Lehigh Permanente Quarry Reclamation Plan Amendment Conditions of Approval Compliance

DRAFT 2014-2015 Annual Report Information Package

SANTA CLARA COUNTY, CALIFORNIA

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October 1, 2015

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All COAs								
COA	**Requirement**	**Summarized Description**	**Annual Report Requirement (Yes/No)**	**Frequency**	**Required Submittal Date**	**Date Submitted**	**Comments**	**Appendix**
1	The conditions supersede all previous COAs	The following conditions of approval (COAs) shall supersede and replace all previous COAs from the 1985 Reclamation Plan approval.	No	Maintain	NA	NA	Noted.	
2	All activity must be consistent with the following COAs	All development, operations, and reclamation that occur under this RPA shall be consistent with the approved plans, unless modified by these conditions.	No	Maintain	NA	NA	Noted.	
3	RPA Re-Submittal. Final conformed documents to SCC	Within 60 days of approval of the RPA, Mine Operator shall submit six (6) copies plus one electronic copy of a "Final" RPA, incorporating changes required per the conditions of approval for the RPA, Mitigation Monitoring and Reporting Program, and Final Environmental Impact Report.	No	One Occurrence	8/24/2012	8/24/2012	Documents were submitted on or before the required submittal date.	
4	Legal Descriptions to be submitted for all parcels subject to the RPA	Within 60 days following approval of the RPA, the Mine Operator shall submit to the Planning Manager or the Manager's designee (hereinafter referred to as Planning Manager), legal descriptions for all affected parcels of real property.	No	One Occurrence	8/24/2012	8/24/2012	Documents were submitted on or before the required submittal date.	
5	RPA Expiration Date	If reclamation is not complete on or before June 30, 2032, the Mine Operator shall file an application for an amendment to the reclamation plan prior to that date.	No	One Occurrence	NA	NA	Noted.	
6	Hillside open space will be the end use	The proposed end use following reclamation is hillside open space.	No	One Occurrence	NA	NA	Noted.	
7	Payment for all reasonable costs.	The Mine Operator shall be responsible for paying all reasonable costs associated with work by, or for, the Department of Planning and Development, in conjunction with, or in any way related to the conditions of approval identified in this RPA, the mitigations contained in the Mitigation Monitoring and Reporting Program, and the annual SMARA inspections and annual review of financial assurance cost estimates.	No	Maintain	NA	NA	Noted.	
8	Annual report	Mine Operator shall provide by October 1 of each year, the information requested by the Planning Manager that is needed for the preparation of the Annual Report. (See COA Text)	Yes	Annual	10/1/2015	10/2/2015	This document, and attached appendices, represents the Mine Operator's fulfillment of its 2014-2015 report year COA 8 obligation.	
9	Planning manager ensures compliance	If at any time the Planning Manager determines that the Quarry is not in compliance with the RPA, Mitigation Monitoring and Reporting Program, or any condition of approval and as such is in violation of the RPA, the Director may take any and all actions necessary to ensure compliance with the Plan in accordance with applicable laws and regulations.	No	Ongoing	NA	NA	Noted.	
10	Copies of RPA, MMRP, and Conditions of Approval Maintained on Site	Copies of the RPA Mitigation Monitoring and Reporting Program, approved plans, conditions of approval shall be maintained at the premises of the Permanente Quarry, 24001 Stevens Creek Boulevard, at all times: one copy of all the documents shall be stored in the administration building at this location and one copy of all the documents shall be stored in the mine operations office.	No	Maintain	NA	NA	Copies of the RPA Mitigation Monitoring and Reporting Program, approved plans, conditions of approval are maintained in a binder in the quarry office with quarry management staff. Additionally, a wall poster of the COAs is posted in the office.	

