APPENDIX M

Mitigation Monitoring and Reporting Program

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Mitigation Monitoring and Reporting Program Mitsubishi Cement Corporation South Quarry Project County of San Bernardino

	Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
Air Qua	llity				
AIR-1:	 Within three years after the commencement of mining in the South Quarry, or whenever the total quarry haul truck operating horsepower-hours/year reach 6 million per year, whichever is later, the applicant shall: (1) Add to its fleet no fewer than five quarry haul trucks meeting Tier 4 standards; and (2) Retire all remaining Tier 0 quarry haul trucks. "Tier 0" and "Tier 4" refer to those terms as defined by the CARB off-road diesel rule, CCR Title 13 Sections 2449-2449.3. For the purposes of this condition, "mining" shall not include the construction of the South Quarry Road. 	Within three years of commencement of mining in the South Quarry OR Whenever the total quarry haul truck operating horsepower- hours/year reach 6 million per year Whichever is later	Require as Condition of Approval by County	County Land Use Services Department MDAQMD Project Applicant	Applicant to record and report horsepower- hours/year to the County until mitigation action is triggered. Compliance shall be demonstrated and verified through periodic inspections by the County and MDAQMD.
AIR-2:	Every day of active mining, the Project proponent shall apply water to unpaved roads and disturbed mine areas that are in active use on that day no less than once every 1.25 hours at a rate of no less than 0.11 gallons per square yard. Alternatively, the Project proponent shall	Daily during active mining	Require as a Condition of Approval by County	County Land Use Services Department MDAQMD	Compliance shall be demonstrated and verified through periodic inspections by the County and MDAQMD.

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apply chemical dust suppressants to unpaved road and disturbed mine areas in active use at a frequency and application rate in accordance with manufacturer specifications.			Project Applicant	
Biological Resources				
 GEN-1: MCC shall minimize disturbance or hazards to surrounding vegetation, habitat, and wildlife, such as toxic substances, dust, noise, and lighting, as follows: a. New lighting shall be established at the minimum necessary to meet safety requirements, and shall be shielded to avoid lighting the surrounding habitat and the night sky; b. Except as necessary to survey or maintain the safety of the mine site, the Project's disturbance footprint shall be limited to areas designated for mining and related activities; c. Equipment staging areas and other construction or related habitat disturbance shall be limited to areas within the new or existing quarry footprint(s) and shall be designed and operated to the goal of minimizing impacts to adjacent habitat and sensitive biological resources; 	At all times during construction and operation of the South Quarry and haul road.	Require as a Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance with GEN-1(d) shall be demonstrated by conferring with USFS as necessary. Compliance with GEN-1(k) shall be documented by approval of any necessary Streambed Alteration Agreement by CDFW.

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d.	Any rock stain for scenic mitigation or soil bonding or wetting agents to be used for dust control on unpaved surfaces shall be non-toxic to wildlife and plants and non-attractants for wildlife. If staining, wetting or soil bonding agents appear to be attracting wildlife to the roadways (e.g., by pooling or creating mineral licks), the mining operator will work with the Forest Service to develop remedies;				
e.	All vehicles and equipment shall be maintained in proper working condition to minimize the potential for spill of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. Spills will be cleaned up as quickly as possible;				
f.	All trash and food-related waste shall be secured in self-closing animal-proof containers and removed daily from the site;				
g.	Only authorized agency or security personnel (including the California Department of Fish and Wildlife [CDFW], USFWS, and Forest Service) shall bring firearms or weapons to the site.				

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h.	No recreational target shooting will occur on Forest Service lands within the permit area.				
i.	Standard erosion control measures commensurate with those typically required in an Industrial Stormwater Pollution Prevention Plan for a limestone surface mining operation shall be implemented for all phases of construction and operation where sediment run-off from exposed slopes may enter native soils or habitat or jurisdictional streambeds;				
j.	Disturbed soils and roads within the project site shall be stabilized to reduce erosion potential; and				
k.	For drainages that cannot be avoided, MCC shall obtain a Streambed Alteration Agreement in compliance with Section 1602 of the California Fish and Game Code and an application for waste discharge requirements (WDRs) or a waiver of WDRs in compliance with Section 13260 of the California Water Code, as applicable prior to the issuance of a grading permit. Impacts to waters of the State shall be mitigated by replacement on an in-kind basis. Compensatory mitigation will be commensurate with impacts and may				

