorded from both north and south wind events.

[22] There is an established relationship between the rate of sand motion (or sand flux) and the amount of PM_{10} generation for the material in the dunes. Based on this relationship, it is possible to estimate the amount of PM_{10} reduction that will occur for a measured reduction in sand flux.

[23] Gillies et al. 2007 from the Gillies 2013 report

[24] Gillies and Lancaster 2013 from the Gillies 2013 report

[25] Gillies, J. 2013. Using Roughness (Solid Elements and Plants) to Control Sand Movement and Dust Emissions: Keeler Dunes Dust Demonstration Project, Interim Report. Prepared by the Desert Research Institute for the Great Basin Unified Air Pollution Control District.

[26] Gillies, J. 2013. Using Roughness (Solid Elements and Plants) to Control Sand Movement and Dust Emissions: Keeler Dunes Dust Demonstration Project, Interim Report. Prepared by the Desert Research Institute for the Great Basin Unified Air Pollution Control District.

The pilot test project will continue to collect data during the environmental review process to further refine the relationships and observations recorded during the pilot study and guide the final design of the project.

Native Vegetation

This component of the DCM involves establishing a mix of native vegetation in association with the straw bale placement, described above. In addition to acting as roughness, the straw bales will shelter young native plants. It is expected that as the straw bales degrade over time, the dust control function will be transferred to the native plants as they mature and grow. Native vegetation to be planted within the dust control areas includes *Atriplex polycarpa* (ATPO) (66 percent) and a mixture of other native plant species (33 percent). ATPO was selected for its physiological characteristics, such as seed availability, low water needs, relatively rapid growth, and adaptation to the regional area.[27] A list of native vegetation that will be considered for planting at the dunes in addition to the ATPO is shown in Table 2.1.5.2-1, *Native Vegetation List*. In addition to planting seedlings, scattering native seeds in selected areas may be considered as a supplemental means of increasing the distribution and diversity of the vegetation and additional control of the mobile sand within the project area. Species selection will be influenced by seed availability. Finally, it is anticipated that as the sand dunes become stabilized, seeds that are naturally transported by wind and wildlife will establish and provide additional diversity and cover. Seed produced by the introduced plants themselves as they mature will also ensure that the vegetation is self-sustaining.

TABLE 2.1.5.2-1
NATIVE VEGETATION LIST

Scientific Name	Common Name	Form
Atriplex polycarpa (ATPO)	Cattle spinach, cattle saltbush	Shrub
Atriplex confertifolia (ATCO)	Shadscale saltbush	Shrub
Atriplex parryi (ATPA)	Parry's saltbush	Shrub
Atriplex phyllostegia (ATPH)	Arrowscale	Annual herb
Cleomella obtusifolia (CLOB)	Mojave stinkweed, Mojave cleomella	Annual herb
Cleome sparsifolia (CLSP)	Fewleaf cleome, fewleaf spiderflower	Annual herb
Psathyrotes ramoissima (PSRA)	Turtleback	Annual or perennial herb
Sarcobatus vermiculatus (SAVE)	Greasewood	Shrub
Suaeda moquinii (SUMO)	Inkweed, Mojave seablite	Perennial herb/subshrub

Native plants will be cultivated, from seed collected from local sources in the Owens Valley, in nurseries and will be approximately 6 inches in height prior to planting in the project area. The District shall work with representatives of the local Native American tribes, to include their participation, to the maximum extent practicable, in the installation of the plants, particularly in sensitive areas.

Ground preparation for planting will involve initial placement of a straw bale, followed by application of approximately 5 gallons of water under and along the edge of each straw bale. Work crews will then install up to 3 native plants and one watering tube along the base of each straw

[27] HydroBio Advanced Remote Sensing. October 2011. "Stabilizing Keeler Dunes Rapidly Using Native Vegetation and Minimal Inputs." Prepared for: Great Basin Unified Air Pollution Control District, Bishop, CA.

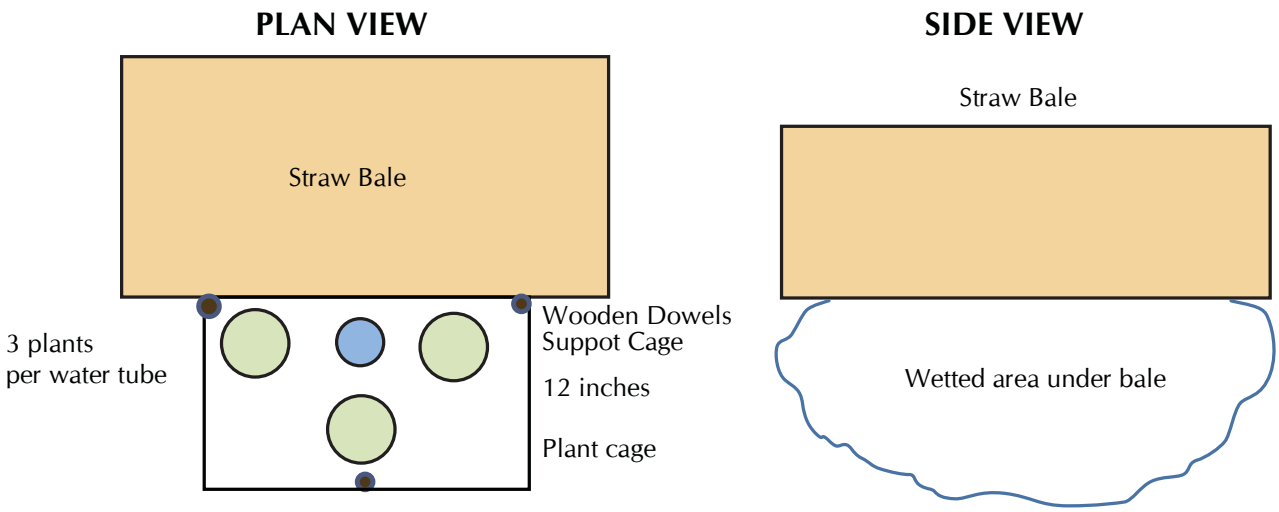
bale by digging a shallow trench approximately 12 inches deep and sufficient in size to place the plants and a temporary watering tube. Excavated soil will then be placed back in the hole around the plants and the watering tube and tamped to ensure good firm soil contact with the soil from the plants. The watering tubes will consist of slotted or perforated 2- to 6-inch pipe with caps at both ends. The watering tube will be 14 to 16 inches in total length and will be installed so that they extend 12 inches into the soil adjacent to the planted shrubs (Figure 2.1.5.2-2, *Schematic Figure Showing the Installation of Bales, Plants, Watering Tube, and Plant Protective Cage*). During irrigation events, the cap at the top of the watering tube will be removed so that water can be applied into the watering tube in order to direct it directly to the root zone of the plants. At the end of the water application at each bale, the top cap will be replaced on the water access tube. Additionally, bales sites that are planted with SUMO and SAVE will have a wire protective cage installed in order to reduce the impact to these species from small mammal browsing. The wire cages will extend approximately 12-16 inches in height and be constructed out of wire mesh supported by dowels and attached to the side of the straw bale. The protective cages will be open on the top. Watering tubes and plant protective cages will be removed at the end of the three year plant establishment phase of the project.

In addition, seeds of native plants may be dispersed in open areas between the straw bales. Initially, the dust control reduction will be achieved through the array of straw bales. Over time, as the bales stabilize the surface and allow the plants to become established, dust control will be taken over by the plants and the straw bales will naturally decompose. Although the project is designed to achieve the required control levels immediately with the placement of the straw bales, it is expected that the level of dust control achieved by the plants will improve over time as the plants increase in size and ultimately become larger than the original straw bales. The long-term goal of this DCM would be the establishment of a self-sustaining native vegetation community to control dust with minimal or no long-term maintenance.

The design of the proposed project / proposed action and alternatives requires that the contractor provide a comprehensive, adaptive Weed Control Plan for review and approval by the BLM. The purpose of the plan will be to minimize the establishment and spread of nonnative and invasive weed species within the project area. Minimum requirements for the Weed Control Plan are included in the project design (Section 2.1.5.3).

In addition to testing the effectiveness of straw bale placement, the District included testing of plant establishment of native shrubs on the pilot test project[28] Five species of shrubs native to the Owens Lake area were chosen for propagation and planting (Table 2.1.5.2-1; ATPO, ATPA, ATCO, SAVE, and SUMO). One hundred and forty-one plants were planted in the test site on May 30, 2013. The shrubs were planted in a block of 47 straw bales in the southeastern portion of the straw bale test area. Planting sites were prepped the preceding day by watering the area underneath and around each selected bale with 5.4 gallons of water. Three shrubs were subsequently planted along the northern side of each bale. Two watering tubes were installed to a depth of 12 inches between the shrubs to facilitate water delivery directly to the root zone area. Following planting, each selected bale location was watered with approximately 5.4 gallons of water. Supplemental water was provided to the plants throughout the summer. Due to the harsh conditions during June and July 2013, the shrubs planted at the end of May 2013 were given supplemental water to assist in establishment. During the first month following planting, supplemental water was provided seven times with an average of 4 days between watering events. The watering frequency was reduced to

[28] Holder, G.A.M. 2013. Preliminary Results of Plant Establishment in the Straw Bale Demonstration Dust Control Project. Prepared by Great Basin Unified Air Pollution Control District. Prepared for Sapphos Environmental, Inc.



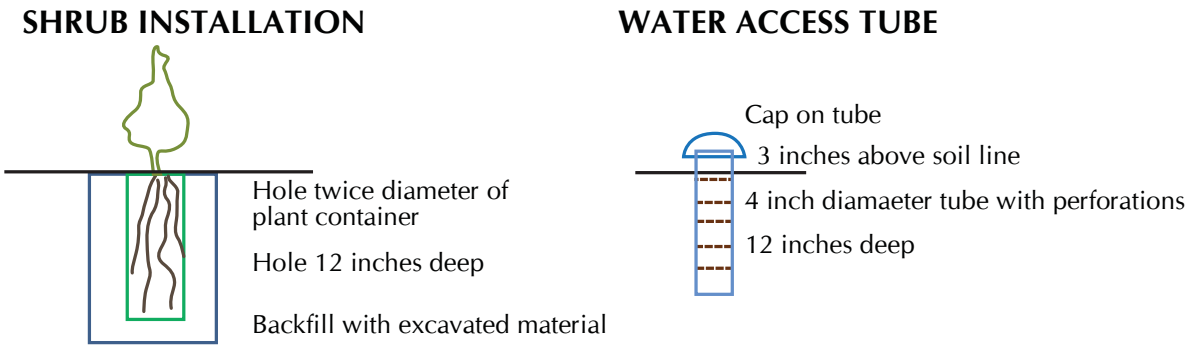


FIGURE 2.1.5.2-2
Schematic Figure Showing the Installation of
Bales, Plants, Watering Tube, and Plant Protective Cage

an average of every 7-8 days during July through mid-September. In mid-September, the irrigation schedule was further reduced to approximately every 2 weeks. Then in October the frequency was reduced to every 3 weeks and then 4 weeks. The last irrigation event was in October 2013. An average of 3.0 gallons of water was applied to the location of each planted bale during each watering event. Plant health (or vigor) and survivorship was monitored regularly following planting. The District also planted a set of plants in October 2013 to better represent the schedule for planting on the proposed project / proposed action. As of March 2014, these plants were only watered at the time of initial planting and have a survivorship rate of over 92 to 98 percent. Supplemental watering will be conducted for these plants in April 2014 following the schedule provided here for the proposed project / proposed action.

Overall plant survivorship as of September 13, 2013, was 72 percent.[29] Plant survivorship for individual species varied greatly. ATPO had the highest survivorship, at 94.4 percent, followed by ATCO (91.3 percent), SAVE (83.3 percent), ATPA (41.2 percent), and SUMO (16.7 percent). ATPA plant deaths accounted for two-thirds of all plant deaths. The reason for the high death rate for ATPA is unclear but appears to be related to plant form and structure. However, in a second set of plants that were planted on the test site in October 2013, the ATPA survivorship appears to be much higher. The likely cause of the high proportion of SUMO deaths is thought to be small mammal browsing impacts. Similar browsing impacts were observed for the SAVE plants. As a result of this, wire protective cages were placed around all plants at bales containing SUMO and SAVE in mid-September 2013. Installation of protective structures for the plants is included in the proposed project / proposed action and alternatives. These structures are required to be removed within 3 years of installation or when the plants begin to outgrow the structure. Vigor of all surviving plants on the test site remained high through the first 2.5 months of the pilot study, with 66 percent of living plants achieving a Good or Excellent vigor rating by September 2013, and only 34 percent in the Fair or Poor categories.[30]

A plant survivorship rate of 50 percent is generally considered successful on most desert restoration projects.[31] By this measure, the pilot test project has achieved and surpassed this rate with a 72 percent survival rate after 2.5 months. The plants in this test study were planted in late spring rather than fall as originally planned and as planned for the proposed project / proposed action. Fall is the optimum planning time for desert vegetation; thus, future studies on survivorship could provide slightly different results. A second planting of 354 native shrubs occurred on October 24, 2013, which will provide further plant survivorship data useful in final project design.

Lessons learned from the test pilot study were the importance of protection of plants from browsing impacts, the importance of strong stem/root structure before planting and the importance of providing supplemental water to the plants following initial planting. As a result of this, the District provided protective enclosures at bales that were planted with SUMO and SAVE plants during the October 2013 planting, and new ATPA plants were pruned to promote an upright stem structure and growth. Additionally, the District has provided for supplemental irrigation events in the proposed project / proposed action in order to provide water in the spring and fall seasons. The

[29] Holder, G.A.M. 2013. Preliminary Results of Plant Establishment in the Straw Bale Demonstration Dust Control Project. Prepared by Great Basin Unified Air Pollution Control District. Prepared for Sapphos Environmental, Inc.

[30] Holder, G.A.M. 2013. Preliminary Results of Plant Establishment in the Straw Bale Demonstration Dust Control Project. Prepared by Great Basin Unified Air Pollution Control District. Prepared for Sapphos Environmental, Inc.