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11	Issue report summary of employee training performed	By October 1 of each year, starting in 2012, the Mine Operator shall provide to the Planning Manager a report summarizing the date of the annual training, topics reviewed, and list of all employees attending the training. The Mine Operator shall annually train all mining staff, including outside vendors, contractors, or consultants who are responsible for implementation of any part of the mine operations or reclamation at Permanente Quarry, on the requirements and provisions of the RPA, the conditions of approval, and the MMRP	Yes	Annual	10/1/2015	10/1/2015	Training for workers and subcontractors has been completed.	Appendix C: Reclamation Plan Ammendment and Final Conditions of Approval Annual Worker Training
12	SWPPP to County	Within 60 days following approval of the RPA, the Mine Operator shall submit to the Planning Manager a copy of its Storm Water Pollution Prevention Plan (SWPPP) of the approved RPA, which is hereby appended to the RPA by reference. The Mine Operator is responsible for providing the Department of Planning and Development with any and all updates to the SWPPP	No	Update	8/24/12. And as needed	5/16/2014	The SWPPP was updated as of May 16, 2014. A copy of the updated SWPPP was provided as an appednix to the 2013-2014 annual report, and is included in the 2014-2015 Annual Report as well as Appendix F.	Appendix F: Updated Stormwater Pollution Prevention Plan
13	Mitigation measures adopted as COAs	All mitigation measures contained within the Mitigation Monitoring and Reporting Program (MMRP) prepared for the project are adopted as conditions of approval .	No	Maintain	NA	NA	Noted.	
14	Update FACE	By August 1st of each year, or as required by the Santa Clara County SMARA Inspection Program, the Mine Operator shall submit annually Financial Assurance Cost Estimates (FACE) to the Planning Manager for review and approval, which shall serve as the basis for the amount of financial assurances required of the Mine Operator, account for disturbed and those lands to be disturbed in the following year by the surface mining operations, inflation, and reclamation of lands accomplished in accordance with the approved RPA.	Yes	Annual	8/1/2015	8/1/2015	Financial Assurance Cost Estimates have been submitted to the Planning Manager for review on August 1, 2015. See Appendix L for proof of transmittal.	Appendix L: Financial Assurance Cost Estimate Transmittal
15	Submit copies of any violations, abatement notices, or any agency permit mod to SCC	Copies of all violations or abatement notices, requests for reports or information related to this RPA and its authorized uses by federal, state, or local jurisdictions/agencies, or subsequent modification of another agency's permit or submission of an application for any permit to another agency shall be provided to the Planning Manager within 10 business days of the County's request.	Yes	At County Request	NA	NA	No requests for copies of violations, abatement notices or agency permit modifications were received by Lehigh. No actions were needed to fulfill this COA.	
16	An invalidation of one condtion does not invalidate the remaining conditions.	If any of the RPA conditions of approval, or RPA approval, are held to be invalid that holding shall not invalidate any of the remaining conditions or limitations set forth.	No	Ongoing	NA	NA	Noted.	
17	If any conditions are invalidated, the Planning Commission can replace the invalidated condition with a feasible alternative.	IF any condition(s) of approval is invalidated by a court of law, and said invalidations would change the findings and/ or mitigation measures associated with the approval of this RPA, the amendment may be reviewed , at the discretion of the Planning Commission, and substitute feasible condition(s)/ mitigation measures.	No	Ongoing	NA	NA	Noted.	

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18	The Mine Operator will carry the cost of any action brought against the County.	As a condition of RPA approval, the Mine Operator agrees to defend, at the Mine Operator's sole expense, any action brought against the County by a third party, and indemnify the County against settlements and judgments arising from any such action.	No	Ongoing	NA	NA	Noted.	
19	The Mine Operator will reimburse the County for any legal costs incurred in its defense.	Upon demand from the County, the Mine Operator shall reimburse the County for any court costs and or attorney's fees which the County may be required by a court to pay as a result of any such action the Mine Operator defended or which it had control of the defense	No	Ongoing	NA	NA	Noted.	
20	The Mine Operator holds harmless the County and its employees from any legal action taken to challenge the EIR or RPA.	The Mine Operator agrees to defend, indemnify and hold harmless the County, its agents, officers and employees, from any claim, action or proceeding against the County, to challenge any portions of the EIR certification, reclamation plan process or approval.	No	Ongoing	NA	NA	Noted.	
21	Approval of the RPA does not relieve or limit the Mine Operator's previous legal liabilities.	Neither the approval of the RPA or compliance with conditions of approval shall relieve the Mine Operator from any responsibility otherwise imposed by law for damage to persons or property, nor shall the issuance of any RPA or related permit serve to impose any liability upon the County of Santa Clara, its officers, employees or agents for injury or damage to persons or property.	No	Ongoing	NA	NA	Noted.	
22	Maintain demarcation of EMSA, Rock Plant, and WMSA RPA Boundaries	Within 60 days of RPA approval, the RPA limit of disturbed area surrounding the northern and eastern edges of the EMSA, the northern and western edges of the WMSA, and the perimeter of the Rock Plant area shall be clearly demarcated in the field and shall remain in place until final reclamation has been completed. On an annual basis, demarcation shall be modified to encompass the RPA boundaries nearest the areas subject to surface mining and reclamation, as shown on aerials submitted per Condition #23. Demarcated areas shall be located and marked in the field by a licensed land surveyor or registered civil engineer authorized to practice land surveying. Demarcation shall use orange construction fencing or other brightly colored material acceptable to the Planning Manager.	Yes	Annual	8/24/2012, and annually with updates	10/1/2015	The RPA limits have not changed and the demarcations of these boundries have been maintaned. See Appendix K: Improved Reclation Plan Boundary Demarcation Memo	Appendix K: Improved Reclamation Plan Boundary Demarcation Memo