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	consist of establishing restoring, and preserving similar on-site habitat, and/or purchasing off-site credits from an approved mitigation bank.				
GEN-2:	<i>Employee Training:</i> MCC shall conduct wildlife/plant awareness programs for employees (including new employee orientation and annual refresher trainings). The program will address bighorn sheep, desert tortoise, golden eagles, rare reptiles/amphibians, other animals of the area, and rare plants. This will include the importance of avoiding harassment/disturbance, adherence to speed limits, adherence to defined project boundaries, reporting guidelines, discouraging ravens and other scavengers, etc. Specific items as described in the employee education component of the North Slope Bighorn Conservation Strategy, Raptor Conservation Strategy, and the desert tortoise design features below will be included in the training. MCC will solicit input from CDFW and USFS in developing the training program.	During construction and operation of the South Quarry and haul road	Require as a Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be demonstrated by Project Applicant's solicitation of input from USFS and CDFW to develop training materials.
GEN-3:	<i>Fencing</i> : MCC shall identify likely or potential wildlife movement routes across or around the site and then avoid or minimize potential impediments to wildlife	During fencing construction	Require as a Condition of	County Land Use Services Department	Compliance shall be demonstrated and verified

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	movement by fencing only those areas where access must be restricted for safety or security reasons.		Approval by County	County Building and Safety Department	through periodic inspections by the County.
	In the event fencing is necessary during construction and/or extraction activities, project personnel shall ensure that any such fence meets existing specifications that have been developed to preclude accidental entanglement of bighorn sheep, deer, and other animals. Biologists from the USFS and CDFW will be consulted for appropriate fence guidelines. Where this Design Feature conflicts with Mine Safety and Health Administration guidelines, attempts will be made to meet the intention of both. Where that is not possible, Mine Safety and Health Administration guidelines will be applied.			Project Applicant	Compliance will be further demonstrated by constructing fencing in compliance with measure and conferring with USFS and CDFW biologists pursuant to mitigation measure.
GEN-4:	<i>Reclamation:</i> Reclamation of the South Quarry shall include the creation of angled pathways and interlacing reclaimed benches in order to facilitate the movement of bighorn sheep and other wildlife through the quarries. These benches will be created as the mining sequence is completed and prior to restoration. The design of the benches shall be coordinated with Forest Service and/or CDFW biologists. Forest Service and CDFW biologists shall have 60	During reclamation	Require as a Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will also be demonstrated by Project Applicant's solicitation of input from USFS and CDFW pursuant to mitigation measure.

	Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
	days to comment on the proposed bench design.				
GEN-5:	Haul Road Crossings: The final design and construction of the haul road shall ensure movement pathways for wildlife, including bighorn sheep, deer, and small mammals between the existing East and West Pits and the proposed South Quarry. This will include terracing or stair-stepping or micro- benches of steep and vertical cuts, especially at strategic crossing locations. Design and construction of the haul road shall be completed in coordination with CDFW and Forest Service biologists. A study to analyze the efficacy of long-term mammal usage of the haul roads shall be designed in consultation with CDFW and Forest Service biologists and shall be implemented by MCC within one year of construction of the haul road. The objective of the study will be to analyze the efficacy of the measures intended to prevent a movement barrier and address corrective measures through adaptive management, if needed.	During design and construction of the haul road	Require as a Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will also be demonstrated by Project Applicant's solicitation of input from USFS and CDFW pursuant to mitigation measure. Project Applicant will confer with USFS and CDFW to design efficacy study and will maintain record of study to provide to County, USFS, and CDFW upon request.
GEN-6:	<i>Pets and Domestic Animals</i> : MCC employees shall not bring pets or domestic animals to the work site. MCC will not	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department	Compliance shall be demonstrated and verified through periodic inspections by the County.

	Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
	authorize the housing or grazing of domestic animals on the project site.			Project Applicant	
GEN-7:	<i>Feeding Animals:</i> Feeding of animals will be prohibited to discourage the spread of non-native birds, to discourage the spread of disease and pathogens, etc.	At all times during construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
GEN-8:	Mine operators will maintain facilities and grounds in a manner that minimizes any potential impacts to hunting or scavenging raptors and other predators/scavengers (e.g., minimize storage of equipment near active quarries that may attract prey, remove trash/garbage daily, etc.). All trash and food-related waste shall be secured in self-closing animal-proof containers and removed daily from the site. MCC shall avoid practices that attract/enhance prey populations and opportunities for raptor hunting or scavenging near active quarries, haul roads, and processing areas. This would also help discourage the spread of non-native birds and discourage the spread of disease and pathogens, etc.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County .
GEN-9:	To reduce vehicle collision risk to raptors and other scavengers, intact animal carcasses (with the exception of bighorn sheep and deer) will be removed	During construction and operation of the	Require as Condition of	County Land Use Services Department	Compliance shall be demonstrated and verified