[31] Abella, S.R. and A.C. Newton. 2009. A systematic review of species performance and treatment effectiveness for revegetation in the Mojave Desert, USA. In Arid Environments and Wind Erosion, eds. A. Fernandez-Bernal and M.A. De La Rosa. Hauppauge, NY: Nova Science Publishers, 45-74.

District will continue to collect data during the environmental review process to further refine the observations and results recorded during the pilot study and to guide the final project design.

D. Other Project Elements and Design Considerations and Features Common to the Proposed Project / Proposed Action and All Proposed Project / Proposed Action Alternatives

Other project elements consist of infrastructure components, including a temporary access route; temporary staging areas for equipment, straw bales, and plants; water storage tanks for alternative 3 only; and an effectiveness monitoring program (existing air monitoring stations). These common project elements are identified on Figure 2.1.5.2-3, *Location of Project Infrastructure Elements Common to All Action Alternatives*. Site preparation for portions of the staging areas and temporary access route would require minimal brushing and grubbing, although impacts will be minimized to the extent practicable. Construction of each proposed project / proposed action alternative would result in a total temporary disturbance of 33.1 acres for the proposed project / proposed action, Alternative 1, Alternative 2, and Alternative 3; 36.1 acres for Alternative 4; and 33.8 acres for Alternative 5. The estimated time period for construction is less than 11 months, with planting occurring in the fall and early winter (October through December). Supplemental watering, if necessary, would be conducted in late winter / early spring and late summer / early fall and would require approximately 1 to 3 months to complete for each watering event.

Staging Areas

Four temporary staging areas will be established to provide contractor(s) with storage and placement of equipment, straw bales, native plants, supplies, and in Alternative 3 only, temporary water storage tanks. The staging area(s) will be located on land near the proposed project / proposed action area (Figure 2.1.5.2-3). The total area of the proposed staging areas is approximately 3.2 acres, all of which are considered temporary impacts. A portion of each staging area will have standard fencing installed to secure materials and equipment as necessary.

One main staging area (Staging Area 1) will be established within the northwestern edge of the proposed project / proposed action area on land administered by the BLM (Figure 2.1.5.2-3). Located immediately east of Old State Highway, the staging facility will measure 50 feet by 300 feet in area and will be used by the contractor(s) for the storage of equipment, fuel, all-terrain vehicles (ATVs), native plants, and other supplies.

Staging Area 2 will also be constructed for the proposed project / proposed action along the Old State Highway, on land managed by the LADWP (Figure 2.1.5.2-3). Staging area 2 will measure 200 feet by 400 feet and construction crew may park at this location.

Staging Area 3 is located on land managed by the BLM and will measure 150 feet by 300 feet, and has been designed to accommodate the ability for trucks to turn around. Both Staging Area 2 and 3 will be used for the temporary storage of equipment and materials needed for DCMs in the central and southern portions of the proposed project / proposed action area.

Staging Area 4 will be established adjacent to the gravel haul road constructed by the LADWP for dust mitigation on the Owens Lake, adjacent to the turn-off onto SR 136 (Figure 2.1.5.2-3). This

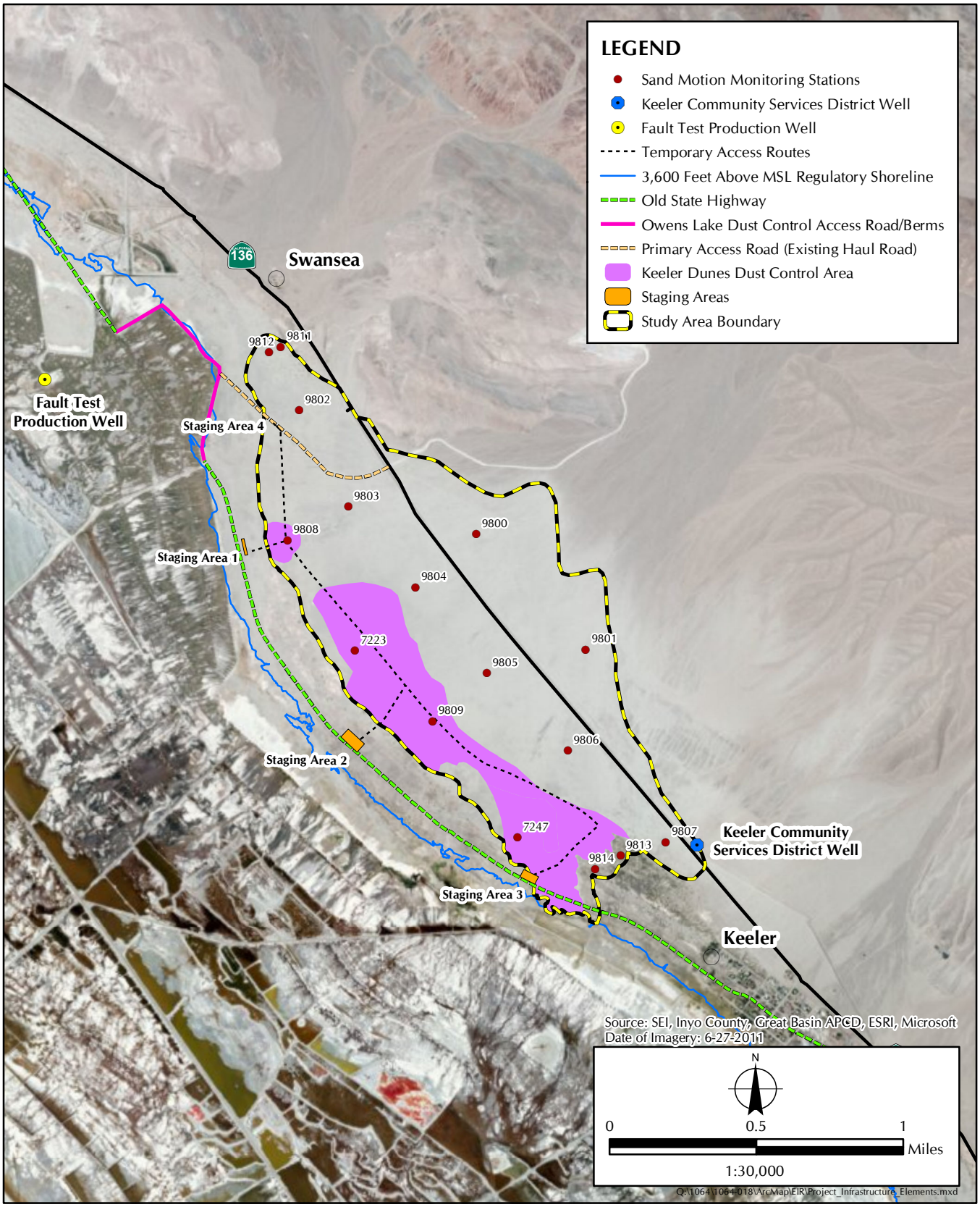


FIGURE 2.1.5.2-3

Location of Infrastructure Elements
Common to All Action Alternatives

staging area will be placed on previously disturbed land within the graveled limits of the existing road; thus, no vegetative removal is necessary. The area will measure approximately 10 feet by 200 feet and will be used primarily for temporary straw bale storage.

Access routes and staging Areas 1, 2, and 3 will require the brushing and grubbing of vegetation in order for them to function and to avoid the greater visual impact of grading. These staging areas will be restored and revegetated after the proposed project / proposed action has been completed.

Access Routes

A designated temporary access route for ATV travel will be used during placement of straw bales and during planting and watering activities. ATVs will be used to haul straw bales and plants to the dust control areas. The temporary access route will be sited to minimize impacts to existing vegetation and avoid cultural resources. The temporary access route will be sited by laying out an alignment that avoids vegetation and sensitive resources, to the maximum extent practicable. Access routes will be established by ATV use. Where vegetation blocks access to a requisite location, selected modification of vegetation may be undertaken to top vegetation to accommodate clearance for ATVs. No supplemental materials such as asphalt or gravel will be used. Following completion of planting and watering activities, the temporary access route will be restored utilizing straw bales and native plants (the same method as used for the dust control areas of the proposed project / proposed action).

The temporary access route from all of the staging areas will be approximately 13,478.7 feet long (2.5 miles) by 20 feet wide following the existing grade (total temporary access route disturbance area is 6 acres). The approximate location of access routes is shown in Figure 2.1.5.2-3. Currently, the proposed project / proposed action and alternatives area can be accessed from SR 136 via the gravel haul road to the north. The Old State Highway through Keeler to the south (the Keeler Dump Road) is not anticipated to be used to access the proposed project / proposed action. The access is from SR 136 and the gravel haul road.

Water Supply, Conveyance, and Distribution

Approximately 5 gallons of water will be applied under each straw bale prior to planting.[32] The plants would also be watered with approximately 3 gallons of water per bale immediately after the plants are placed in the ground. Total water needs during planting are expected to amount to approximately 3.02 acre-feet (985,480 gallons). It is expected that supplemental watering may be provided to the plants during the first 3 years of the proposed project / proposed action when rainfall is less than 50 percent of the average annual rainfall or is needed based on poor plant health. A total of about 5.29 acre-feet of water may be applied during the first year of the proposed project / proposed action. During each of the second, third, years of the proposed project / proposed action the estimated total annual water duty would be about 2.27 acre-feet. The total water demand for the proposed project / proposed action and proposed project / proposed action alternatives is estimated at up to 9.83 acre-feet (3.2 million gallons) over the 3-year period (Table 2.1.5.2-2, *Water Requirements for Proposed Project / Proposed Action*.

[32] Groeneveld, D.P., HydroBio Advanced Remote Sensing. 12 September 2012. Telephone conversation with D. Grotzinger, Sapphos Environmental, Inc., Pasadena, CA.

TABLE 2.1.5.2-2
WATER REQUIREMENTS FOR PROPOSED PROJECT / PROPOSED ACTION

Irrigation Event	Year	Gallons per Bale	Gallons	Acre-feet
Initial irrigation	Fall 2014	5	615,925	1.89
Irrigation at time of planting	Fall 2014	3	369,555	1.13
Supplemental #1	Spring 2015	3	369,555	1.13
Supplemental #2	Fall 2015	3	369,555	1.13
Supplemental #3	Spring 2016	3	369,555	1.13
Supplemental #4	Fall 2016	3	369,555	1.13
Supplemental #5	Spring 2017	3	369,555	1.13
Supplemental #6	Fall 2017	3	369,555	1.13
		Total	**3,203,120**	**9.83**

During the time of planting there will be two irrigation events associated with planting. The first will be conducted prior to planting to pre-wet/pre-condition the soil. The second irrigation will be conducted immediately following planting of the shrubs. Additionally, during the first year of the proposed project / proposed action, the plants may be provided with supplemental water, if needed, in the spring time when they are breaking dormancy for the growing season and again in the late summer as they go into their late season growth spurt. A decision to provide supplemental water will be based on the precipitation and the overall health of the plants.

During each of the first, second, and third years of operation of the proposed project / proposed action, there may be up to two supplemental watering events. The decision to provide supplemental water will be based on the precipitation during the year and the overall health of the plants. The potential watering events will occur in the later winter / early spring and late summer/early fall.

The proposed project / proposed action and action alternatives 1, 2, 3, and 4 assume that the water for plant irrigation will be supplied from the District's 12-inch production well, located at the Fault Test Site, located about 0.7 mile northwest of the proposed project / proposed action boundary (Figure 2.1.5.2-4, *Water Supply*). The Fault Test well is an artesian (flowing) well and is capable of producing 250 gallons per minute (gpm) on a sustained basis.[33] An initial application of water at each straw bale installed in the dust control areas is expected to require approximately 985,480 gallons, which would be applied over a 2- to 4-month period (this includes the pre-planting watering as well as the watering at the time of planting). The Fault Test production well can produce a sustained flow rate of 250 gpm and thus only requires a total flow of 2.7 days to produce enough water for the initial watering. Flow tests conducted at the Fault Test Site have included continuous flows for periods up to 90 days with no observed impacts to the surrounding area. Thus production of the relatively small amount of water needed for the plants on the proposed project / proposed action would not be expected to cause impacts to the local area. Another available water source includes purchased water from the Keeler Community Services District (KCSD) Well located within the southeastern portion of the proposed project / proposed action study area (Figure 2.1.5.2-4).[34]

[33] Holder, G., Great Basin Unified Air Pollution Control District, Bishop, CA. 9 October 2012. Telephone conversation with D. Grotzinger, Sapphos Environmental, Inc., Pasadena, CA.

[34] Holder, G., Great Basin Unified Air Pollution Control District, Bishop, CA. 20 September 2013. Email to Eric Charlton, Sapphos Environmental, Inc., Pasadena, CA.