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23	GPS and Aerial Data prepared by Licensed Surveyor to SCC for Review and Approval.	At the same time as the proposed Annual Report each year, the operator shall submit to the Planning Manager a surveyed coordinate list file obtained by Global Positioning System (GPS), prepared by a licensed land surveyor or registered civil engineer authorized to practice land surveying, to be reviewed and approved by the County Surveyor, identifying the limits of reclamation, with aerial photographs of the RPA area, annotated to illustrate (a) where surface mining and reclamation activity occurred within the prior 24 months and (b) areas where mining and reclamation activities will occur in the next 24 months. Existing topographic data shall be included with the aerial photographs, and the operator shall provide projected topographic data to demonstrate how the topography will look two years later. The aerial photographs must be flown and taken biennially between June 1 and June 30 starting with June 2013. If requested by the Planning Manager or Planning Commission the materials shall be in a readable scale.	Yes	Annual	10/1/2012, and annually with updates	10/1/2015	The surveyed coordinate list file identifying the limits of reclamation has not changed since the 2012/2013 annual report. See Appendix J for mining activity occurring in the past 24 months and planned for the next 24 months. Aerial photos were flown on June 16, 2015.	Appendix J: Maps of Past 24 Months Surface Mining and Reclamation Activity and Future 24 Months Estimated Activity
24	Reclamation of Finished Slopes and Benches	Reclamation of finished slopes and benches shall commence at the earliest feasible date once the slopes and benches are established, as set forth in the RPA.	Yes	During Final Reclamation	NA	NA	No slopes or benches were finished during the time period covered by this report. No reclamations activities were required.	
25	Specification for Permanent Rock Fills	Rockfills, where used, should be spread in lifts not exceeding five-feet in thickness by tracked equipment, and compacted by track-walking or wheel-rolling using heavy dozers (Caterpillar D-9 or larger) and/or fully loaded rubber-tired hauling equipment, respectively. A minimum of three passes should be performed for each lift.	Yes	During Final Reclamation	NA	NA	No rockfills were required during time period covered by this report.	
26	Submit Site Plan showing Topsoil and Amendment Storage Areas	Within 60 days of RPA approval, Mine Operator shall submit a site plan identifying area(s) where topsoil, dirt, soil amendments shall be retained and used in the reclamation and re-vegetation process. Soil stored for reclamation purposes shall be clearly identified and marked in the field.	No	One Occurrence	10/1/2013 and annually with updates	10/1/2015	A map of current and future proposed stockpiles is provided as Appendix I.	Appendix I: 2015-2016 Map of Existing and Proposed Stockpiles
27	Stockpiles of topsoil or overburden protected from wind and erosion	The Mine Operator shall safeguard stockpiles of topsoil or overburden to be used for reclamation from wind and erosion by using controls including, but not limited to, hydroseeding, erosion control mats, and coir wattles (aka “straw wattles”).	No	Maintain	NA	NA	All stockpiles of topsoil or overburden to be used for reclamation have been treated.	Appendix A: 2014-2015 Stormwater and Erosion Controls Report
28	Test Plot annual report	Reporting of the test plots for the re-vegetation criteria identified in the RPA shall be submitted to the County as part of the Mine Operator’s annual report.	Yes	Annually to 2014	10/1/2014	10/1/2014	The final, re-vegetation test plot monitoring report was provided as an appednix to the 2013-2014 Annual Report	

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	Topsoil shall use amendments	The Mine Operator shall use soil amendments, in accordance with the RPA, to improve the effectiveness of the soils used for re-vegetation of final slopes. Re-vegetation shall satisfy the criteria identified in the RPA. (See COA Text)	Yes	During Final Reclamation	NA	NA	Final reclamation did not begin during the time period covered by this report. Data regarding soil effectiveness is not required at this time. Any reclamation requiring revegetation have considered the test-plot results for vegetative palette.	
29	Revegetation success criteria	Re-vegetation of all reclaimed slopes within the RPA Boundary shall meet the minimum success criteria listed in the approved RPA before any completed phase of reclamation may be deemed reclaimed by the County and Office of Mine Reclamation (OMR).	Yes	During Final Reclamation	NA	NA	Final reclamation did not begin during the reporting period.	
30	Change to Revegetation plan	The Planning Manager shall have authority to administratively review and approve minor revisions to the re-vegetation palette contained in the approved RPA.	Yes	During Final Reclamation	NA	NA	Any reclamation requiring revegetation have considered the test-plot results for vegetative palette.	
31	Removal of Equipment	Equipment, structures, nonessential roads, as identified in the RPA, shall be removed from the project area prior to that area being deemed reclaimed by the County and OMR	Yes	During Final Reclamation	NA	NA	Final reclamation did not begin during the time period covered by this report. No equipment, structures, or roads are yet required to be removed.	
32	Overburden requirements	Construction or demolition waste or any other foreign materials are prohibited from being stored in overburden or used in reclamation. Overburden shall be compacted, tested, and documented to demonstrate it will support post-mining uses. Regarding compaction, testing, and documentation of the overburden, documentation shall be submitted to the Planning Manager within 30 days of completion.	Yes	During Final Reclamation	NA	NA	No overburden placement has been completed to require compaction testing during this report period.	
33	Basin Clean out Reports showing quantities removed and disposition	Stilling basins shall be maintained in good conditions and cleaned of silt and debris as necessary. A report shall be submitted to the Planning Manager as part of the Annual Report, fully depicting total quantities of silt removed from the basins (reported in cubic yards or tons) and where such silt is placed on the site or off the site.	Yes	Annual	NA	10/1/2015	Sedimentation basins are routinely inspected and cleaned of vegetation and sediment when necessary to maintain good condition and proper function. Several sedimentation basins required cleanout during this report year. A table depicting the quantities of sediment removed from the sedimentation basins is provided in Appendix A.	Appendix A: 2014-2015 Stormwater and Erosion Controls Report
34	Provide all amended or newly issued permits from RWQCB and comply with such permits	The Mine Operator shall comply with the conditions of permits and plans required by and issued from the Regional Water Quality Control Board (RWQCB), including but not limited to approval of the Permanente Creek Restoration Plan and water discharge permits. The Mine Operator shall provide copies of all permits to the Planning Manager within 10 business days of issuance by RWQCB.	No	Ongoing	As Needed	10/1/2014	A new NPDES permit was issued on March 12, 2014. A copy of the permit was provided as an appendix to the 2013-2014 Annual Report. There were no new permits from RWQCB issued during this report year.	