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	immediately from mine roads and mining areas. Carcasses will be removed far enough away from roads and active mining areas that scavengers would not be in danger of vehicle collision or other mining- related hazards. Bighorn sheep and deer carcasses shall be covered with a tarp and left in place until the CDFW or Forest Service biologist is notified and provides direction. As much as is feasible, care will be taken to avoid disturbing the area around the carcass to preserve predator tracks, parasites, etc.	South Quarry and haul road	Approval by County	Project Applicant	through periodic inspections by the County. Compliance will also be demonstrated by Project Applicant's coordination with USFS and CDFW pursuant to mitigation measure.
GEN-10:	<i>Disturbance Avoidance</i> : MCC employees and contractors will not use MCC roads in order to access National Forest lands for recreation or hunting. Access for personal use will be through National Forest system roads and trails that are open to the general public.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
GEN-11:	<i>Blasting:</i> Prior to blasting activities within the project area, designated mine employees trained by CDFW and/or Forest Service biologists shall conduct a visual inspection (both naked eye and with binoculars or spotting scope) for a minimum of five minutes to ascertain the presence or absence of bighorn sheep, deer, golden eagles, peregrine falcons, or other large animals. If animals are located within	Prior to all blasting activities during the construction and operation phase of rock excavation	Require as Condition of Approval by County	County Land Use Services Department Project Applicant- trained mine employees	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will also be demonstrated by Project Applicant's coordination with USFS and CDFW

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	the blast area, mine employees shall wait until animals have moved from the area before initiating blast procedures. The designated mine employee may use noise deterrents (e.g. shouts, vehicle, or air horns), to move them out of the blast area prior to detonation of any blasting materials. The blasting log will be available upon request by CDFW and Forest Service personnel.				pursuant to mitigation measure.
GEN-12:	 <i>Biomass Disposal:</i> All woody vegetation to be cleared from the surface (quarry site, haul road, etc.) will be disposed of as follows: a. Small size vegetation and organic material (stems less than 6 inches in diameter) will be applied to inactive quarry benches, overburden piles, and on sidecast areas along roads and quarries. Material may be chipped and/or stockpiled prior to use. Stockpiling and use should be done as part of phased reclamation to minimize stockpile duration and associated weed risk. b. All wood greater than 6 inches in diameter will be either reduced to less than 6 inches and applied as described in GEN-12a or removed from the site and decked by MCC at a location to be 	During construction and operation of both the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will also be demonstrated by Project Applicant's coordination with USFS pursuant to mitigation measure.

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	determined by the Forest Service. The decked wood will be sold to the public by the Forest Service.				
GEN-13:	The BLM's withdrawal of approximately 540.4 acres of land from mineral entry and MCC's quit-claim of specified unpatented mining claims (discussed in EIR/EIS Section 1.6 and Section 3.2.4.2) is also designed to mitigate for the loss of pinyon-juniper woodland and desert transition habitats as wildlife habitat.	Prior to project construction and implementation	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance will be demonstrated to County and USFS through documentation of withdrawal.
GEN-14:	The current regular groundwater monitoring program within the general MCC Cushenbury operating area will continue through the life of the project (South Quarry Operating Plan and Reclamation Plan). MCC will continue to submit a report regarding the monitoring to the Forest Service and the County at least annually. If this regular report indicates a change in groundwater levels, use, or recharge rates that may pose a substantial threat to surface water and wetland vegetation at Cushenbury Springs, or if unusual vegetation mortality is observed at the wetlands, a pump test will be performed for all wells supplying the Cushenbury Cement Plant and associated monitoring wells to determine if there has been a change in the groundwater basin between	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance will be demonstrated through Project Applicant's submittal of reports to County and USFS, at least annually. Compliance will also be demonstrated by Project Applicant's coordination with USFS and County pursuant to mitigation measure. Documentation demonstrating compliance to be maintained by Project

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	the subject wells and Cushenbury Springs. If there are future adverse changes to water quantity, seasonal duration of surface flow, or extent of wetland vegetation related to the project, MCC will respond to minimize these effects. Future minimization actions may include, but are not limited to, water conservation programs and shifts in the usage of various available water sources.				Applicant pursuant to mitigation measure and provided to County, USFS, and CDFW upon request.
GEN-15:	Due to the long life of the proposed Project (40 or 120 years plus reclamation), monitoring of effects to wildlife, plants, and water resources, including at Cushenbury Springs, shall be conducted as described in Design Features/Mitigation Measures GEN-2, GEN-4, GEN-5, GEN- 11, GEN-14, BHS-2, BHS-4, BHS-6, BIRD-1, BIRD-2, RAPTOR-1, RAPTOR- 2, RAPTOR-3, DETO-1, NNS-1, NNS-3, CARB-1, and the Raptor Conservation Strategy, Carbonate Habitat Conservation Strategy, and Bighorn Sheep Conservation Strategy. At a minimum of every 10 years for the life of the project, the Forest Service and CDFW will review the monitoring efforts to address changes in the scale and scope of predicted effects. The objective is to use adaptive management to adjust Design Features/Mitigation Measures and strategy plans in the light of new information, new species of concern, and/or	At a minimum of every 10 years for the life of the project	Require as Condition of Approval by County	County Land Use Services Department USFS CDFW Project Applicant	Compliance verified through USFS and CDFW periodic review, at least every 10 years.