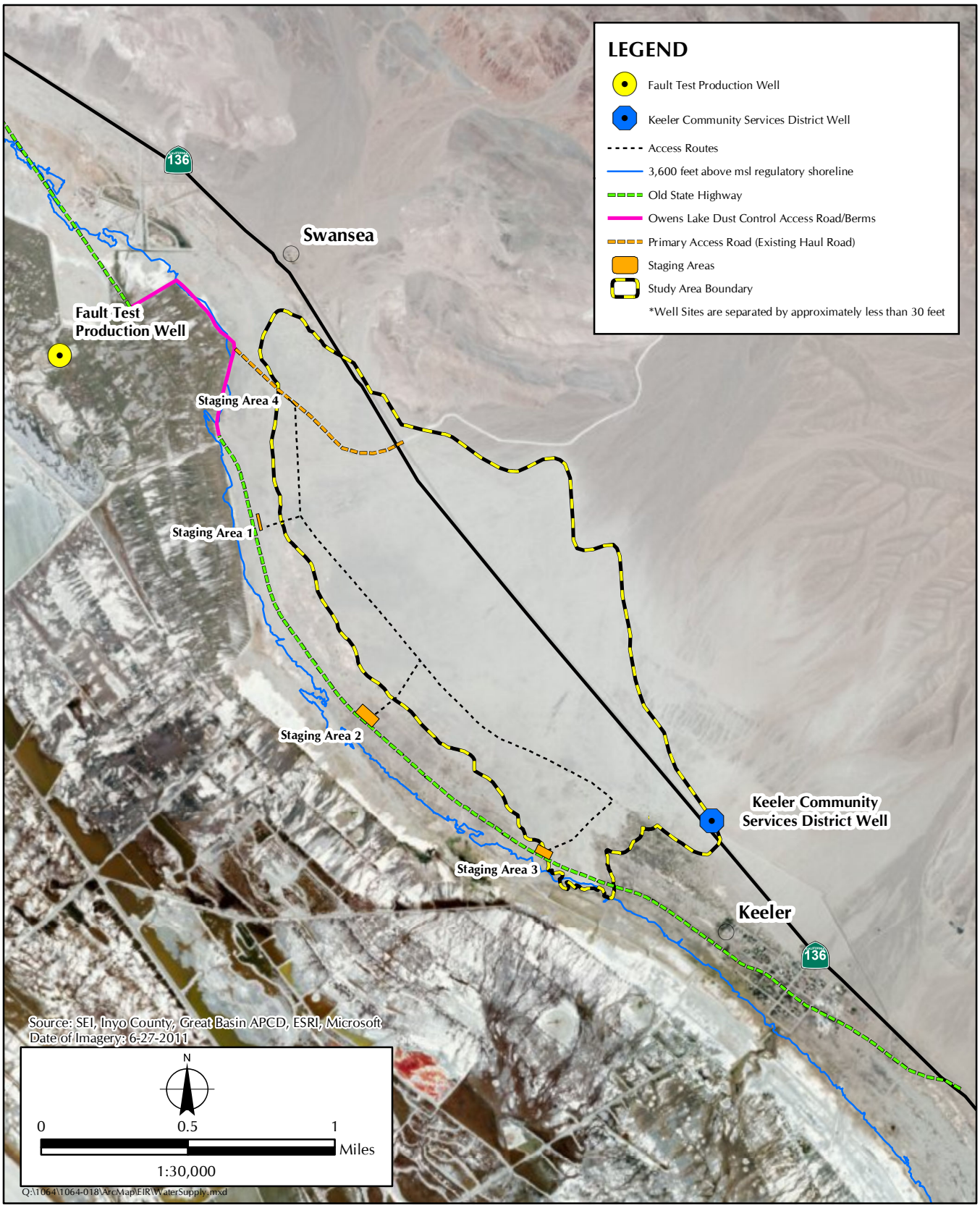


FIGURE 2.1.5.2-4

Water Supply

Effectiveness Monitoring Program

The District currently monitors sand motion activity in the proposed project / proposed action study area with a network of 16 sand motion monitoring sites (Figure 2.1.5.2-3). The monitoring program will continue to operate during and after DCM implementation. Review of sand motion monitoring, plant, and PM_{10} data will be completed at least one time per year and will be evaluated by the District to determine the progress of the proposed project / proposed action in attaining the NAAQS and state standard for PM_{10} and for the need to add supplemental plants and/or straw bales. The District will periodically keep the BLM apprised of general dust abatement progress and fully share the monitoring results if requested.

E. Construction Scenario Common to the Proposed Project / Proposed Action and All Proposed Project / Proposed Action Alternatives

Schedule

Installation of the proposed project / proposed action and proposed project / proposed action alternatives would require up to 11 months to complete, from August 2014 through June 2015. Construction of the proposed project / proposed action and alternatives would be divided into the following parts: (1) temporary access route and staging area(s); (2) bale placement and planting and watering; (3) project oversight and monitoring; and (4) supplemental watering and planting (project operation and maintenance) for a period of 3 years, as required. Supporting project activities would include material delivery, planting, placement of straw bales, water delivery to plants, ongoing monitoring, and transportation of work crews. Site preparation and construction of the proposed project / proposed action and alternatives would be undertaken in accordance with all federal, state, and County of Inyo codes and regulations. In an effort to avoid and minimize impacts to the emissive areas that contain the most sensitive environmental resources, the District has agreed to install the straw bales and native plants on the 177 acres with the lesser level of environmental sensitivity. If attainment is achieved with 177 acres, the additional 17 acres specified for the proposed project/proposed action and Alternatives 1, 2, 3, 4, and 5 would be delayed until the monitoring results confirm for a period of three consecutive years that treatment is not required to achieve attainment or that monitoring demonstrates that exceedances are occurring that warrant treatment. The proposed project/proposed action and proposed project/proposed action alternatives were analyzed on the full build-out scenario, as a reasonable worst case scenario, given the contingent nature of the ability to avoid the environmentally sensitive areas dependent on the outcome of the monitoring data. Workers would normally be present at the proposed action site between 7:00 a.m. and 5:00 p.m., Monday through Friday. During periods of high temperature, work may begin as early as 5:00 a.m.

Access and Egress

Construction employees would be expected to carpool from respective population centers such as Lone Pine, Olancha, or Keeler, California, and report to the designated construction staging area at to the beginning of each work day. It is anticipated that the employees would use the Old State Highway and the Gravel Haul Road from SR 136 for ingress/egress to the proposed project / proposed action property and that, once on-site, they would access various sections by foot and ATV on the designated temporary access route. Site ingress and egress for construction, delivery

vehicles, haul routes, and emergency response and evacuation would be located at Staging Area 2 along the Old State Highway (Figure 2.1.5.2-3). Vehicles would turn around at Staging Area 3 and return to SR 136 via the existing Gravel Haul Road (Figure 2.1.5.2-3).

Travel within the proposed project / proposed action area would be restricted to designated access routes. During placement of the bales and planting of the shrubs, it is expected that ATV travel will occur to distribution points within the dunes to unload the bales and plants. From these distribution points the bales and plants will be hand carried or transported in a wheeled hand cart to the specified locations for placement and planting. The number of distribution points is unknown at this time but is expected to be one for every 100 to 200 bales. These distribution points will only be used on a limited basis during active construction of the proposed project / proposed action.

Construction Equipment

The plans and specifications for the proposed project / proposed action and proposed project / proposed action alternatives would include the requirements for construction equipment and average number of hours of operation of the type specified in Table 2.1.5.2-3, *Dust Control Activity, Duration, Equipment, and Workers*. Table 2.1.5.2-3 lists the duration of each activity and maximum number of workers on the site each day.

TABLE 2.1.5.2-3
DUST CONTROL ACTIVITY, DURATION, EQUIPMENT, AND WORKERS

Activity	Duration (months)	Equipment	Workers (maximum)
Site preparation	~ 1 week	GrubberAll-terrain vehicle Pickup truck Trailers	10
Deliver and distribute straw bales over the dust control areas and Planting and watering	6 to 8 months	Semi-trucks with tandem trailers Loader with forks Hay Squeeze All-terrain Vehicles Water Trucks	72
Supplemental Watering	1 to 3 months	All-terrain vehicles Water trucks	13
Cleanup/restoration	~ 2 weeks	Semi-trucks with tandem trailers All-terrain vehicles Loader with forks Dozers and trailers Water trucks Pick-up trucks	20

2.1.5.3 PROJECT DESIGN FEATURES AND BEST MANAGEMENT PRACTICES

A. Workforce

Up to 72 workers would be expected to be on site during peak construction activity periods. Construction equipment would be turned off when not in use. The construction contractor would be required to ensure that all equipment is properly maintained. All vehicles would utilize exhaust mufflers and engine enclosure covers (as designed by the manufacturer) at all times.

B. Worker Education and Awareness Program

A Worker Education and Awareness Plan (WEAP) would be implemented to avoid and minimize potential impacts to resources at the project site. The project contractor would be required to prepare and submit these plans to the BLM and the District for review and approval prior to conducting work at the project site. The WEAP shall describe all the avoidance and minimization measures related to air quality and dust suppression, surface water quality, biological resources, cultural resources, and recreation that have been incorporated into the proposed project / proposed action to avoid significant impact to the environment. The WEAP will describe special-status species of plants and wildlife that have the potential to be present in the Keeler Dunes. The WEAP will describe areas of environmental concern that are off-limits to all construction personnel and equipment. The WEAP will describe the required notification of the County Coroner, should human remains be discovered in the project work area. Alcohol, firearms, and illegal drugs are prohibited in the project site. To prevent harassment or mortality of native wildlife, or destruction of habitat, no pets will be permitted on project sites. All trained workers will be given a sticker to affix to their hardhat that must be visible at all time when working on the site. A list of trained workers will be kept on site, and will be on file with the BLM and the District.

C. Air Quality and Dust Suppression

The transport and installation of straw bales and native plants has the potential for disturbing the soil surface and producing associated fugitive dust. These fugitive dust emissions shall be controlled and minimized through development and implementation by the project contractor of a Fugitive Dust Control Plan, to comply with District Rules 400 and 401 through the application of BACMs during project implementation. All vehicles and equipment used on site will be maintained in good condition. ATVs will be restricted to travel at less than 15 mph to minimize dust levels.

D. Drainages and Wetlands

The proposed project / proposed action has been designed to avoid all areas subject to the jurisdiction of the U.S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act and the jurisdiction of the CDFW pursuant to Section 1600 of the State Fish and Game Code, including avoidance of areas identified as potential wetlands on the National Wetlands Inventory. There are no wetlands that will be disturbed. One drainage will be crossed but will not be used for DCMs.

The project installation shall be monitored, by the District, during construction to ensure that there is no alteration of drainages. SEI: As disc used at Galley Proof, in the absence of a 1600 Agreement, the District shall notify the contractor and all onsite personnel of the need to avoid any alteration of draingage and monitor that avoidance is achieved during construction.

E. Restoration of Disturbed Areas

Restoration of disturbed areas, such as staging areas and the temporary access route, would occur at the end 3 years or when the plants are established enough such that they do not need any supplemental watering. Restoration will include decompaction as needed and the establishment of native vegetation similar to that used in the project area. If the plants are not established by the end of the 3-year period the District will request an extension in advance so that additional environmental analysis can be undertaken in a timely manner.

F. Cultural Resources Protection

Cultural resources protection is complicated by the shifting sand deposits that result in temporal variations in coverage and exposure of cultural resources. As part of the project design and development process, extensive coordination was undertaken by the District with BLM to develop a conceptual site plan that place project elements in a manner that avoids cultural resources. However, the potential exists, due to the shifting nature of the sand deposits, for additional cultural resources to be exposed prior to the initiation of project installation. Therefore, an additional survey will be undertaken by the District, in consultation with the BLM, directly prior to project implementation. The results of the survey will be used as the basis for the development of the final site plan to be submitted with the ROW application, demonstrating avoidance of potentially significant cultural resources, including any required corresponding refinements associated with the proposed construction scenario. A map of the proposed project / proposed action elements, including their relation to surface artifacts and features, will be provided with the ROW application. Supplemental monitoring of the cultural resources falling within the project area will be undertaken by a qualified archaeologist to ensure that no cultural deposits are adversely affected by the transport and placement of the vegetation and straw bales, and delivery of water via small tanks and hoses mounted on ATVs or temporary irrigation lines. The final site plan will be adjusted to avoid the cultural resources identified in the initial surveys and any additional cultural resources identified as a result of the supplemental surveys.

The supplemental survey for cultural resources will involve the identification and recordation of artifacts and features using handheld global positioning system (GPS) units. A spatial analysis in geographic information systems (GIS) will then be undertaken to determine the specific placement of vegetation, straw bales, footpaths, and routes of travel for ATVs or temporary irrigation lines in relationship to cultural resources to ensure the final site plan avoids these resources. The contractor shall submit a final proposed construction scenario to the BLM for approval that depicts the location of these project elements and their relation to surface artifacts and features. An on-site archaeological monitor will be required to be present during implementation of the DCMs in culturally sensitive areas and a Tribal monitor will be required to be present during the implementation of the DCMs in all areas.

G. Recreation Access / Public Safety

Temporary restrictions for control of public site access for passive recreational purposes shall occur during hours when active construction is under way. During these periods, construction and subsequent project monitoring would be managed by the placement of appropriate signage. In consultation with the BLM Bishop Field Office and the LADWP, signage shall be developed and placed to direct individuals away from the construction and dust control areas to a corridor located east of the dust control areas and parallel to SR 136.

H. Weed Control Plan

Construction of the proposed project / proposed action and alternatives would require preparation of a Weed Control Plan that shall be implemented upon commencement of construction activities. The Weed Control Plan shall include, but not be limited to five preventative measures:

Prevention Measures

a. All landscaping and restoration seeds and plant materials shall be certified weed free.

b. All straw materials shall be certified weed free.

c. Selection of staging areas and the temporary access route shall be done in a way that minimizes disturbance of vegetation.

d. Areas of temporary disturbance shall be vegetated with local native plant species as soon as construction is complete to reduce erosion and inhibit the establishment of invasive weeds.

e. Vehicles and equipment shall be cleaned (with water or high-pressure air) prior to commencing work in off-road areas. Vehicles and equipment shall be cleaned at existing construction yards, legally operating car washes, or on-site washing station(s) at project access points. Once equipment and vehicles have been staged on site, no further washing would be required unless the vehicles or equipment are exposed to populations of nonnative and invasive weeds present on the site or if the equipment leaves the site for a different project and then returns to continue work.

The contractor shall document that all vehicles have been washed prior to entering the proposed project / proposed action work area. A written log shall be kept for all vehicle/equipment washing that states the date, time, and location of washing; type of equipment washed; washing methods used; and staff present during washing of equipment. The log shall include the signature of a responsible staff member. Logs shall be available to the BLM for inspection at any time and shall be submitted to the BLM upon request.