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35	Criteria for Final reclamation completion	Reclamation shall be deemed complete by the County and State Office of Mine Reclamation (OMR) once reclamation has been performed to the terms of the approved RPA, and required monitoring and inspections have demonstrated compliance with the reclamation performance standards and mitigation measures as prescribed in the Mitigation, Monitoring and Reporting Program, including compliance with all pertinent permits or other requirements for reclamation issued by non-Santa Clara County public agencies, including but not limited to the RWQCB and the State Department of Fish and Game.	No	Final Reclamation	NA	NA	For Final Reclamation Completion.	
36	Provide all amended or newly issued permits from BAAQMD and comply with such permits	The Mine Operator shall comply with the conditions of permits required by and issued from the Bay Area Air Quality Management District (BAAQMD). Upon request by the County, the Mine Operator shall provide copies of all permits, and amendments to the Planning Manager within 10 business days of the request.	No	At County Request	As Needed	NA	Lehigh is in compliance with the conditions of permits and plans required by and issued by BAAQMD. No request by the County has been received by Lehigh for additional permit information.	
37	Provide all amended or newly issued permits from SCC Department of Environmental Health and comply with such permits	The Mine Operator shall obtain and comply with all applicable permits required by the Santa Clara County Hazardous Materials Division of the Department of Environmental Health. The Mine Operator shall provide copies of all permits to the Planning Manager within 10 business days of issuance.	No	Ongoing	NA	NA	Lehigh is in compliance with the conditions of permits and plans required by and issued from the Santa Clara County Hazardous Materials Division of the Department of Environmental Health.	
38	Submit schedule of implementation for sedimentation control and boulder removal during the Summer and Fall of 2012	Within 30 days of final RPA approval, submit to the Planning Manager a detailed schedule describing the implementation actions to control sedimentation, remove limestone boulders, and stabilize slopes within the Permanente Creek Restoration Area in the Summer and Fall of 2012, consistent with the RPA.	No	One Occurrence	8/26/2012	8/26/2012	A memorandum documenting attempts to remove boulders was submitted as an appdendix in the 2013-2014 Annual Report. Slope stabilization measures have been installed and maintenance is ongoing.	
39	Boulder removal	By October 15, 2012, per the RPA, identified limestone boulders in the PCRA shall be removed. In addition, any limestone boulders identified in the future shall be removed. Submit to the Planning Manager by August 1, 2012, a report and map summarizing the field inspection and identification of all limestone boulders in the PCRA. Submit to the Planning Manager by December 15, 2012, a report and summarizing the actions to remove all limestone boulders in the PRCA, consistent with the "Best Management Practice for Removal of Limestone Boulders from Permanente Creek" (Attachment J to the RPA).	Ongoing	One Occurrence	12/15/2012	9/28/2012	Removal of boulder(s) identified as feasibly removed from Permanente Creek was completed in 2013. Slope stabilization measures have been installed and maintenance is ongoing. Refer to 2013 Annual Report.	

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40	PCRA Phase III Restoration Plan	Prior to the start of Permanente Creek restoration activities in Phase III for PCRA subareas 3, 4, 5 and 7, as identified in the RPA, the Mine Operator shall submit to the Planning Manager a Permanente Creek Restoration Plan. The Restoration Plan shall include the elements of the Permanente Creek Long Term Restoration Plan (URS, March 11, 2011) to the extent set forth in the RPA. The Restoration Plan shall include, at minimum, engineered drawings for creek restoration, a riparian re-vegetation plan, hydrology / hydro-geomorphology studies supporting concepts to be used in creek restoration, and a long term monitoring and reporting program. The Creek Restoration Plan shall be reviewed and approved by the County prior to implementation.(See COA Text)	Yes	One time	NA	NA	Phase III was not initiated during the time period covered by this report.	
41	Permits for Grading in Jurisdictional Waters	Prior to the start of any grading or any grading activity that affects jurisdictional resources of the California Department of Fish and Game, Regional Water Quality Control Board, or U.S. Army Corps of Engineers, the Mine Operator must provide to the Planning Manager proof of permits / clearances (or documentation that a permit is not needed).	Yes	Ongoing	NA	NA	There were no grading activities which affected jurisdictional waters during the time period covered by this report.	
42	EMSA Light Prohibition	No night lighting shall be allowed or permitted on the east-facing slope of the EMSA or any other location within the EMSA that would be visible from public locations on the Santa Clara Valley floor including roadways.	Yes	Ongoing	NA	7/26/2013	No lighting is allowed on any location within the EMSA that would be visible from public locations on the Santa Clara Valley floor. Signs are posted in Quarry vehicles and around the property.	
43	ORD Inventory RPA	Within 90 days of final RPA approval, the Mine Operator shall submit to the County and BAAQMD a comprehensive inventory of all RPA-related off-road construction equipment expected to be used during any portion of the RPA period. (See COA Text)	Yes	One-time	9/24/2012	9/25/2012	Not applicable. See COA 45	
44	ORD Inventory EMSA	Within 90 days of final RPA approval, the Mine Operator shall provide a plan for approval by the Planning Manager and BAAQMD demonstrating that off-road equipment to be used for Reclamation of the EMSA would achieve an average 35 percent reduction in Diesel Particulate Matter (DPM) emissions (See COA Text)	Yes	Annual	9/24/2012	9/25/2012	Not applicable. See COA 45	
45	Caretakers Residence Control (in lieu of COA 43 and 44)	In lieu of Condition No. 43 and No. 44 (Mitigation Measures 4.3-3a and 4.3-3b), the Mine Operator may submit within 90 days of the RPA approval evidence establishing to the Planning Manager's satisfaction that there are legally binding restrictions precluding any occupancy of the caretaker's residence located at 2961 Stevens Creek Boulevard, Cupertino	No	One-time	9/24/2012	9/25/2012	Complete.	