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	new mining technology. If effects to federal or state protected species are determined to be different than the predicted effects, appropriate steps shall be taken, which may include but are not limited to development of new or adjusted Design Features/Mitigation Measures or best management practices to ensure avoidance of "take".				
Bighorn	Sheep				
BHS-1:	<i>Foraging Habitat:</i> When trucks spray water on haul roads to control fugitive dust, some overspray occurs on road berms for a short distance beyond. Those watered areas sometimes support vegetation that bighorn sheep consume. MCC will not make an effort to eliminate the overspray. The Revegetation Plan will focus on using native species that will help enhance bighorn sheep habitat.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will also be demonstrated through Revegetation Plan.

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BHS-2:	<i>Water Developments:</i> In the event that bighorn sheep abandon the use of one or more water developments as a result of disturbance associated with the development of the South Quarry, MCC shall create additional water development(s) after consulting with appropriate agency personnel (Forest Service and CDFW) to select location(s) for additional water development(s). MCC shall ensure that any existing water development(s), as well as any created as part of the Design Features/Mitigation Measures, are maintained in good operating condition for the duration of the project.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be demonstrated by Project Applicant's coordination with USFS and CDFW pursuant to mitigation measure.

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BHS-3:	<i>Reporting of Mortality:</i> MCC shall immediately report any bighorn sheep mortalities, whatever the cause, to the CDFW and Forest Service as soon as possible after the observation. The bighorn sheep carcass shall be covered and left in place until the CDFW or Forest Service biologist can examine it and determine the proper disposal method. In the event that mountain lion predation is occurring at levels that compromise the viability of the population, MCC shall cooperate fully by ensuring access to MCC properties for Forest Service and/or CDFW personnel for the purpose of determining the predator involved or, in the event that an individual predator has been identified, to remove the predator.	During construction and operation of both the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated by Project Applicant's reporting and coordination with USFS and CDFW pursuant to mitigation measure.
BHS-4:	Monitoring/Adaptive Management: MCC shall monitor bighorn sheep use in and near their operations and at water sources in and adjacent to their operations. Monitoring shall consist of installation and maintenance of cameras stationed at CDFW- and Forest Service-identified water sources and recording of data from cameras in a database developed by CDFW, as well as collection of observations by MCC employees. The North Slope Bighorn Sheep Management Strategy may identify	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be demonstrated by Project Applicant's coordination with USFS and CDFW and through implementation of the North Slope Bighorn

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	other monitoring methodologies to be developed over time. An annual monitoring report will be provided to the Forest Service and CDFW.				Sheep Management Strategy, which includes monitoring and reporting to USFS and CDFW.
BHS-5:	<i>Highway Crossing:</i> Upon obtaining the necessary approvals from Caltrans, MCC shall fund, purchase, and install highway warning signs on State Route 18. MCC shall use best efforts to obtain the Caltrans approvals necessary to install the highway warning signs on State Route 18. The intent of the signs is to avoid vehicle-strike mortality or "take" of bighorn sheep crossing the highway.	Prior to construction of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance will be demonstrated through Project Applicant's application to Caltrans for necessary approval and funding and installation of highway warning signs.
BHS-6:	<i>Conservation Strategy:</i> A Draft North Slope Bighorn Sheep Conservation Strategy will be developed by CDFW and the Forest Service. The management plan will cover the North Slope of the San Bernardino Mountains from White Mountain to Terrace Springs. The management plan shall include guidelines/thresholds for population status that would trigger augmentation of the herd; a strategy/guidelines for developing water sources to respond to drought years; and herd monitoring methodology and objectives. MCC will be a partner in the North Slope Bighorn Conservation Strategy and will help support the long-term	Plan development prior to construction of the South Quarry and haul road Plan implementation during the construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated by Project Applicant's coordination with USFS and CDFW and through implementation of the North Slope Bighorn Sheep Management Strategy, which includes