Weed-Control Measures

a. Species-specific control procedures shall be developed for high-priority invasive weeds (as determined through consultation with the BLM staff), including non-native *Salsola* species.

b. Potential weed-control methods shall include physical or mechanical removal, chemical control, and environmental control. Methods shall be approved by the BLM prior to weed control.

c. Weeds shall be removed by the District during the implementation of dust control measures as part of the proposed project / proposed action. Removal methods shall be approved by the BLM prior to implementation.

d. A long-term schedule shall be established for regular weed control throughout the proposed project / proposed action area.

e. A regular weed-control program shall be established that uses approved procedures, properly maintained equipment, and safety gear.

f. Monitoring and follow-up shall be conducted in accordance with the proposed project / proposed action's operational long-term effectiveness monitoring described in the section below.

g. Annual monitoring shall be conducted to assess weed presence and the success of control measures.

h. Remedial (follow-up) control measures shall be implemented by the District under the direction of the BLM if previous procedures have not achieved eradication or control objectives.

Reporting

a. A final report shall be prepared for submittal to the BLM Bishop Field Office at the end of the project construction phase. The report shall document the implementation of the Weed Control Plan, including the outcome of the weed-control measures and recommendations for changes to improve rates of success.

I. Stormwater

The plans and specifications for the proposed project / proposed action would include a requirement for the construction contractor to comply with all provisions of the National Pollution Discharge Elimination System (NPDES) Program administered by the California RWQCB, Lahontan Region, as they relate to avoiding impacts from storm water runoff during construction. Prior to project implementation, the District would be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) and incorporate best management practices (BMPs) consistent with the guidelines provided in the *California Storm Water Quality Handbooks: Construction Site Best Management Practices Manual*. [35] In addition, provisions for a monitoring and maintenance program to address areas needing maintenance would be included to address conditions that pose a threat to water quality. Should the construction period occur during rain events, supplemental erosion and sediment control measures may be implemented, including, but not limited to, the use of:

- Mulching
- Geotextiles and mats
- Earth dikes
- Temporary drains and gullies
- Silt fencing
- Straw-bale barriers
- Sand-bag barriers
- Brush or rock filters

[35] California Stormwater Quality Association. 2003. *California Stormwater Best Management Practice Handbooks: Construction*. Menlo Park, CA. Available at: http://www.cabmphandbooks.com/Documents/Construction/Section_3.pdf

- Sediment traps
- De-silting basins

J. Hazardous Materials Handling and Storage

Small quantities of hazardous materials will be used on site for miscellaneous general maintenance activities associated with straw bale, plant installation, and irrigation during the initial 3 years of the proposed project / proposed action. Hazardous materials are expected to include consumer-sized containers of oils, greases, and small quantities of diesel fuel and gasoline for use with ATVs and generators. To minimize impacts to water quality related to the unauthorized release of hazardous materials into the environment, the project contractor shall prepare a Hazardous Materials Business Plan (HMBP) and Spill Prevention Control and Countermeasure (SPCC) program applicable to all statutes and regulations. The project contractor shall submit the HMBP and SPCCC program to Inyo County for review and approval. The project contractor shall demonstrate approval of the HMBP and SPCC by Inyo County to the District and BLM prior to the use, storage, and handling of hazardous materials in conjunction with construction or operation of the proposed project / proposed action. Only personnel trained in refueling vehicles will be allowed to engage in such activities.

Waste Management

All waste, including trash, litter, garbage, and any other solid waste generated by the proposed project / proposed action, will be removed to a disposal facility authorized to accept such materials. Commercial garbage collection and hauling may be contracted to remove waste and recyclable materials. During project activities, all waste will be stored in a manner that wildlife cannot access it. In the event that straw bales with non-degradable binding are used for the proposed project / proposed action, at the end of the project maintenance period, plastic or other non-degradable binding materials will be removed from all bales and be collected and removed from the proposed project / proposed action area. This waste will be taken to a disposal facility authorized to accept such materials or will be recycled.

Portable toilets for on-site personnel will be provided at staging areas 1, 2, and 3 and removed for each 30-day period when on-site personnel are not scheduled to be present.

K. Special Status Plants / BLM Sensitive Plants

If prior to or during construction of the proposed project / proposed action Special Status Plants / BLM Sensitive Plants are found (on public land administered by the BLM) in the project area they would be avoided and/or impacts would be mitigated under the guidance of the BLM.

L. Migratory Birds

If project activities occur during migratory bird nesting season (March 15-–July 30), a nesting bird survey must be conducted at least one week before the onset of construction to determine the presence or absence of nesting birds. If nesting birds are observed, work activities shall be avoided within 100 feet of active nests until it has been determined that the young have left the nest.

2.1.5.4 OPERATION AND MAINTENANCE

Once the project elements are in place, the site would be monitored regularly for a period of 3 years to evaluate the vegetation growth progress, assess plant mortality and herbivory, assess the need for additional watering, check the physical condition of straw bales, and replant as necessary. Review of DCM effectiveness will be completed at least one time per year and will be reported with recommendations, as appropriate, for adding supplemental plants and/or straw bales as needed to achieve the NAAQS for PM_{10}.

Monitoring for plant survivorship will occur more frequently in the first year of the proposed project / proposed action and less frequently as the plants establish themselves in subsequent years.

2.2 PROPOSED PROJECT / PROPOSED ACTION ALTERNATIVES INCLUDING THE PROPOSED PROJECT / PROPOSED ACTION

This EIR/EA evaluates the proposed project / proposed action and five proposed project / proposed action alternatives:

- Alternative 1, Dust Control Measures Applied to 214 Acres Using Irrigation Water Delivered via Water Trucks / ATVs;
- Alternative 2, Dust Control Measures Applied to 197 Acres Using Irrigation Water Delivered via Water Trucks / ATVs;
- Alternative 3, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / Tanks / PVC Irrigation System and Selected Manual Watering;
- Alternative 4, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / PVC Irrigation System and Selected Manual Watering ; and
- Alternative 5, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via KCSD Water Well / Pipeline to Irrigation System and Selected Manual Watering.

The following subsections present the proposed project / proposed action and the alternatives. The primary differences between the alternatives can be found in (1) the area extent of the area to be treated (project size), (2) the density of plants and straw bales that correlates to the dust control efficiency, and (3) the source and method of supplying water to the proposed project / proposed action area for plant irrigation. Furthermore, the vehicle miles traveled (VMTs) associated with the proposed project / proposed action differ for each source and method of supplying water for both ATVs and water trucks as presented in Table 2.2-1, *VMTs for Proposed Project / Proposed Action and Proposed Project / Proposed Action Alternatives*.

TABLE 2.2-1
VMTS FOR PROPOSED PROJECT / PROPOSED ACTION
AND PROPOSED PROJECT / PROPOSED ACTION ALTERNATIVES

Proposed Project / Proposed Action or Alternative	Year	VMT for ATVs	VMT for Water Trucks
Proposed Project / Proposed Action	2014	6,568	541
	2015	4,924	422
	2016	4,924	422
	2017	4,924	422
	Total	**21,340**	**1,807**
Alternative 1	2014	6,568	541
	2015	4,924	422
	2016	4,924	422
	2017	4,924	422
	Total	**21,340**	**1,807**
Alternative 2	2014	6,568	541
	2015	4,924	422
	2016	4,924	422
	2017	4,924	422
	Total	**21,340**	**1,807**
Alternative 3	2014	842	541
	2015	674	422
	2016	674	422
	2017	674	422
	Total	**2,864**	**1,807**
Alternative 4	2014	842	541
	2015	674	422
	2016	674	422
	2017	674	422
	Total	**2,864**	**1,807**
Alternative 5	2014	842	0
	2015	674	0
	2016	674	0
	2017	674	0
	Total	**2,864**	**0**

2.2.1 PROPOSED PROJECT / PROPOSED ACTION

The proposed project / proposed action would implement DCMs (native vegetation and straw bales) on 194 acres of the project study area. The District designed the proposed project / proposed action to minimize environmental impacts by applying two different dust control levels at the project site (Figure 2.2.1-1, *Dust Control Measure Locations and Minimum Efficiency Requirements*). A dust control efficiency of 95 percent would be implemented on approximately 177 acres and would result in an immediate cover by the bales of approximately 12.1 percent. The proposed project / proposed action would implement 85 percent control on 17 acres, resulting in a 6.7 percent bale cover. Additional surface cover is expected from the shrubs as they fully develop and mature. The total acreage (177 acres + 17 acres) for DCMs to which native vegetation would be applied is 194 acres. Approximate numbers of plants and straw bales necessary to achieve an estimated 85 and 95 percent dust control efficiency on a total of 194 acres are summarized in Table 2.2.1-1, *Proposed Project / Proposed Action Dust Control Applied to 194 Acres*.

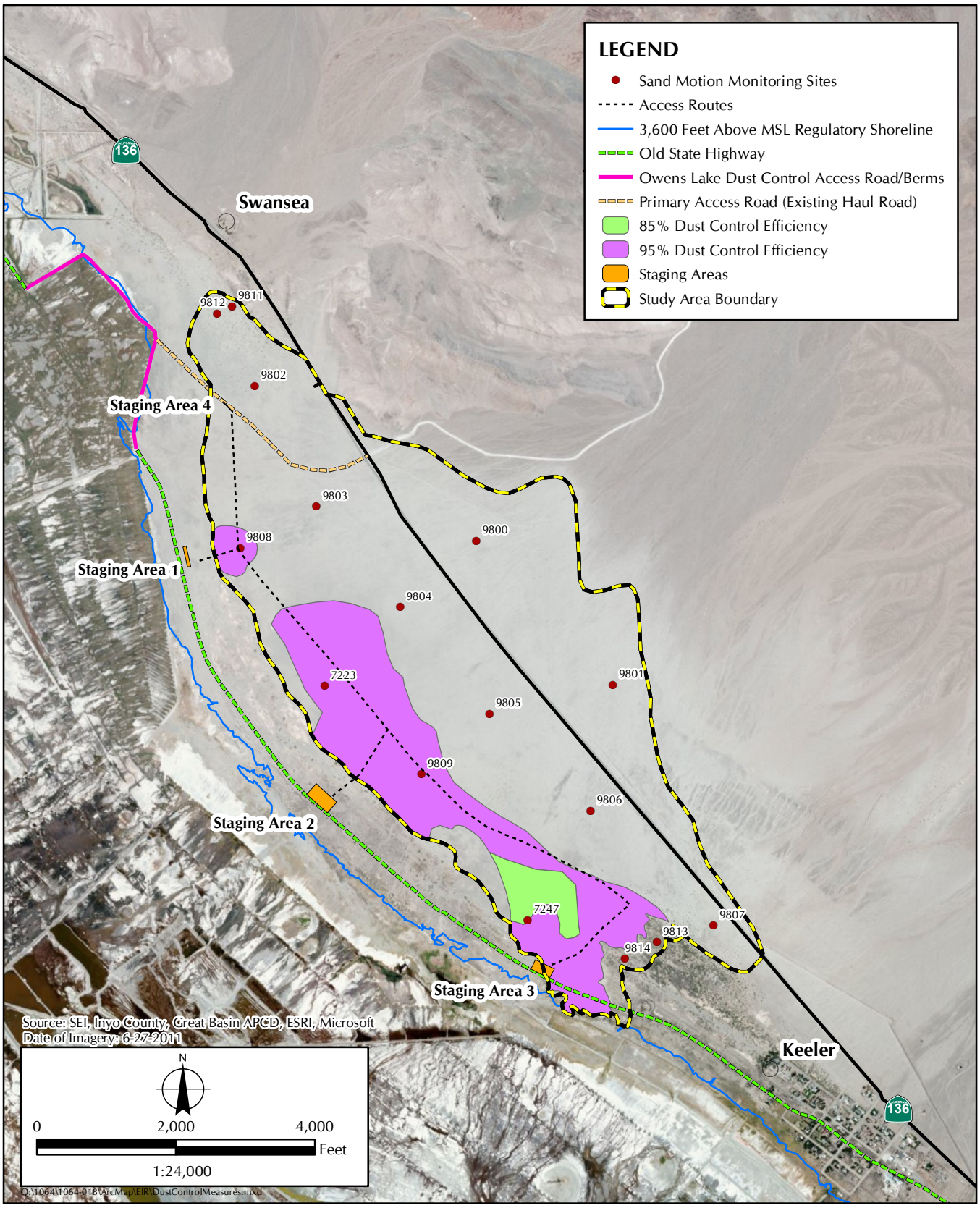


FIGURE 2.2.1-1

Dust Control Measure Locations
and Minimum Efficiency Requirements

TABLE 2.2.1-1
PROPOSED PROJECT / PROPOSED ACTION DUST CONTROL APPLIED TO 194 ACRES

Element	Minimum Control Efficiency (%)	Number of Acres	Number Required per Acre	Total Number Required
Native plants	95	177	1,983	350,991
Native plants	85	17	1,092	18,564
Total plants				**369,555**
Straw bales*	95	177	661	116,997
Straw bales	85	17	364	6,188
Total straw bales				**123,185**

Note: * The dimensions of the straw bales are 0.6 x 0.4 x 1.17 meters.

The water supply for plant irrigation will come from the Fault Test well and will be delivered via 8,000 gallon water trucks to each of the three staging areas along the Old State Highway. Water would be transferred to the small ATV water tanks directly from water trucks that would park in the staging areas. Water will then be applied via ATVs towing a trailer with a water tank (~150 to 200 gallon capacity) into the proposed project / proposed action area. The initial irrigation during planting would take approximately 15 weeks to complete.[36] Each supplemental irrigation event would take a crew of 10 workers approximately 10 weeks. See Table 2.1.5.2-2 for a summary of the water requirements for the irrigation events included in the proposed project / proposed action.

2.2.2 ALTERNATIVE 1, DUST CONTROL MEASURES APPLIED TO 214 ACRES USING IRRIGATION WATER DELIVERED VIA WATER TRUCKS / ATVS

Alternative 1 has DCMs applied at different intensities in different areas of the Keeler Dunes, and the total acreage treated is 20 acres larger than the proposed project / proposed action (Figure 2.2.2-1, *Alternative 1, Dust Control Measures Applied to 214 Acres*). This alternative focuses on controlling the highest dust emitting areas in the un-vegetated sand dunes by applying more closely spaced straw bales and plants (95 percent control efficiency) over 140 acres. Straw bales and plants would be placed in the inter-dune sand sheet areas (74 acres) at 90 percent control efficiency. Table 2.2.2-1, *Alternative 1, Dust Control Measures Applied to 214 Acres Via Water Trucks / ATVs*, summarizes the acreage treated and the approximate number of plants and straw bales necessary to achieve an estimated 90 and 95 percent dust control efficiency.