All COAs								
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46	Avian Species - Preconstruction Surveys	Ground disturbance into undisturbed areas and vegetation (tree and shrub) removal should occur between September 1 and January 30, outside of the breeding season for most bird species. If ground disturbance or tree and shrub removal occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and location of nesting bird species. If ground disturbance or removal of vegetation occurs between June 16 and August 31, pre-construction surveys will be performed within 30 days prior to such activities. The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of such activities. If the tree removal or vegetation clearing shall occur during the non-nesting season, submit documentation both before and after tree removal / vegetation clearing confirmation completion of work within this time frame.(See COA Text)	No	Ongoing	As Needed	2/23/2015 4/14/2015 5/6/2015 6/1/2015 6/5/2015	All required biological resources surveys have been completed. See Appendix D.	Appendix D: 2014-2015 List of Biological Survey Reports Submitted to County
	Contract for Ornithologist to perform Avian Surveys	Thirty (30) days prior to the start of any ground disturbance into undisturbed areas or vegetation removal, the Mine Operator shall submit to the Planning Manager a copy of a contract with a qualified ornithologist to conduct pre-activity surveys.	No	One-time		9/25/2012	Lehigh continues to use WRA, Inc as a qualified orinthologist.	
47	Avian Species - Use of Buffers for to Avoid Nests	If preconstruction surveys determine that active nests are found close enough to the land clearing and tree removal area to be disturbed by these activities, the ornithologist, in consultation with CDFG, will determine the extent of a construction-free buffer zone (typically 250 feet) to be established around the nest to prevent nest abandonment and direct mortality during construction.	No	Ongoing	As Needed	2/23/2015 4/14/2015 5/6/2015 6/1/2015 6/5/2015	All required biological resources surveys have been completed. See Appendix D.	Appendix D: 2014-2015 List of Biological Survey Reports Submitted to County
48	Bat Species - Non-Roosting Season	Removal of potential bat roost habitat (buildings, large trees, snags, vertical rock faces with interstitial crevices) or construction activities within 250 feet of potential bat roost habitat should occur in September and October to avoid impacts to bat maternity or hibernation roosts.	No	Ongoing	As Needed		No bat surveys occurred within the non-roosting season	
49	Bat Species – Maternity Roosting Season	If removal of potential bat roost habitat cannot occur during September and October, bat roost surveys will be conducted to determine if bats are occupying roosts. The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the removal of any potential habitat. (See COA Text)	No	Ongoing	As Needed	1/19/2015 4/14/2015	All required biological resources surveys have been completed. See Appendix D.	Appendix D: 2014-2015 List of Biological Survey Reports Submitted to County

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50	Special Status Bat Species- Hibernation Season	During the November 1 to March 31 hibernation season, work shall not be conducted within 100 feet of any woodland habitat (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), unless a qualified bat biologist determines that woodland areas do not provide suitable hibernating conditions for bats and they are unlikely to be present in the area. Submit a report by a qualified bat biologist to the Planning Manager verifying the absence of suitable habitat as described above if work is proposed within 100 feet of woodland habitat between November 1 and March 31	No	Ongoing	As Needed	1/19/2015	All required biological resources surveys have been completed. See Appendix D.	Appendix D: 2014-2015 List of Biological Survey Reports Submitted to County
51	Special Status Bat Species - Maternity Season Emergence	Any trees felled during vegetation removal will not be chipped or otherwise disturbed for a period of 48 hours to allow any undetected bats potentially occupying these trees to escape.	No	Ongoing	As Needed		All trees felled were left in place for 48 hours prior to removal or chipping.	
52	Bat Roost Replacement	All special-status bat roosts destroyed by the Project shall be replaced by the Mine Operator at a 1:1 ratio onsite with a roost suitable for the displaced species (e.g., bat houses for colonial roosters). The design of such replacement habitat shall be in consultation with CDFG. (See COA Text)	No	Ongoing	As Needed	NA	No special-status bat roosts have been destroyed. No mitigation for bat roost replacement has been warranted to date.	
53	San Francisco Dusky Footed Woodrat	Within 30 days prior to initial ground disturbance in woodland or scrub/chaparral communities, (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), conduct pre-construction surveys for active woodrat stick nests that could be directly impacted. Surveys should take place in all suitable habitat types within the Project Area. Sixty (60) days prior to initial ground disturbance within woodland or scrub / chaparral communities, the Mine Operator shall submit to the Planning Manager a copy of a contract with a qualified biologist to conduct pre-activity surveys. (See COA Text)	No	Ongoing	As Needed	8/20/2014 1/19/2015 2/23/2015 4/14/2015 5/6/2015 6/1/2015 6/5/2015	All required biological resources surveys have been completed. See Appendix D.	Appendix D: 2014-2015 List of Biological Survey Reports Submitted to County
54	Proper Food Waste Disposal	To reduce indirect impacts on San Francisco dusky-footed woodrat by attracting urban-adapted predators, trash and food waste shall be disposed of in proper waste receptacles and emptied on a regular basis. Additionally, quarry personnel, contractors, and visitors shall not feed wildlife within the Permanente Property and appropriate site signage and employee education shall facilitate this condition	No	Ongoing	NA	NA	Proper waste receptacles are available onsite and are emptied on a regular basis. Signs have been posted.	
55	Introduction of Invasive Plants or Pathogens	If regulated or restricted plant materials are to be transported between the Project Area and a location in a non-infested county or state, the spread of the Sudden Oak Death pathogen shall be avoided by obtaining the necessary certificates of transport pursuant to the regulations (See COA Text)	Yes	Ongoing	NA	NA	No plant material was transported into or out of the Project Area.	
56	Sudden Oak Death Prevention	To reduce the possibility of spreading Sudden Oak Death to oak woodlands in the Study Area, the Mine Operator shall implement control measures (See COA Text)	No	Ongoing	NA	NA	All equipment which does not remain onsite, including: shoes, tools, and vehicles are decontaminated prior to, and after, any work in vegetated areas. Sanitation kits are kept at the Quarry office.	