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	management goals of maintaining a sustainable population of bighorn sheep on the North Slope, as described in BHS-7.				monitoring and reporting to USFS and CDFW.
BHS-7:	<i>Future Conservation and Management:</i> Within one year after approval of the South Quarry Plan of Operations and the Reclamation Plan by the County and the Forest Service, MCC shall begin contributing to a non-wasting endowment, designated as the North Slope Bighorn Sheep Conservation Fund (Fund). The amount of MCC's contributions shall be determined by CDFW in coordination with MCC prior to final approval of the South Quarry project. The Fund shall be administered by an entity approved by the CDFW and the Forest Service, such as the National Fish and Wildlife Foundation as a sub-account of the California Department of Fish and [Game] Master Mitigation Account. The Fund shall be managed as a long-term endowment dedicated to activities that aid in conservation and monitoring of bighorn sheep both within the Cushenbury herd and on proximate habitats, occupied or unoccupied, including the Bighorn Mountains and San Gorgonio Wilderness where immigration and emigration may connect groups into a functional metapopulation.	Within one year of approval of the South Quarry Plan of Operations and the Reclamation Plan	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance will be demonstrated by Project Applicant's coordination with USFS and CDFW and through implementation of the North Slope Bighorn Sheep Management Strategy, which includes monitoring and reporting to USFS and CDFW.

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BHS-8:	<i>Employee Awareness Training:</i> MCC will consult with the CDFW to incorporate bighorn sheep education and awareness into their training for employees and contractors. Training will include how to minimize impacts to bighorn sheep and include guidelines for driving, operation of heavy equipment, general quarry operation, and blasting in bighorn sheep habitat.	During construction and operation of both the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be demonstrated by Project Applicant's coordination with CDFW pursuant to mitigation measure.
BHS-9:	Trained Mine Employee: Prior to blasting activities within the Project area, one to two mine employees shall be trained by the CDFW's or the Forest Service's biologist to ensure a minimum skill level in detection of target animals (bighorn sheep, golden eagles, etc.). The trained mine employee(s) shall be responsible for the completion of visual inspections for bighorn sheep and other species specified in GEN-11, within the Project area prior to the commencement of all blasting activities. The trained mine employee(s) shall maintain a logbook detailing the location, date, time, and species observations of each visual inspection for each blasting activity. The logbook will be available upon request by CDFW or Forest Service personnel.	Prior to blasting activities for construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be demonstrated by Project Applicant's coordination with CDFW pursuant to mitigation measure.

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BHS-10:	<i>Work Boot Decontamination.</i> As part of the worker training required under Design Feature/Mitigation Measure BHS-8 and BHS-9, all quarry workers will be trained on the importance of and procedures for decontaminating boots to prevent transmission of disease from domesticated sheep and goats to bighorn sheep. In addition, all quarry workers who have potential contact with domesticated sheep and/or goats (for example at farms, fairs, etc.) will be identified and shall decontaminate work boots prior to entering the Project area. Decontamination shall involve scrubbing the soles of work boots with a 10-percent bleach solution to remove all organic matter and kill pathogens. Alternatively, footwear may be changed to ensure that potentially contaminated footwear does not enter any quarry area.	During worker training sessions AND Prior to and during construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated by Project Applicant's implementation of worker training program.
Nesting B	birds				
BIRD-1:	<i>Migratory Bird Treaty Act Compliance:</i> During the development of the quarry, haul roads, and associated facilities, all initial ground clearing (vegetation removal, grading, etc.) shall occur outside the avian breeding season (i.e., do not remove potential nesting habitat from February 1 through August 31, or appropriate dates	During construction of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through

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	based on on-site nesting phenology determined by a qualified biologist). For initial ground clearing (vegetation removal, grading, etc.) that is not feasible to be conducted outside the nesting season, surveys will be conducted to locate active nests within 10 days of the initiation of ground-disturbing activities. Any active nest sites that are located will be buffered and no work will be conducted within those buffered areas until the nests are no longer active. The buffer distances would be determined by a qualified biologist referencing current species-specific standards, and taking into account the conservation status of the species (e.g., larger buffers may be appropriate for Sensitive species, etc.), species-specific biology, and the nature of the planned disturbance (e.g., driving past a nest versus extensive grading).				Project Applicant's nesting bird surveys and coordination with qualified biologist.
BIRD-2:	Nesting bird surveys for passerine birds, as outlined in BIRD-1, shall be conducted by a qualified biologist experienced and familiar with robust nest-locating techniques or comparable to those described by Martin and Guepel (1993). Surveys shall be conducted in accordance with the following guidelines:	Prior to construction of the South Quarry and haul road. Then, during construction of the South Quarry and haul road if a period of construction inactivity 1 week in	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's nesting bird surveys and