[36] Assuming a crew of 10 workers working 5 days a week.

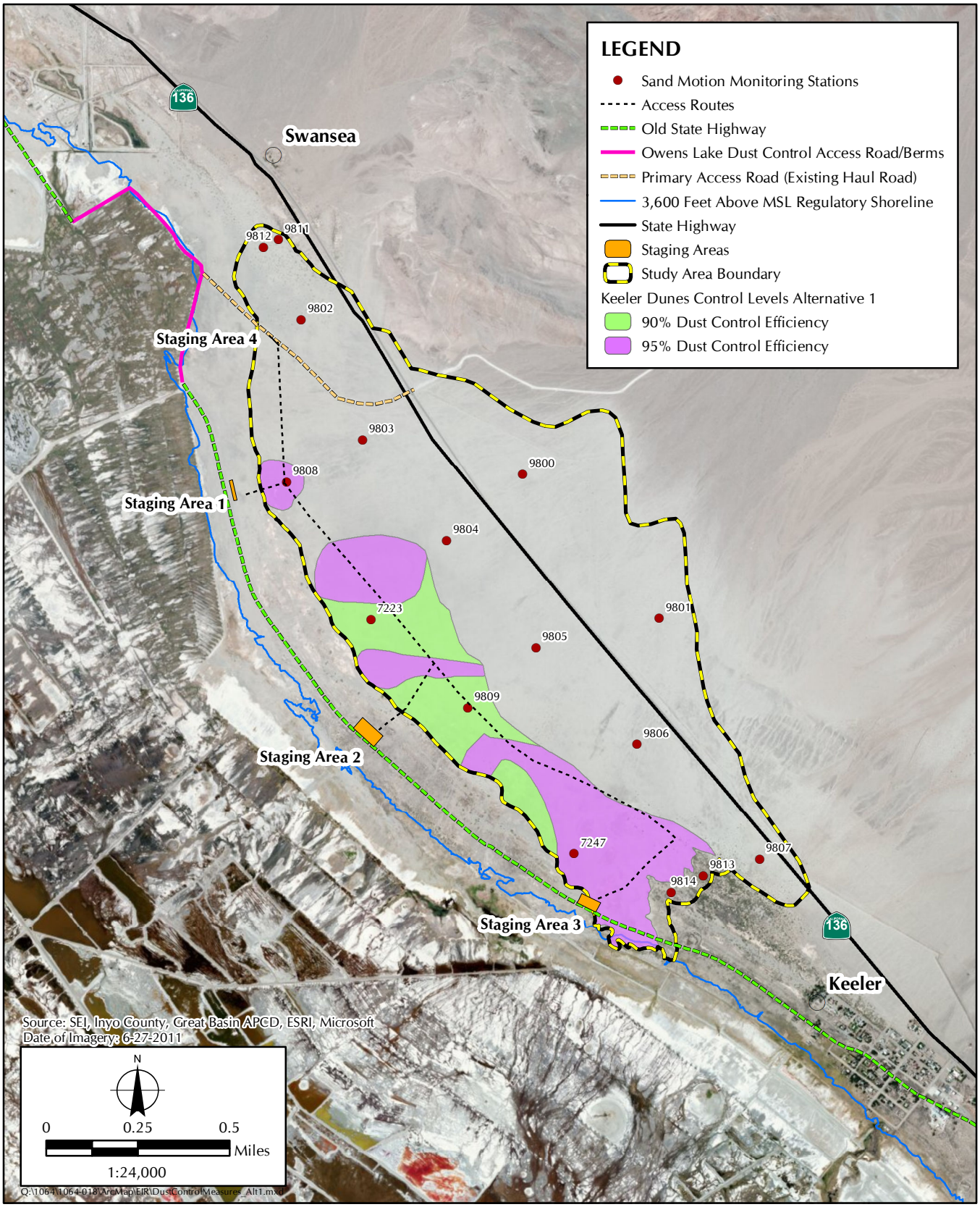


FIGURE 2.2.2-1

Alternative 1, Dust Control Measures Applied to 214 Acres

TABLE 2.2.2-1
ALTERNATIVE 1, DUST CONTROL MEASURES APPLIED TO 214 ACRES VIA WATER TRUCKS / ATVS

Element	Minimum Control Efficiency	Number of Acres	Number Required per Acre	Total Number Required
Native vegetation	95 percent	140	1,983	277,620
Native vegetation	90 percent	74	1,383	102,342
Total plants				**379,962**
Straw bales*	95 percent	140	661	92,540
Straw bales	90 percent	74	461	34,114
Total straw bales				**126,654**

Note: * The dimensions of the straw bales are 0.6 x 0.4 x 1.17 meters.

Under Alternative 1, construction would be essentially the same as for the proposed project / proposed action as described in Section 2.1.5.2, *Project Elements Common to All Project / Action Alternatives*. The primary difference between the alternatives would be the total number of plants and straw bales that would be transported to the project site and distributed onto a larger area (20 additional acres) of dust control. As with the proposed project / proposed action, supplemental irrigation in the first 3 years following installation of native vegetation would be completed via hauling of water in small water tanks (about 150–200 gallons) mounted on a trailer and pulled with an ATV and then irrigation would be conducted by hand through a small diameter hose. Alternative 1 would result in a greater number of plants and straw bales; hence, additional workers and equipment may be necessary to complete the alternative in the same time frame as the proposed project / proposed action.

2.2.3 ALTERNATIVE 2, DUST CONTROL MEASURES APPLIED TO 197 ACRES USING IRRIGATION WATER DELIVERED VIA WATER TRUCKS / ATVS

Alternative 2 has DCMs applied at different intensities in different areas of the Keeler Dunes, and the total acreage treated is 3 acres larger than the proposed project / proposed action (Figure 2.2.3-1, *Alternative 2, Dust Control Measures Applied to 197 Acres*). This alternative focuses on applying the highest intensity of dust control (95 percent control efficiency) across the Keeler Dunes and inter-dune sand sheet areas (170 acres), while applying less intensive controls on other inter-dune areas (27 acres at 90 percent dust control efficiency). Alternative 2 would control the highest dust emitting areas of the dunes by applying more closely spaced straw bales and plants at these locations. Table 2.2.3-1, *Alternative 2, Dust Control Measures Applied to 197 Acres*. summarizes the acreage treated and the approximate number of plants and straw bales necessary to achieve an estimated 90 and 95 percent dust control efficiency.

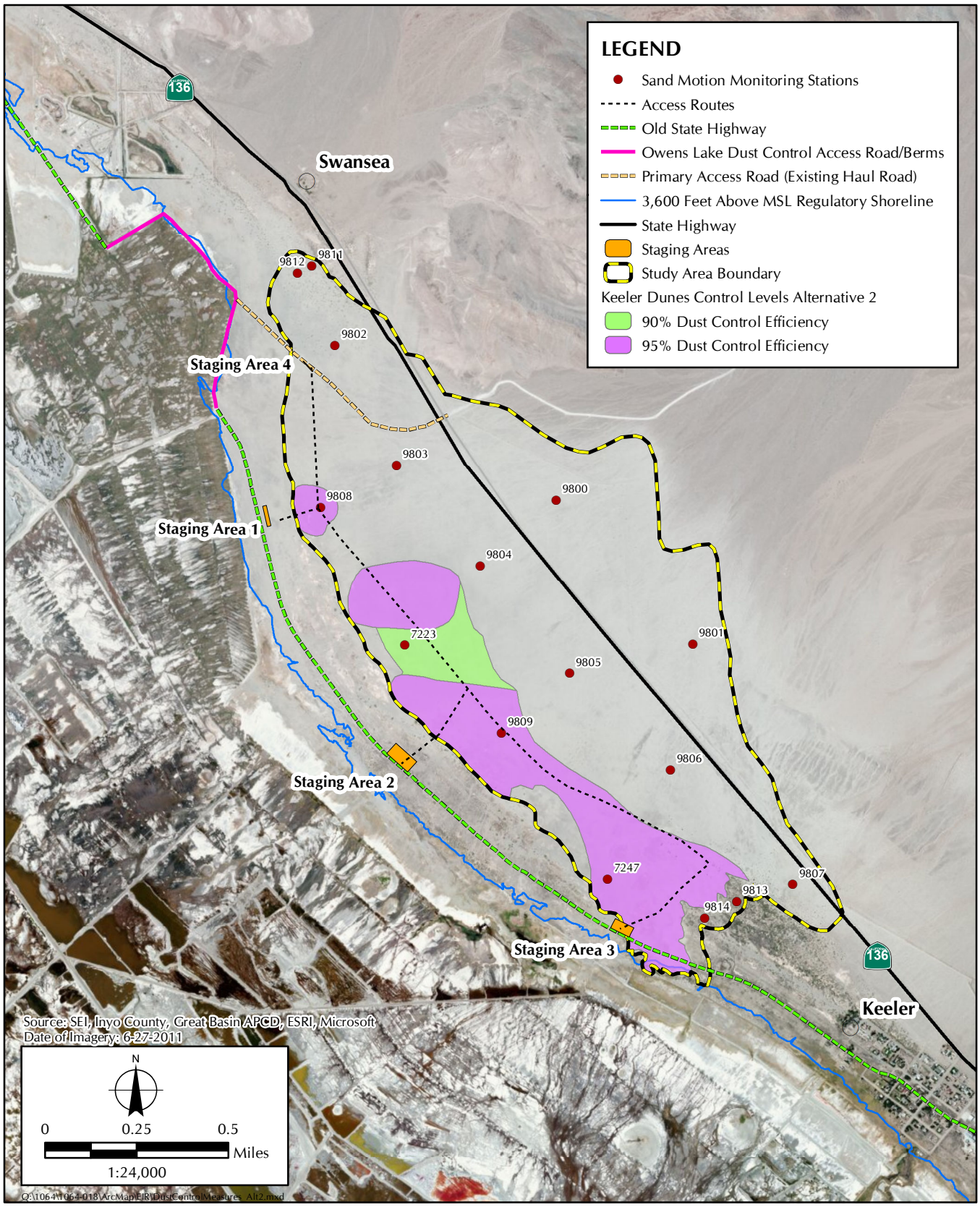


FIGURE 2.2.3-1

Alternative 2, Dust Control Measures Applied to 197 Acres

TABLE 2.2.3-1
ALTERNATIVE 2, DUST CONTROL MEASURES APPLIED TO 197 ACRES VIA WATER TRUCKS / ATVS

Element	Minimum Control Efficiency	Number of Acres	Number Required per Acre	Total Number Required
Native vegetation	95 percent	170	1,983	337,110
Native vegetation	90 percent	27	1,383	38,724
Total plants				**375,834**
Straw bales*	95 percent	170	661	116,997
Straw bales	90 percent	27	461	12,908
Total bales				**129,905**

Note: * The dimensions of the straw bales are 0.6 x 0.4 x 1.17 meters.

Under Alternative 2, construction would be essentially the same as for the proposed project / proposed action as described in Section 2.1.5.2, *Project Elements Common to All Project / Action Alternatives*. The primary difference between the proposed action and Alternative 2 would be the total number of plants and straw bales that would be transported to the project site and distributed onto a slightly larger area (3 additional acres). As with the proposed project / proposed action, supplemental irrigation in the first 3 years following installation of native vegetation would be completed via hauling of water in small water tanks (about 150–200 gallons) mounted on a trailer and pulled with an ATV and then irrigation would be conducted by hand through a small diameter hose.

2.2.4 ALTERNATIVE 3, DUST CONTROL MEASURES APPLIED TO 194 ACRES USING IRRIGATION WATER DELIVERED VIA WATER TRUCKS / TANKS / PVC IRRIGATION SYSTEM AND SELECTED MANUAL WATERING

Alternative 3 integrates refinements to the proposed project / proposed action that resulted from lessons learned from the pilot study that was undertaken by the District to assess the feasibility of the proposed project / proposed action and to address concerns that were raised by representatives of the Native American tribes during the consultation that was undertaken pursuant to Section 106 of the National Historic Preservation Act. Under Alternative 3, the dust control measures would be the same as the proposed project / proposed action. Water obtained from the District's production well at the Fault Test site would be transported to the site via large water trucks to temporary storage tanks located at the three of the four designated staging areas. Since the staging areas are lower in elevation than the Alternative 3 area, each staging area with a water tank would need to have a manifold and booster pump to pressurize the irrigation system. Pumps would be two to three Horse Power electric booster pumps that would be operated during daylight hours when there is active watering of the project area. Due to the nature and size of the electric booster pumps, it is anticipated that potential noise impacts associated with the pumps would be negligible. Furthermore, the ambient noise in the vicinity of the booster pumps, which is dominated by high winds, would prevent a perceivable audible difference in ambient noise from the booster pumps. The use of water tanks mounted on ATVs, to distribute supplemental irrigation during the operations and maintenance phase of Alternative 3, would be replaced with a temporary aboveground irrigation system that would be installed within the 95-percent control level area to provide water to the Alternative 3 area. Plants within the sensitive 85-percent control area would be manually watered using the same method as described proposed project / proposed action. In the environmentally sensitive areas, the ATV mounted tanks would be filled with water

from the delivery system within the Alternative 3 site instead of from trucks at the staging areas. Figure 2.2.4-1, *Alternative 3, Manual Watering and Irrigation Schematic with Delivery from the Old State Highway*, provides a map of the temporary irrigation system for Alternative 3.

In Alternative 3, the temporary irrigation system would be designed such that irrigation laterals are placed every 150 feet across the Alternative 3 site, rather than extending to each straw bale. The water from the 2-inch lateral lines would be delivered to the plant locations through detachable hoses. Alternative 3 includes travel into the area by ATV to the hose attachment points along the distribution lateral lines. Watering of individual plants in the vicinity of the hose attachment points would be conducted by a worker on foot.