All COAs								
COA	**Requirement**	**Summarized Description**	**Annual Report Requirement (Yes/No)**	**Frequency**	**Required Submittal Date**	**Date Submitted**	**Comments**	**Appendix**
57	Wetland Identification and Avoidance	A qualified wetland biologist shall physically delineate all federal and state waters and wetland features identified in the 2008 wetland delineation (WRA, 2008) before any Permanente Creek Reclamation Area (PCRA) activities begin, and when feasible, reclamation activities shall avoid filling these areas unless authorized by the appropriate permitting agencies. Prior to the start of PCRA activities, the wetland biologist shall submit a report to the Planning Manager showing the wetland areas delineated and the installation of all fencing and barriers (photos and map).(See COA Text)	No	One Occurrence and Ongoing	As Needed	7/31/2012	No wetlands were disturbed during the reporting period.	
58	Wetland Mitigation Plan	If filling of jurisdictional waters or wetlands is to be performed ~~not feasible~~, control measures shall be implemented: (See COA Text)	Yes	Ongoing	NA	NA	No wetlands were disturbed during the reporting period.	
59	PCRA Grading During Dry Season to Avoid California red Legged Frog Impact	To minimize disturbance to dispersing or foraging CRLF, all grading activity within PCRA subareas 4 through 7 shall be conducted during the dry season, generally between May 1 and October 15, or before the onset of the rainy season, whichever occurs first, unless exclusion fencing is utilized. Construction that commences in the dry season may continue into the rainy season if exclusion fencing is placed around the construction zone to keep the frog from entering the construction area.	Yes	Ongoing	NA	NA	Although no grading activity took place within PCRA subareas 4,5,6,or 7 during the reporting period, grading took place adjacent to PCRA Subarea 7 at Sedimentation Basin 13a and 13b. Pre-construction surveys, construction monitoring, and exclusion fence installation occurred.	
60	CRLF Pre-construction survey	Pre-construction surveys for CRLF shall be conducted prior to construction activities within PCRA subareas 4 through 7. If CRLF are observed in the construction area or access areas, they shall be removed from the area by a USFWS permitted biologist and temporarily relocated to nearby suitable aquatic habitat	Yes	Ongoing	NA	NA	Although no grading activity took place within PCRA subareas 4,5,6,or 7 during the reporting period, grading took place adjacent to PCRA Subarea 7 at Sedimentation Basin 13a and 13b. Pre-construction surveys, construction monitoring, and exclusion fence installation occurred.	
61	PRCA Work during Daylight hours for CRLF Avoidance	All restoration activities within PCRA subareas 4 through 7 shall cease one half hour before sunset and shall not begin prior to one half hour after sunrise. Additionally, restoration activities shall not occur during rain events, as CRLF are most likely to disperse during periods of precipitation	Yes	Ongoing	NA	NA	Although no grading activity took place within PCRA subareas 4,5,6,or 7 during the reporting period, grading took place adjacent to PCRA Subarea 7 at Sedimentation Basin 13a and 13b. All Construction took place on dry days and avoided the dawn and dusk hours.	
62	Document History of Kaiser Permanente Quarry Mining District	The Mine Operator shall document the physical characteristics and their historic context of the contributing features of the Kaiser Permanente Quarry Mining District (See COA Text)	Yes	60 Days Prior to modification of conveyor	NA	NA	Lehigh is in the process of documenting the historical features of the Kaiser Permanente Quarry Mining District. The documentation is expected in the 2015/2016 Annual Report.	
63	Salvage Permanente Quarry Conveyor System	Prior to any of the following: modification, relocation, removal, or demolition of the Permanente Quarry Conveyor System, the Mine Operator shall salvage and/or relocate a representative portion of the Permanente Quarry Conveyor System and the remains of the early 1940s crusher, which constitute character-defining features that otherwise would be lost as a part of implementation of the Project. (See COA Text)	Yes		NA	NA	Lehigh is in the process of documenting the historical features of the Kaiser Permanente Quarry Mining District. The documentation is expected in the 2015/2016 Annual Report.	