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a. Surveys shall cover all potential nesting habitat to be disturbed and a 500 foot buffer surrounding areas to be disturbed;	length or longer occurs			coordination with qualified biologist.
 b. At least two pre-construction surveys, separated by a minimum 10 day interval, shall be completed prior to initial grading or grubbing activity; the later survey shall be completed no more than 10 days preceding initiation of initial grading or grubbing activity. Additional follow-up surveys shall be required if periods of construction inactivity exceed one week in any given area, in interval during which birds may establish a nesting territory and initiate egg laying and incubation. Copies of the bird survey reports shall be provided to the County and the Forest Service. 				
Conservation of Special Status Raptors				
RAPTOR-1: A Raptor Conservation Strategy (RCS) will be developed in coordination with the Forest Service, USFWS, and CDFW. MCC shall provide input to the development/finalization of the RCS and shall follow the guidelines put forth in the effort. The RCS will be tailored for activities associated with mining activities and effects. Upon approval of the Plan of	Develop RCS prior to construction and operation of the South Quarry and haul road Implement RCS during construction and operation of the	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's

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Operations and the Reclamation Plan by the County and the Forest Service, MCC will participate in the implementation of the RCS by contributing to specified survey and monitoring efforts, and by following applicable operational guidelines.	South Quarry and haul road			implementation of the Raptor Conservation Strategy.
The RCS will cover the North Slope of the San Bernardino Mountains from White Mountain to Terrace Springs, and will address special status raptors (currently, golden eagle, California condor, and peregrine falcons). The RCS may be updated to include other raptors in the future if concerns develop over their local population status.				
The RCS will be a dynamic document and will be updated as new data and scientific understanding of the aforementioned species become available. It will include monitoring and information gathering, and measures to avoid, minimize, rectify, and reduce (or eliminate over time) effects to raptors nesting on the North Slope. The intent is to use systematic monitoring of raptor nesting chronology and observed behavior to develop site- and activity- specific measures to ensure successful nesting and provide for adaptive management opportunities.				

Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
RAPTOR-2: If an occupied nest for a federally-protected species, a California-listed species, or a California fully-protected species is found within 1.5 miles of an active quarry operation, the Forest Service will determine if additional monitoring is needed and undertake the appropriate coordination/consultation with the appropriate agencies. If required, the appropriate authorization(s) will be requested from USFWS or CDFW, under the applicable law (federal or state Endangered Species Act, Bald and Golden Eagle Protection Act, Migratory Bird Treaty Act). MCC will cooperate in such efforts and implement the resulting measures designed to minimize or avoid "take".	Both prior to and during construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's coordination with USFWS, or CDFW pursuant to mitigation measure.
RAPTOR-3: If monitoring detects that blasting or other mine activities are resulting in disturbance of nesting raptors that could lead to mortality or nest abandonment, the Forest Service, MCC, and USFWS and CDFW, as appropriate, will evaluate the feasibility of implementing measures to avoid or reduce effects. The RCS will contain potential methods, such as establishment of buffers and parameters for work stoppage, for reducing or avoiding effects.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's implementation of the

	Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
					Raptor Conservation Strategy.
					Compliance shall be further demonstrated through coordination with USFS, USFWS, and CDFW pursuant to mitigation measure.
Desert To	rtoise				
DETO-1:	MCC will consult with the Forest Service to incorporate desert tortoise education and awareness into their training for employees, customers, and contractors. This will include how to minimize impacts to desert tortoise and their habitats. Information about penalties will also be included. These briefings will include guidelines about driving in desert tortoise habitat, handling prohibitions, etc. MCC will solicit input from the Forest Service to develop other protective measures if a need is identified through reporting from Design Feature DETO-2 or other CDFW or Forest Service requirements.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's coordination with USFS pursuant to mitigation measure.

	Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
DETO-2:	Any sightings of desert tortoises, including dead tortoises, in the Project Area must be reported to the Forest Service biologist. The report will include photos if possible, location, date, time, cause of death (if obvious), and any other pertinent information.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's reporting to USFS.
Non-Nati Pathoger	ive Species – Plants, Animals, and 15				
NNS-1:	MCC shall monitor the occurrence of non- native invasive plants in the Project Area by visual inspection. The goal is to prevent non-native invasive plants from becoming established and depositing seeds in areas to be re-vegetated at a later date. If inspections reveal that weeds are becoming established in the Project Area, then removal would be initiated by MCC in coordination with the Forest Service botanist. Inspections shall be made in conjunction with revegetation monitoring.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's coordination with USFS pursuant to mitigation measure.
NNS-2:	To reduce the risk of introducing non- native invasive plants, insects, and pathogens from off-site, all heavy mining equipment (e.g., drill rigs, haul trucks, loaders) must be thoroughly washed of all	During construction and operation of the South Quarry and haul road	Require as Condition of	County Land Use Services Department	Compliance shall be demonstrated and verified

	Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
	soil and vegetation debris prior to being brought into the company's operating area (i.e., the MCC Cushenbury Cement Plant and associated local quarries).		Approval by County	Project Applicant	through periodic inspections by the County.
NNS-3:	If any new non-native invasive plants, animals, or pathogens are identified as having a potential for establishment in the Project Area, MCC will consult with the Forest Service to develop measures for detection, control, and eradication as necessary. MCC shall be responsible for funding detection, control, and eradication efforts in the Project Area.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's coordination with USFS pursuant to mitigation measure.
NNS-4:	MCC personnel will be trained on the need to report sightings of feral or domestic sheep, goats, dogs, or cats on, in, and near the Project Area to the Forest Service and CDFW within two hours of the observation. In the event of domestic or feral animals being found, MCC shall employ a trained trapper to catch and remove the animals following County regulations. CDFW may assist in capture/removal efforts, if available.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.

	Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
Salvage ar	nd Recovery of Plants				
PLANT-1:	MCC shall inventory all accessible yucca species (Joshua trees, Mojave yucca, and chaparral yucca) within the proposed project disturbance areas, and identify yuccas (all species) likely to survive transplantation.	Prior to all grading activities	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further
	Prior to grading, accessible yucca plants suitable for translocation shall be transported to off-site reclamation or restoration areas. The suitability for salvage and transplantation shall be determined by a qualified botanist or horticulturalist, based on their size, stability, and location. A qualified horticulturalist shall direct the removal, transport, and replanting, and follow-up maintenance including irrigation and physical support as needed until transplantation is successful. Relocation sites shall be within the same general area. Suitable reclamation/restoration sites will be identified in coordination with the Forest Service botanist.				demonstrated through Project Applicant's coordination with USFS pursuant to mitigation measure.
PLANT-2:	MCC will solicit input from the Forest Service and will provide for salvage of rare native plants within the Project Area to be propagated and/or transplanted to protected habitat reserve areas at the discretion of the Forest Service.	Prior to removal of rare native plants before grading activities	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.

	Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
					Compliance will be further demonstrated through Project Applicant's coordination with USFS pursuant to mitigation measure.
Carbonat	e Endemic Plant Species				
CARB-1:	As specified under the CHMS, and within the Project Area, MCC or the Forest Service may at their discretion salvage carbonate endemic plant species (whole plants, cuttings, or seed), and propagules of associated species, to aid in carbonate habitat revegetation efforts on or off-site.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's compliance with the CHMS.
CARB-2:	MCC shall, upon BLM's withdrawal of approximately 540.4 acres of land from mineral entry, quit-claim specified unpatented mining claims held within the SBNF, and convey specified patented lands, which have been verified by the Forest Service to contain occupied endangered species habitat on an approximately 3 to 1 ratio (species-acres and CHMS conservation value) as mitigation for impacts of the South Quarry project on Cushenbury buckwheat	After BLM's land withdrawal and prior to construction of the South Quarry and haul road	Require as condition of approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through quit- claim of unpatented mining

	Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
	(<i>Eriogonum ovalifolium</i> var. <i>vineum</i>), Cushenbury puncturebract (formerly oxytheca) (<i>Acanthoscyphus parishii</i> var. <i>goodmaniana</i>), and Parish's daisy (<i>Erigeron parishii</i>) pursuant to the guidance provided by the CHMS as follows: MCC shall determine total project disturbance acreage, to include the South Quarry and haul road as well as rock and debris roll-down areas below them. MCC shall evaluate the Conservation Value of the acreage proposed for disturbance according to the CHMS.				claims and conveyance of patented lands. Compliance will be further demonstrated through Project Applicant's compliance with the CHMS.
Geology	and Soils				
GEO-1:	Control of surface drainage, erosion, and sedimentation of the proposed haul road and quarry operations will involve the following primary components currently being implemented for existing operations: a. Limiting surface disturbance to the minimum area required for active operations.	During operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
	 b. Diverting runoff, where operationally feasible, such that runoff from undisturbed areas does not enter the area of active operations. 				
	c. Using ditches, sediment basins, and localized control and maintenance				

	Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
	measures to intercept and control runoff along the haul road.d. Stabilizing disturbance areas through re-grading, revegetation, and other restoration practices.				
GEO-2:	A geotechnical program of ongoing field mapping, drilling, and geophysical surveys and laboratory testing will be established and implemented as the quarry is excavated. This type of site investigation during the mining operation will provide information for detailed slope stability assessment on a continual basis and stabilization of slopes in areas where poor rock and/or adverse geologic structures are present. An annual report discussing the geotechnical program will be prepared for the Forest Service and the County.	Prior to and during the construction and operation of the South Quarry	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's implementation of geotechnical program and annual reporting to County and USFS.
GEO - 3:	Areas mapped as underlain by landslides shall be further evaluated. Should landslides be found present within the quarry, appropriate mitigating engineering measures shall be employed to stabilize cuts into quarry walls. Such measures may include removal of landslide debris, construction of buttresses, or other stabilization measures. Monitoring of cut slopes by an Engineering Geologist shall also be performed during excavation of the	Prior to and during the construction and operation of the South Quarry	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's

	Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
	quarry so that further recommendations for slope stabilization can be provided as appropriate.				monitoring of cut slopes by Engineering Geologist.
GEO-4:	There is a high potential for ground shaking at the Project during a nearby seismic event, and this would include the proposed quarry and haul road. Engineering measures designed by a geotechnical engineer to mitigate the effects of ground shaking shall be included in slope design and construction.	Prior to and during construction of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's coordination with geotechnical engineer pursuant to mitigation measure.
Scenery					
SCEN-1:	The haul road shall be designed with minimal fill slopes to reduce the contrast of the lighter-colored fill on the natural slopes and boulder roll-down.	Prior to and during construction of haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.

	Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
SCEN-2:	Approved color-staining product(s) shall be used to darken the access road cuts and visible southern quarry slopes where shown to be successful. Prior to commencement of construction of the access road, MCC shall submit information to the Forest Service summarizing available staining products and whether they are appropriate for application to the South Quarry road cuts and visible quarry slopes, considering color, effectiveness, and durability. If appropriate products are not available at the commencement of construction, MCC shall update the information no less than once every five years thereafter until an appropriate product is identified. MCC may use an alternative method to reduce visual contrast as approved by the Forest Supervisor.	Prior to commencement of construction of the access road OR Every five years during operation of the South Quarry and access road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's reporting to USFS pursuant to mitigation measure.
SCEN-3:	Adequate erosion control features shall be designed along the haul road to limit erosion downslope.	Prior to and during construction of haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
SCEN-4:	Onsite structures shall be painted a color with low contrast and reflectivity.	During construction and maintained as needed during operation of the South Quarry	Require as Condition of	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified

	Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
			Approval by County		through periodic inspections by the County.
SCEN-5:	A berm shall be constructed along the south rim of the quarry and planted with native vegetation.	During construction and maintained as needed during operation of the South Quarry	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
SCEN-6:	The footprint of the quarry shall be designed to minimize impacts to any streams and riparian habitat to the extent feasible.	Prior to and during the construction and operation of the South Quarry	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
SCEN-7:	Surface disturbances shall be limited to those areas identified in the Mine Reclamation Plan. Disturbances outside of these areas shall be prohibited.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
					Compliance will be further demonstrated through Project Applicant's implementation of Reclamation Plan.

	Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
SCEN-8:	The quarry shall be designed to limit views of the quarry site from the east and southeast.	Prior to and during the construction and operation of the South Quarry	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
SCEN-9:	Upper slopes that may be visible from Lucerne Valley shall be cut or roughened to reduce straight lines and visual impacts as benches are completed (not applicable to Alternative 2 – Partial Implementation).	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
SCEN-10:	The quarry shall be designed to limit views of the lower half of the quarry by not removing the north slope through approximately Phase 3, allowing reclamation and revegetation (including tree growth) to occur to reduce contrast (not applicable to Alternative 2 – Partial Implementation).	During construction and operation of the South Quarry	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
SCEN-11:	A 20- to 25-foot high natural perimeter berm (half of a vertical bench height) shall be left in place on the outside ridge of each excavated bench until the interior area of the next lower excavation level is completed to limit views of active mining and equipment from Lucerne Valley (not applicable to Alternative 2 – Partial Implementation).	During the construction and operation of the South Quarry	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.

	Mitigation Measure	Timing	Implementation Procedure	Monitoring Responsibility	Compliance/Monitoring Procedure
SCEN-12:	Waste rock shall be deposited into waste rock stockpiles within the quarry footprint to reduce the area of disturbance and visual impact outside the quarry rim and to reduce internal slopes and aid in revegetation.	During the construction of the South Quarry	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County.
SCEN-13:	Reclamation and revegetation shall be implemented per the approved Reclamation Plan on completed benches concurrent with mining.	During the construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County. Compliance will be further demonstrated through Project Applicant's implementation of Reclamation Plan.
SCEN-14:	MDAQMD dust controls shall be implemented to reduce visible dust plumes.	During construction and operation of the South Quarry and haul road	Require as Condition of Approval by County	County Land Use Services Department MDAQMD Project Applicant	Compliance shall be demonstrated and verified through periodic inspections by the County or MDAQMD.

Notes: ¹Acronyms in this table are defined as follows:

MDAQMD = Mojave Desert Air Quality Management District

SBNF = San Bernardino National Forest

USFS = United States Forest Service

USFWS = United States Fish and Wildlife Service