All travel associated with irrigation would be along the designated access routes and lateral lines. In Alternative 3, the water trucks would only be present at the staging areas during times of active watering. The water trucks would be parked off-site at night and on weekends, at the Fault Test Well site, or other existing parking or staging area in the vicinity of Owens Lake. This alternative would reduce the amount of travel in the dunes by approximately 80 percent, as compared to the proposed project/proposed action. At locations where the access route crosses irrigation lines, temporary protective covers would be placed over the piping to allow travel over the system and prevent damage to the irrigation system. There would be approximately 124 total crossings of the irrigation lines (with 62 crossings of the 2-inch distribution laterals and 62 crossings of the 4-inch transmission line). An estimated 4,500 miles of travel are required over the course of the first 3 years for watering all of the plants in the Alternative 3 area (Table 2.2-1). The initial irrigation during planting would take approximately 8 weeks to complete. Each supplemental irrigation event would take approximately 5 weeks. Following the completion of each irrigation event the irrigation system would be drained of water. Each distribution lateral will have a drain valve installed. Approximately 200 gallons of water will be drained from each lateral in a manner to prevent flows off of the project area.

2.2.5 ALTERNATIVE 4, DUST CONTROL MEASURES APPLIED TO 194 ACRES USING IRRIGATION WATER DELIVERED VIA WATER TRUCKS / PVC IRRIGATION SYSTEM AND SELECTED MANUAL WATERING

Alternative 4 integrates refinements to the proposed project / proposed action that resulted from lessons learned from the pilot study that was undertaken by the District to assess the feasibility of the proposed project / proposed action and to address concerns that were raised by representatives of the Native American tribes during the consultation that was undertaken pursuant to Section 106 of the National Historic Preservation Act. Under Alternative 4, the DCMs would be the same as the proposed project / proposed action. In Alternative 4, water obtained from the Fault Test Well would be transported to the site via water trucks. The water delivery system would be fed from three supply points along SR 136. As with Alternative 3, plants within the 95-percent control area would continue to be watered with hoses attached to the laterals of the temporary PVC irrigation system. In this alternative, water trucks would stage at turnouts built near to the highway and deliver water directly in to the temporary PVC irrigation system, rather than utilizing water tanks at the staging areas for temporary storage as proposed in Alternative 3. As in Alternative 3, hand watering would be done in approximately 8 percent of the dust control area using hoses to deliver water from tanks mounted on ATVs. The ATV mounted tanks would be filled with water from the delivery system within the project instead of from tanks at the staging areas or from the trucks at the turnouts. Figure 2.2.5-1, *Alternative 4, Manual Watering and Irrigation Schematic Along State Route 136,* provides a map of the temporary irrigation system for Alternative 4.

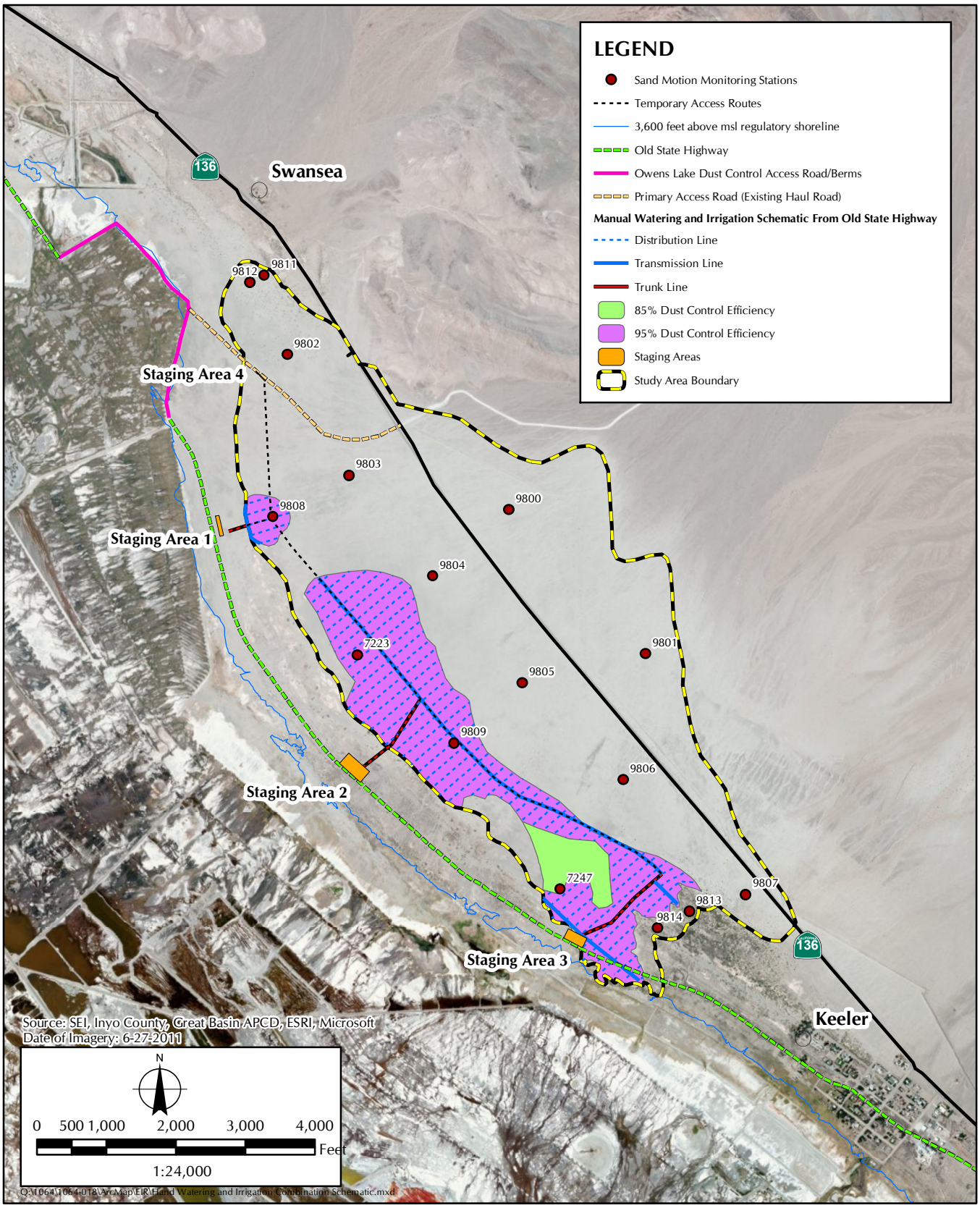


FIGURE 2.2.4-1

Alternative 3, Manual Watering and Irrigation Schematic From Old State Highway

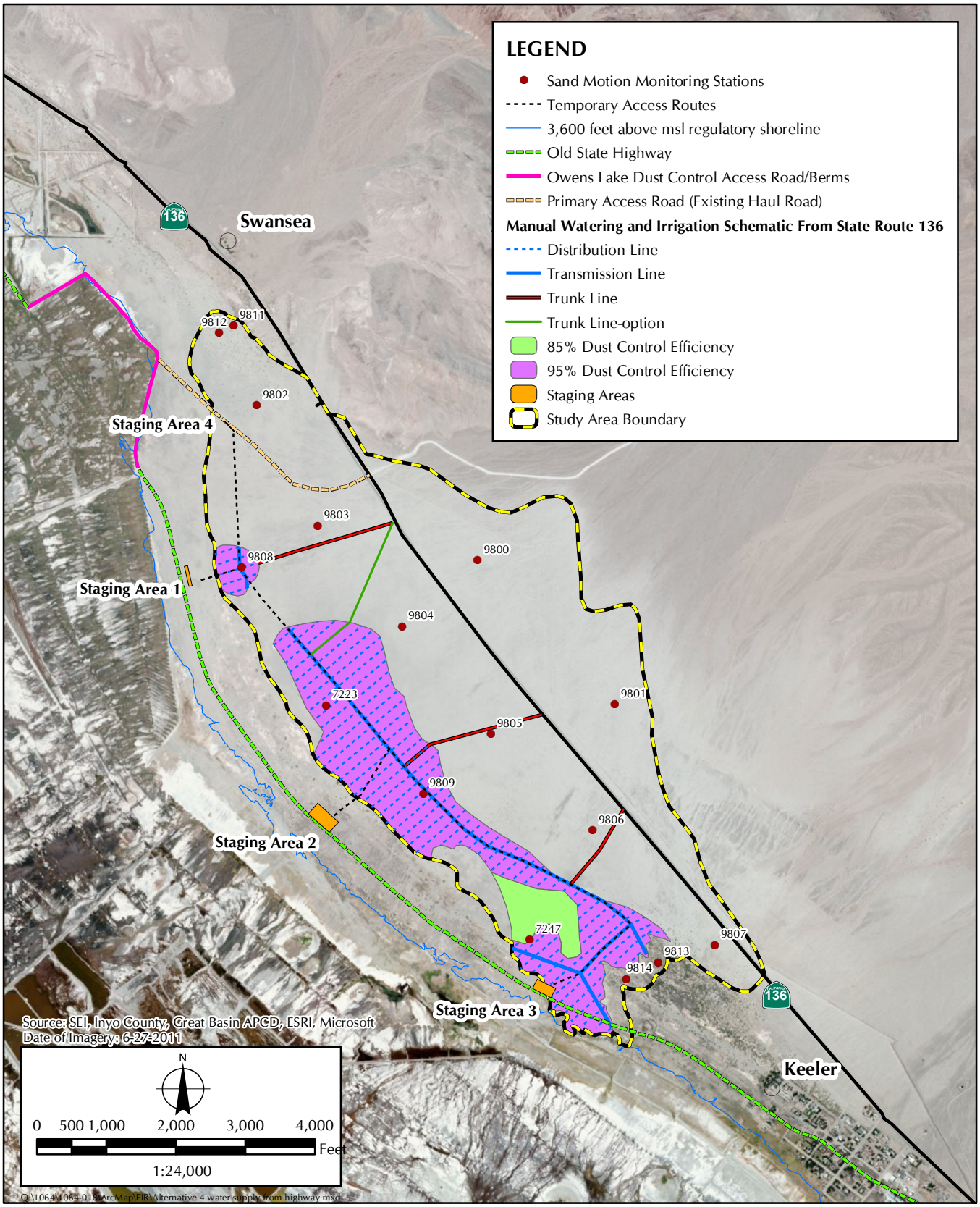


FIGURE 2.2.5-1

Alternative 4, Manual Watering and Irrigation Schematic From State Route 136

As in Alternative 3, in this alternative the temporary irrigation system would be designed such that distribution laterals would be placed every 150 feet across the site, rather than extending directly to each straw bale. The water from the lateral lines would be delivered to the plant locations through detachable hoses. This option includes travel into the project area from the staging areas by ATV to the hose attachment points along the lateral lines. Watering of individual plants in the vicinity of the hose attachment points would be conducted by a worker on foot. All travel associated with irrigation would be along the designated access routes and lateral lines. The ATV travel in the project in Alternative 4 is comparable to that in Alternative 3 and is approximately 80 percent as compared to the proposed project / proposed action. At locations where the access route crosses irrigation lines, temporary protective covers would be placed over the piping to allow travel over the system and prevent damage to the irrigation system. There would be approximately 124 total crossings of the irrigation lines (with 62 crossings of the 2-inch distribution laterals and 62 crossings of the 4-inch transmission line).

In Alternative 4, the water trucks would be temporarily staged at the designated turnouts during times of active watering. Three turnouts would be established along the west side of SR 136 for water truck staging. The water trucks would be parked off-site at night and on weekends, at the Fault Test Well site, or other existing parking or staging area in the vicinity of Owens Lake. Since the turnouts along SR 136 are higher in elevation than the entire dust control project, the system would be gravity fed and no booster pumps and engines would be required. Following the completion of each irrigation event the irrigation system would be drained of water. Each distribution lateral will have a drain valve installed. Approximately 200 gallons of water will be drained from each lateral in a manner to prevent flows off of the project area.

2.2.6 Alternative 5, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via KCSD Water Well / Pipeline to Irrigation System and Selected Manual Watering

Alternative 5 integrates refinements to the proposed project / proposed action that resulted from lessons learned from the pilot study that was undertaken by the District to assess the feasibility of the proposed project / proposed action and to address concerns that were raised by representatives of the Native American tribes during the consultation that was undertaken pursuant to Section 106 of the National Historic Preservation Act. Under Alternative 5, the dust control measures would be the same as the proposed project / proposed action. In Alternative 5, water obtained from the KCSD well would be transported to the site via a temporary pipeline that connects into the KCSD water system near the KCSD well site. Water would be supplied directly to the temporary irrigation system from the KCSD, in lieu of the District's Fault Test well. As with Alternatives 3 and 4, Alternative 5 would include a temporary aboveground irrigation system installed within the 95-percent control level area to provide water to the project area. The irrigation system will require the use of one small electric booster pump to achieve sufficient water pressure. Plants within the 85-percent control area would be watered by hand using the same method as described above. The ATV mounted tanks would be filled with water from the delivery system within the project. Figure 2.2.6-1, *Alternative 5, Manual Watering and Irrigation Schematic with KCSD Well*, provides a map of the temporary irrigation system for Alternative 5.