All COAs								
COA	**Requirement**	**Summarized Description**	**Annual Report Requirement (Yes/No)**	**Frequency**	**Required Submittal Date**	**Date Submitted**	**Comments**	**Appendix**
64	Prepare Public Information Prior to Conveyor Salvage	At least sixty (60) days prior to commencement of any work as described above Condition #63, the Mine Operator shall prepare public information programs to educate the general public on the historic nature of the potential Kaiser Permanente Quarry Mining District, (See COA Text)	Yes		NA	NA	No modification to the historic conveyor system took place during the 2014-2015 reporting period.	
65	Cease Activity if Cultural Resources Are Found	If cultural resources are encountered during Project implementation the Mine Operator shall notify the Planning Manager and all activity within 100 feet of the find shall stop until the cultural resource is evaluated by a qualified archaeologist and a Native American representative (See COA Text)	Yes	Ongoing	NA	NA	No cultural resources were encountered during the 2014-2015 reporting period.	
66	Cease Activity if Paleontological Resources Are Found	If a paleontological resource is encountered during implementation of the RPA the Mine Operator shall notify the Planning Manager, and all activity within 100 feet of the find shall stop until it can be evaluated by a qualified paleontologist (See COA Text)	Yes	Ongoing	NA	NA	No paleontological resources were encountered during the 2014-2015 reporting period.	
67	Notify County Coroner if Any Human Remains are Found	In the event that human skeletal remains are encountered, the Mine Operator is required to immediately notify the County Coroner.(See COA Text)	Yes	Ongoing	NA	NA	No human remains were encountered during the 2014-2015 reporting period.	
68	Avoidance of Slope Material Falling Into Creek in PRCA Areas	In all areas requiring the use of excavators for grading within the Permanente Creek Reclamation Area (PCRA) (e.g., access road in-sloping, installation/repair of sedimentation basins, and removal of slide debris), the Mine Operator and/or its contractor shall begin excavations from the top of slope and proceed downward. The Mine Operator and/or its contractor shall not undercut sloped materials unless no other option is feasible as determined by a registered geotechnical engineer (e.g., excessively sloped or otherwise inaccessible terrain). In all areas of the PCRA where excavations would occur in sloped materials, the Mine Operator and/or its contractor shall install barriers immediately downslope of the activity. (See COA Text)	Yes	Ongoing	NA	NA	No grading activity took place within PCRA during the reporting period.	
69	Submit Geotechnical Plan Review	Within thirty (30) days following approval of the RPA, submit a Geotechnical Engineer's Plan Review letter that confirms the RPA, as modified by other conditions of approval, conforms with the recommendations presented in Golder's Report (RPA Appendix C, dated November 2011).(See COA Text)	No	One Occurrence	7/26/2012	7/26/2012	Complete.	
70	Follow Geotechnical Design for EMSA Filling	The geotechnical design recommendations provided by Golder Associates (RPA Appendix C, November 2011) are being implemented as part of the ongoing stockpiling activities within the EMSA(See COA Text)	No	Ongoing	NA	NA	Noted.	
71	Prepare GHG Inventory for Reclamation Activities	the Mine Operator shall conduct an annual inventory of GHG emissions and shall report those emissions (See COA Text)	Yes	Ongoing	10/1/2014	10/1/2015	An annual report greenhouse gas emmissions inventory is provided in Appendix H.	Appendix H: Annual Greenhouse Gas Inventory Report

All COAs								
COA	**Requirement**	**Summarized Description**	**Annual Report Requirement (Yes/No)**	**Frequency**	**Required Submittal Date**	**Date Submitted**	**Comments**	**Appendix**
	Register with Climate registry	The Mine Operator shall become a reporting member of The Climate Registry	No	Ongoing		9/25/2012	Registration was not possible for Lehigh Permanente Quarry. An attempt to register was made in 2012, however, they were denied as a single mining operation.	
72	GHG reduction Plan	The Mine Operator shall prepare, submit for County and BAAQMD approval, make available to the public, and implement a Greenhouse Gas Emissions Reduction Plan (GHG Plan) containing quantifiable strategies to ensure that the Project-related incremental increase of GHG emissions does not exceed 1,100 MT Co2e per year. (See COA Text) The Greenhouse Gas Emissions Reduction Plan shall be submitted to the Planning Manager within 90 days of final RPA Approval.	No	Ongoing	9/24/2012	9/25/2012	Complete.	
73	Obtain GHG Offsets	If the Mine Operator is unable to reduce the Project-related incremental increase of GHG emissions to below 1,100 MT Co2e per year per Condition #72, the Mine Operator shall offset all remaining Project incremental emissions above that threshold. (See COA Text)	Yes	Ongoing	NA	NA	The project produced less than 1,100 metric tons of CO2. See Appendix H.	Appendix H: Annual Greenhouse Gas Inventory Report
74	Verification of Non-Limestone-Containing Material Used as Cover in EMSA and WMSA	A California Certified Engineering Geologist shall be onsite during reclamation to verify that non-limestone run-of-mine rock is used as cover on the EMSA and WMSA. In addition, the Geologist shall observe and document activities associated with placing the final overburden on the Quarry Pit (i.e., ensuring that organic material is mixed to specifications).(See COA Text)	Yes	Ongoing	NA	NA	Final reclamation did not begin during the time period covered by this report. Lehigh is documenting that non-limestone overburden is being placed in the EMSA, and upon final placement, this requirement will be satisfied.	Appendix G: Non-Limestone Cover Material Verification Memo
75	The County may retain a third party geologist.	1. The County reserves the right to retain, if it deems necessary, at the expense of the Mine Operator, a third-party California-certified Engineering Geologist, to provide independent oversight or monitoring to implement Condition #74.	No	Ongoing	NA	NA	Noted.	
76	Water Quality Monitoring Program	Within ninety (90) days of RPA approval, the Mine Operator shall begin and continue throughout the backfilling and reclamation phases and for 5 years following completion of reclamation and for 5 years following the start of groundwater discharge from the Quarry Pit into Permanente Creek as described on page 4.10-39 of the Final Environmental Impact Report, a Verification and Water Quality Monitoring Program. (See COA Text)	Yes	Ongoing	10/1/2015	10/1/2015	See Appendix E.	Appendix E: Water Quality Monitoring Memo
77	Reclamation is Complete when all WQS are met	Reclamation of the Quarry Pit, EMSA, and WMSA areas shall not be considered complete until 5 years of water quality testing as described above demonstrate to the satisfaction of the Planning Manager that selenium in surface water runoff and any point source discharges has been reduced below all applicable water quality standards, including Basin Plan Benchmarks.	Yes		NA	NA	Final reclamation did not begin during the time period covered by this report.	
78	Stormwater BMPs	Within 90 days of RPA approval, the Mine Operator shall implement stormwater and sediment management controls in addition to general BMPs required by the SWPPP in active and inactive reclamation areas throughout Phase I, II, and III of the RPA. (See COA Text)	Yes	Ongoing	10/1/2015	10/1/2015	Stormwater and sediment management controls in addition to general BMPs required by the SWPPP in active and inactive reclamation areas have been installed and maintenance is ongoing.	Appendix A: 2014-2015 Stormwater and Erosion Controls Report Appendix B: 2014-2015 Wet Season Erosion Control Inspection Reports