The pipeline would be routed under SR 136 using directional drilling under the existing roadway to avoid impacts to SR 136. In order to install the pipe under the SR 136, a temporary disturbance of approximately 50-feet by 50 feet on each side of the road would be required for the drilling

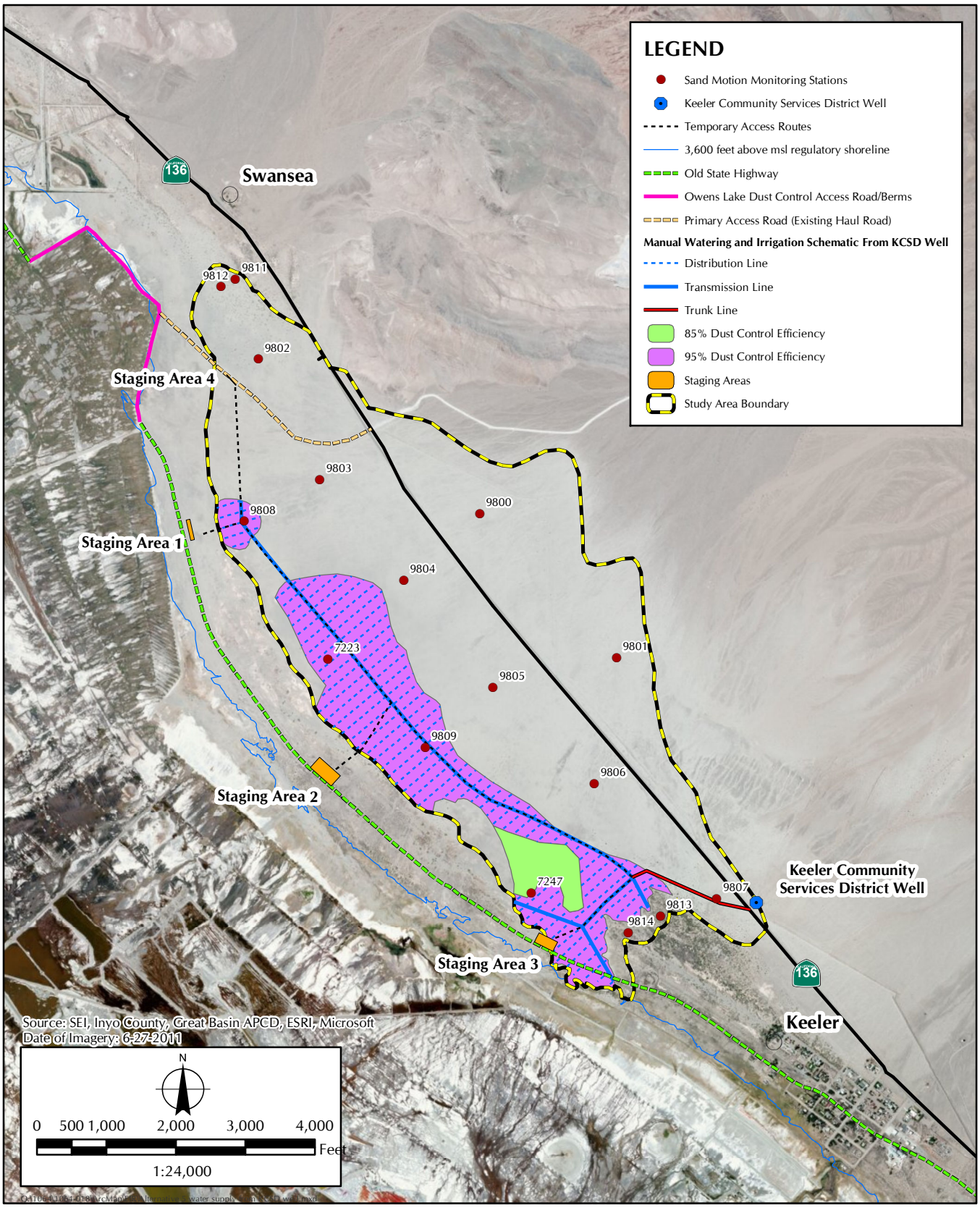


FIGURE 2.2.6-1

Alternative 5, Manual Watering and Irrigation Schematic From KCSD Well

equipment. In order to have sufficient water pressure in the irrigation system, a small 2-3 horsepower electric pump may be used near the KCSD well.

As in Alternatives 3 and 4 the temporary irrigation system would be designed such that irrigation laterals are placed every 150 feet across the site, rather than extending directly to each straw bale. The water from the lateral lines would be delivered to the plant locations through detachable hoses. This option includes travel into the Alternative 5 area by ATV from the staging areas to the hose attachment points along the lateral lines. Watering of individual plants in the vicinity of the hose attachment points will be conducted by a worker on foot. All travel associated with irrigation would be along the designated access routes and lateral lines. At locations where the access route crosses irrigation lines, temporary protective covers would be placed over the piping to allow travel over the system and prevent damage to the irrigation system. There would be approximately 124 total crossings of the irrigation lines (with 62 crossings of the 2-inch distribution laterals and 62 crossings of the 4-inch transmission line).

This option has similar mileage requirements to those in Alternatives 3 and 4 and reduces the amount of travel in the dunes by approximately 80 percent as compared to the proposed project / proposed action. Since Alternative 5 would deliver water directly to the site via a water line from the KCSD system, there would be no water trucks required to support the irrigation efforts. In the absence of water trucks, this alternative would reduce vehicle miles traveled by approximately 628 miles per year. The duration of watering events for Alternative 5 is similar to Alternatives 3 and 4 with the initial irrigation during planting taking approximately 8 weeks to complete and each supplemental irrigation event taking approximately 5 weeks. Following the completion of each irrigation event the irrigation system would be drained of water. Each distribution lateral will have a drain valve installed. Approximately 200 gallons of water will be drained from each lateral in a manner to prevent flows off of the project area.

2.3 NO PROJECT / NO ACTION ALTERNATIVE

2.3.1 ALTERNATIVE 6, NO PROJECT / NO ACTION ALTERNATIVE

The No Action Alternative is the functional equivalent of the No Project Alternative under CEQA (CEQA Guidelines Section 15126.6(e)). Under the No Project / No Action Alternative, no DCMs would be implemented at the Keeler Dunes. During high wind events, the Keeler Dunes would continue to emit levels of windblown dust that cause and contribute to exceedances of the NAAQS and California State 24-hour standard for PM_{10} air pollution in the communities of Keeler and Swansea. In addition, under the No Project / No Action Alternative, one of the continuing dust sources in the Owens Valley Planning Area would not be remediated, contributing to noncompliance in this area and jeopardizing attainment of NAAQS for PM_{10}, as required under the 2008 SIP.

2.4 CEQA COMPARISON OF IMPACTS BY ALTERNATIVE

Table 2.4-1, *Temporary Impacts by Alternatives*, summarizes the temporary impacts of the proposed project / proposed action and each alternative. As required pursuant to CEQA, Table 2.4-2, *Comparison of Alternatives*, presents a comparison of the differences in impacts among the alternatives described in Sections 2.2 and 2.3 above. The information in Table 2.4-2 is derived from the analysis of environmental consequences presented in Section 4.0, *Environmental Consequences*.

TABLE 2.4-1
TEMPORARY IMPACTS BY ALTERNATIVES*

Proposed Project / Proposed Action or Alternatives	Staging Areas (acres)	Temporary Access Routes (acres)	Irrigation Transmission Lines (acres)	Irrigation Distribution Lines** (acres)	Temporary Impact (15% of DCM Area***	Trunk Lines (acres)	Total Temporary Impact (acres)	Total Temporary Impacts from Irrigation System (acres)	Total Temporary Impacts from Staging Areas and Access Roads (acres)
Proposed Project / Proposed Action	3.2	6	0	0	23.9	0	33.1	0	9.3
Alternative 1	3.2	6	0	0	23.9	0	33.1	0	9.3
Alternative 2	3.2	6	0	0	23.9	0	33.1	0	9.3
Alternative 3	3.2	6	0.7	23.2	0	0	33.1	8.2	9.3
Alternative 4	3.2	6	0.7	23.2	0	3	36.1	11.3	9.3
Alternative 5	3.2	6	0.7	23.2	0	0.7	33.8	9.0	9.3
Alternative 6: No Action	0	0	0	0	0	0	0	0	9.3

Notes: * Based on a 10-foot buffer on either side of all project elements except staging areas
**Temporary area impact calculations do not combine irrigation system area with temporary access route area
*** Based on coverage of project infrastructure elements such as roads and irrigation with a 10′ buffer on either side.

TABLE 2.4-2
COMPARISON OF ALTERNATIVES

Resource	Proposed Project / Proposed Action (194 acres) Water Truck / ATVs	Alternative 1 (214 acres) Water Trucks / ATVs	Alternative 2 (197 acres) Water Trucks /ATVs	Alternative 3 (194 acres) Water Trucks / Tanks PVC Irrigation System Selected Manual	Alternative 4 (194 acres) Water Trucks / Roadside PVC Irrigation System Selected Manual	Alternative 5 (194 acres) KCSD Water Well Pipeline PVC Irrigation System Selected Manual	Alternative 6 No Project / No Action
Aesthetics / Visual Resources	No effect on scenic vista; no adverse effect on substantially damaging scenic resources; no adverse effect on substantially degrading existing visual character and quality; no effect on creating a new source of light or glare. Water storage tanks would not be included in this alternative.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	No adverse effect on scenic vista; less than significant impact on substantially damaging scenic resources; no adverse effect on substantially degrading existing visual character and quality; less than significant impact on creating a new source of light or glare. Water storage tanks are visible in less than one percent of the viewshed and are consistent with other public infrastructure in the vicinity of Owens Lake. The temporary PVC pipe irrigation system would be barely visible and produce a source of glare below the level of significance.	No effect on scenic vista; less than significant impact on substantially damaging scenic resources; no adverse effect on substantially degrading existing visual character and quality; less than significant impact on creating a new source of light or glare. Water storage tanks would not be included in this alternative. The temporary PVC pipe irrigation system would be barely visible and produce a source of glare below the level of significance.	No effect on scenic vista; less than significant impact on substantially damaging scenic resources; no adverse effect on substantially degrading existing visual character and quality; less than significant impact on creating a new source of light or glare. Water storage tanks would not be included in this alternative. The temporary PVC pipe irrigation system would be barely visible and produce a source of glare below the level of significance.	No effect on visual resources would occur as the proposed project / proposed action would not be implemented. Existing impacts of dust on aesthetics would not be alleviated because DCMs would not be implemented.

TABLE 2.4-2
COMPARISON OF ALTERNATIVES, *CONTINUED*

Resource	Proposed Project / Proposed Action (194 acres) Water Truck / ATVs	Alternative 1 (214 acres) Water Trucks / ATVs	Alternative 2 (197 acres) Water Trucks /ATVs	Alternative 3 (194 acres) Water Trucks / Tanks PVC Irrigation System Selected Manual	Alternative 4 (194 acres) Water Trucks / Roadside PVC Irrigation System Selected Manual	Alternative 5 (194 acres) KCSD Water Well Pipeline PVC Irrigation System Selected Manual	Alternative 6 No Project / No Action
Air Quality	There will be an overall reduction in PM_{10} emissions as a result of the proposed project / proposed action. PM_{10} impacts due to construction would be less than significant and sensitive receptors would not be adversely affected by emissions. PM_{10} impacts during operation would be less than significant.	There will be an overall reduction in PM_{10} emissions as a result of Alternative 1. PM_{10} impacts due to construction would be less than significant and sensitive receptors would not be adversely affected by emissions. PM_{10} impacts during operation would be less than significant.	There will be an overall reduction in PM_{10} emissions as a result of Alternative 2. PM_{10} impacts due to construction would be less than significant and sensitive receptors would not be adversely affected by emissions. PM_{10} impacts during operation would be less than significant.	There will be an overall reduction in PM_{10} emissions as a result of Alternative 3. PM_{10} impacts due to construction would be less than significant and sensitive receptors would not be adversely affected by emissions. PM_{10} impacts during operation would be less than significant. There is an 80 percent reduction in ATV trips during operation than the proposed project / proposed action.	There will be an overall reduction in PM_{10} emissions as a result of Alternative 4. PM_{10} impacts due to construction would be less than significant and sensitive receptors would not be adversely affected by emissions. PM_{10} impacts during operation would be less than significant. There is an 80 percent reduction in ATV trips during operation than the proposed project / proposed action.	There will be an overall reduction in PM_{10} emissions as a result of Alternative 5. PM_{10} impacts due to construction would be less than significant and sensitive receptors would not be adversely affected by emissions. PM_{10} impacts during operation would be less than significant. There is an 80 percent reduction in ATV trips during operation than the proposed project / proposed action. No water trucks are required; thus, eliminating vehicle miles traveled for water trucks to and from the proposed project / proposed action site.	No effect on air quality; however, the No Project / No Action Alternative does not accomplish the proposed project / proposed action's goals and objectives for reducing PM_{10} emissions to meet NAAQS and California state standards.
Biological Resources	No effect on state-designated sensitive habitats; no expected impacts to rare, threatened, or endangered species pursuant to the Federal ESA and California ESA; no expected impacts to sensitive species designated as species of special concern by the CDFW or designated as sensitive species by the BLM; no expected impacts to locally important species; no expected impacts to federally protected wetlands pursuant to Section 404 of the CWA; no expected impacts to migratory routes or nursery sites; no expected impacts to local policies related to threatened or endangered species; no effect on an adopted Habitat Conservation Plan and/or Natural Community Conservation Plan.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	No effect on biological resources would occur as the proposed project / proposed action would not be implemented.
Cultural Resources	No adverse effect on culturally sensitive areas associated with historical resources; no expected impacts to archaeological resources; no adverse effect on paleontological resources; no adverse effect on sacred sites or human remains .	Same as would occur for the proposed project / proposed action	Same as would occur for the proposed project / proposed action	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	Cultural resources would continue to be impacted as a result of the continued movement of the sand in the dunes

TABLE 2.4-2
COMPARISON OF ALTERNATIVES, *CONTINUED*

Resource	Proposed Project / Proposed Action (194 acres) Water Truck / ATVs	Alternative 1 (214 acres) Water Trucks / ATVs	Alternative 2 (197 acres) Water Trucks /ATVs	Alternative 3 (194 acres) Water Trucks / Tanks PVC Irrigation System Selected Manual	Alternative 4 (194 acres) Water Trucks / Roadside PVC Irrigation System Selected Manual	Alternative 5 (194 acres) KCSD Water Well Pipeline PVC Irrigation System Selected Manual	Alternative 6 No Project / No Action
Geology and Soils	No adverse effect related to surface fault rupture; no adverse effect from strong seismic ground shaking; no adverse effect from seismic related ground failure, including liquefaction; no adverse effect from seismically induced landslides; no adverse effect related to a substantial increase in soil erosion or loss of topsoil beyond that which occurs in the existing condition; no adverse effect related to the location of the proposed action on a geologic unit that is unstable or that would become unstable as a result of the proposed action.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	No effect on geology and soils would occur as the proposed project / proposed action would not be implemented.
Greenhouse Gases / Global Climate Change	GHG emissions resulting from construction and operation of the proposed action would be consistent with CEQ's guidance and would be below the level of significance.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action with an 80 percent reduction in ATV trips than the proposed project / proposed action.	Same as would occur for the proposed project / proposed action with an 80 percent reduction in ATV trips than the proposed project / proposed action.	Same as would occur for the proposed project / proposed action with an 80 percent reduction in ATV trips than the proposed project / proposed action, and the elimination of vehicle miles traveled for water trucks.	No effect on GHG and global climate change would occur as the proposed project / proposed action would not be implemented.
Hydrology	No adverse effect under CEQA and CEQ related to violation of water quality standards or waste discharge requirements during construction and operation; no adverse effect related to altering the existing drainage pattern of the site or project study area that would result in substantial erosion or siltation either off-site or on-site; no adverse effect to hydrology and water quality related to groundwater; no adverse effect to hydrology and water quality in relation to the 100-year flood zone; no impact related to in inundation by a seiche, tsunami, or mudflow.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	No effect on hydrology would occur as the proposed project / proposed action would not be implemented.
Land Use and Planning	No conflicts with applicable plans (FLPMA, Inyo County General Plan).	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed action.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	No effect on land use would occur as the proposed project / proposed action would not be developed.

TABLE 2.4-2
COMPARISON OF ALTERNATIVES, *CONTINUED*

Resource	Proposed Project / Proposed Action (194 acres) Water Truck / ATVs	Alternative 1 (214 acres) Water Trucks / ATVs	Alternative 2 (197 acres) Water Trucks /ATVs	Alternative 3 (194 acres) Water Trucks / Tanks PVC Irrigation System Selected Manual	Alternative 4 (194 acres) Water Trucks / Roadside PVC Irrigation System Selected Manual	Alternative 5 (194 acres) KCSD Water Well Pipeline PVC Irrigation System Selected Manual	Alternative 6 No Project / No Action
Recreation	No adverse effect on the use of existing neighborhoods and regional parks or other recreational facilities such that physical deterioration of the facility would occur or be accelerated; no effect on the construction or expansion of recreation facilities, which might have an adverse physical effect on the environment.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	No effect on recreation would occur as the proposed project / proposed action would not be developed.
Transportation and Traffic	No conflicts with applicable circulation plan, ordinance or policy; no impact with regard to an increase in traffic or level of service relative to an Inyo County threshold; no effect related to a change in air traffic patterns; potentially adverse effect due to turning vehicles or heavy trucks transporting materials to the site causing a possible safety hazard and potential damage to roadways from site-related equipment.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action.	Same as would occur for the proposed project / proposed action with an 80 percent reduction in ATV trips than the proposed project / proposed action.	Same as would occur for the proposed project / proposed action with an 80 percent reduction in ATV trips than the proposed project / proposed action.	Same as would occur for the proposed project / proposed action with an 80 percent reduction in ATV trips than the proposed project / proposed action, and the elimination of vehicle miles traveled for water trucks.	No effect on transportation and circulation would occur as the proposed project / proposed action would not be developed.

Note: *Assumptions for calculations:

Given:
Number of bales – 123,185
Number of plants – 369,555

Assumed:
Tank on ATV trailer can safely haul ~150-200 gallons of water
Each ATV trip can water ~50 bales (apply ~3 gallons per bale)
Estimate of average mileage per ATV trip: ~1.0 +
Number of trips per day: ~5 (watering ~250 bales per day)

2.5 CEQA ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be selected among the alternatives analyzed in the EIR. When the No Project / No Action Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the action alternatives (CEQA Guidelines Section 15126.6(e)(2)). In general, the environmentally superior alternative is defined as that alternative with the least adverse impacts to the project area and its surrounding environment.

The District has identified Alternative 5 as the environmentally superior alternative. Alternative 5 would meet the project objectives specified in Section 1.4.1, *District*. Alternative 5 would reduce the levels of windblown dust and attain the NAAQS and California State standard for particulate matter (PM_{10}) air pollution in the communities of Keeler and Swansea. Alternative 5 was developed with consideration of the resources located in the Keeler Dunes and is designed to avoid and/or minimize impacts to the maximum extent possible. Overall, Alternative 5 was identified as the environmentally superior alternative because it significantly reduces the vehicle miles traveled for the ATVs and eliminates the need for water trucks hauling water to the project, thus minimizing the amount of time required within the dunes and disturbance of the dunes in the vicinity of environmentally sensitive resources. Alternative 5 also removes the need to place three 20,000-gallon water tanks at the staging area, which was a concern articulated by the Native American representatives during the Section 106 Consultation. The end result of Alternative 5 would be a natural landscape similar to the Swansea Dunes, a comparable environment located to the north that is generally non-emissive, self-sustaining and maintained with minimal resources.

2.6 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

A variety of potential proposed project / proposed action alternatives were dropped from further consideration because they would not be capable of meeting most of the basic objectives of the proposed project / proposed action. The BACMs that were applied to the lake bed of Owens Lake would provide an effective means of controlling dust and achieving the NAAQS and California 24-hour standard for PM_{10} emissions. However, the source area for the emissions is characterized by sensitive cultural resources, the conservation of which is incompatible with gravel, shallow flooding, and managed vegetation. Each of the BACMs used at the bed of Owens Lake requires substantial ground disturbance that would be incompatible with the District's objectives for the proposed project / proposed action, which include conservation and management of the environmentally sensitive resources that characterize the site. Therefore, the District engaged in a process of exploring alternative methods for controlling emissions. DCMs that were evaluated and eliminated from detailed analysis included spreading of geotextile fabric overlain with gravel on emissive areas, excavation and removal of the sand dunes and spraying of emissive areas with water or other dust suppressing substances.[37]

[37] Sapphos Environmental, Inc. November 2011. *Preliminary Constraints Analysis for the Keeler Dunes Dust Control Project*. Prepared for: Great Basin Unified Air Pollution Control District, Bishop, CA. Pasadena, CA.

2.6.1 GEOTEXTILE FABRIC AND GRAVEL

Placement of Geotextile Fabric over the Entire Keeler Dunes Area and Trucking In Gravel to Place on Top of the Fabric Up to 2 Inches Deep

This DCM would entail placing a permeable geotextile fabric over the entire Keeler Dunes area and covering the surface with 2 to 4 inches of gravel to control dust. This DCM would require geotextile fabric to cover up to approximately 200 acres of emissive deposits and between 53,000 and 106,000 cubic yards of gravel. Placing geotextile fabric over the entire proposed action site would be expected to result in significant impacts related to several resource issues. The aesthetics of the proposed project / proposed action site would be affected due to changes in the color and texture of the dune area. Temporary air quality impacts during gravel distribution could be minimized with mitigation measures. This alternative would have a significant impact related to biological resources due to loss of habitat. Cultural resources that occur in the area would be adversely affected by the implementation of the DCM. Also, recreational use of the project area would be restricted to protect the DCMs from damage. Due to these significant impacts, this DCM was eliminated from detailed analysis.

2.6.2 EXCAVATION AND REMOVAL

Excavation and Removal of Emissive Sand Deposits and Disposal

This DCM would entail removal of approximately 200 acres of emissive sand deposits at the Keeler Dunes by excavation and transportation to a disposal site. This alternative would utilize heavy construction equipment, such as backhoes, front loaders, and dump trucks, for removal of the sand deposits down to the underlying alluvial fan surface. The volume of the emissive deposits is approximately1.8 million cubic feet).[38] Removal of the emissive dune deposits would require extensive excavation activity over approximately 200 acres and would also necessitate the building of roadways to haul the material away. The emissive sand deposits would be removed down to the topographic surface of the Keeler alluvial fan where feasible. Removal of the sand deposits in the Keeler Dunes would result in significant impacts for several resource issues, particularly biological resources, specific cultural resources, and air quality. In addition, the effectiveness and feasibility of this alternative in removing all sand responsible for fugitive dust emissions at the proposed project / proposed action site is likely infeasible, and the alternative was eliminated from detailed analysis.

2.6.3 SPRAYING EMISSIVE SAND DEPOSITS

Spraying of the Entire Emissive Keeler Dunes Area through the Use of Irrigation Sprayers that Wet the Sand with Water or Another Dust-Suppression Substance Conveyed in a Water Solution

This DCM would entail spraying of the entire emissive Keeler Dunes area through irrigation sprayers that wet the sand with water or another water-based dust-suppression substance to control windblown dust, particularly during high wind events. Experience from implementation of sand-wetting DCMs at Owens Lake indicates that wetting would need to occur frequently to be effective

[38] HydroBio, Advanced Remote Sensing. 20 January 2011. "Keeler Dunes Sand Volume: A LIDAR GIS Analysis." PowerPoint Presentation. Santa Fe, NM. Available at: http://www.gbuapcd.org/keelerdunes/presentations/SandVolumeAssessment.pdf

in reducing dust emissions to the PM_{10} standard. This alternative would maintain the dunes in their existing natural state, may increase the vegetative cover, and would provide some benefit toward slowing dune migration. Spraying would need to be conducted on a regular basis to be effective and would require a long-term water supply. Spraying water or other water-conveyed dust-control substance onto the sand deposits during high wind events would impact the aesthetics of the proposed project / proposed action area, which would be permanently changed due to the installation of an irrigation type system for spraying of water. These structures would be visible primarily to recreationalists using the dunes. Air quality impacts would occur during long-term maintenance of the irrigation system, resulting in numerous vehicle trips over the years of operation. A long-term source of water would be needed for this DCM, and a water supply-and-demand study would be required to define potential constraints related to water resources available in the area. The potentially greatest impacts would be to cultural resources that may be buried in the dunes area. The potentially frequent application of water may negatively alter cultural resources by physically and chemically damaging subsurface cultural deposits. Due to these potential impacts, this alternative was eliminated from detailed consideration.

2.7 INTENDED USES OF THE EIR/EA / AUTHORIZING ACTIONS

Due to the project's partial location on federal land, two agencies have jurisdiction. In order to meet the NAAQS in the OVPA, including the communities of Swansea and Keeler, the 2008 SIP requires that dust control measures be implemented in the Keeler Dunes.[39,40,41,42] Pursuant to the 2013 Agreement with the LADWP, the District has agreed to implement the specified dust control measures. The District serves as the Lead Agency pursuant to CEQA. The need for an ROW permit makes the BLM Lead Agency pursuant to NEPA. Although the BLM is a co-lead agency, the project will be implemented by the District.

2.7.1 DISCRETIONARY ACTIONS AND APPROVALS

The District is the lead state agency for the proposed project / proposed action. The District's Governing Board will consider certification of the EIR/EA and is authorized to render a decision on the proposed project / proposed action. Pursuant to CEQA, the proposed project / proposed action will require the following District actions.

2.7.1.1 CERTIFICATION OF THE FINAL EIR

After the required public review for the Draft EIR/EA, the District shall respond to written comments and produce a Final EIR/EA to be considered for certification by the District's Governing

[39] Calif. Health and Safety Code Section 40000. A finding from the Calif. Legislature that local authorities have the primary responsibility for control of air pollution from ALL sources, except motor vehicles

[40] CHSC 40001. Sub sec (a). District shall adopt and enforce rules and regulations to achieve and maintain state and federal air quality standards in ALL areas affected by emission sources under their jurisdiction. Sub sec (b). District regulations may provide for the prevention and abatement of air pollution episodes that cause discomfort or health risk or damage to the property of a significant number of persons

[41] CHSC 42450. The District board may, after notice and public hearing, issue an order for abatement whenever it finds any person…is in violation of…an order, rule or regulation prohibiting or limiting the discharge of air contaminants into the air.

[42] District Rule 401. A person shall take reasonable precautions to prevent visible particulate matter from being airborne, under normal wind conditions, beyond the property from which the emission originates.

Board. The District will consider approval of CEQA Findings pursuant to CEQA Guidelines Section 15091.

2.7.1.2 MITIGATION MONITORING AND REPORTING PROGRAM

The proposed project / proposed action and proposed project / proposed action alternatives that were carried forward for detailed analysis were designed to avoid significant impacts that would generate the need for mitigation.

2.7.1.3 BLM GRANT OF ROW

The portion of the proposed project / proposed action and proposed project / proposed action alternatives located on federal land would require ROW approval by the BLM to allow implementation of the DCMs.

2.7.2 DISCRETIONARY ACTIONS AND APPROVALS BY OTHER AGENCIES

Specific project elements may be subject to additional permits as described but not limited to in Table 2.7.2-1, *Permit Requirements*.

TABLE 2.7.2-1
PERMIT REQUIREMENTS

Agency	Permit	How to Obtain the Permit
Federal		
U.S. Department of the Interior, BLM	Temporary and permanent ROW grants on federal lands	The project proponent would be required to submit an application for Transportation and Utility Systems and Facilities on Federal Lands (Form 299) Plan of Activity to implement dust control measures on lands controlled by the BLM
Regional		
California RWQCB	Section 401 Water Quality Certification and Waste Discharge Requirements / Monitoring Reporting Plan	The project proponent would be required to submit a request for Water Quality Certification, and a SWPPP would have to be prepared
Caltrans	Encroachment	The project proponent would be required to submit an application for an encroachment permit from Caltrans District 9
County of Inyo	A permit for pumping of groundwater may be required	Groundwater extraction is regulated by the Water Department per the 1980 Groundwater Ordinance
Los Angeles Departement of Water and Power	Lease Agreement	The project proponent would be required to obtain a lease agreement from the LADWP.
Keeler Community Services District agreement to use well water	Well Water Use Agreement	The project proponent would be required to obtain permission from the KCSD to use well water for the project.