All COAs								
COA	**Requirement**	**Summarized Description**	**Annual Report Requirement (Yes/No)**	**Frequency**	**Required Submittal Date**	**Date Submitted**	**Comments**	**Appendix**
79	Stormwater Monitoring Plan	Prior to the start of reclamation activities, the Mine Operator shall develop a Stormwater Monitoring Plan for sampling and testing stormwater, that would supplement preexisting surface water monitoring required by General Industrial Storm Water and Sand and Gravel NPDES Permit and any other applicable permits designed to specifically monitor surface water during reclamation activities in active and inactive excavation and backfill areas, and locations where water discharges to Permanente Creek. (See COA Text)	Yes	Ongoing	10/1/2012	8/24/2012	Water quality testing has been conducted in accordance with the Interim Stormwater Monitoring Plan.	Appendix E: Water Quality Monitoring Memo
80	Monitor BMP Effectiveness for EMSA	Within 30 days of RPA approval, sampling and testing shall occur within 24 hours after a qualifying rain event. For purposes of triggering Planning Commission review, the sampling shall occur at locations where water discharges to Permanente Creek. (See COA Text)	Yes	Ongoing	NA		Water quality testing has been conducted in accordance with the Interim Stormwater Monitoring Plan.	Appendix E: Water Quality Monitoring Memo
81	Monitor BMP Effectiveness for WMSA and Quarry	Within 30 days of the start of reclamation activities for Phase II, the Mine Operator shall conduct monthly water sampling and testing results in compliance with the Interim Stormwater Monitoring Plan (See COA Text)	Yes	Ongoing	NA		Water quality testing has been conducted in accordance with the Interim Stormwater Monitoring Plan. The Interim Treatment System (ITS) has been installed for runoff originating in the WMSA.	Appendix E: Water Quality Monitoring Memo
82	Design, Pilot Testing, and Implementation of Selenium Treatment Facility	Within 30 days of RPA approval, the Mine Operator shall begin designing a treatment facility (or alternative) and pilot system for discharge into Permanente Creek. (See COA Text)	Yes	Ongoing	NA	9/19/2014	Water quality testing has been conducted in accordance with the Interim Stormwater Monitoring Plan. A feasiibility report for the Interim Treatment System was composed 9/19/2014 and submitted to the County.	

All COAs								
COA	**Requirement**	**Summarized Description**	**Annual Report Requirement (Yes/No)**	**Frequency**	**Required Submittal Date**	**Date Submitted**	**Comments**	**Appendix**
83	Construct of Onsite Water Detention Facility	The Mine Operator shall design and construct detention facilities that would 1) manage increased runoff caused by the reclaimed Quarry pit, (See COA Text)	Yes		NA	NA	Final reclamation did not begin during the time period covered by this report. No excess runoff was caused by the reclaimed Quarry Pit.	
84	Stormwater Control to Avoid Ponded Water and Selenium Accumulation	The Mine Operator shall incorporate drainage features into the final drainage design for the Quarry pit area to eliminate the potential for surface ponding on the floor of the Quarry pit once it has reached its final elevation (990 amsl).(See COA Text)	Yes		NA	NA	Final reclamation did not begin during the time period covered by this report.	
85	Mosquito Control for Ponded Water	Any body of water created during the operation of the quarry, both during excavation and processing the material, shall be maintained to provide for mosquito control and to prevent creation of any health hazards or public nuisance.	Yes	Ongoing	NA	NA	All bodies of water created during the operation of the quarry have been maintained to provide mosquito control and prevent the creation of any health hazards or public nuisance.	
86	Provide Plans for Riprap Energy Dissipaters	Sixty (60) days following RPA approval, the Mine Operator shall provide to the Planning Manager revised plans that show redesigned rip-rap energy dissipaters per the Association of Bay Area Governments (ABAG) standard for the 25 year storm for all discharge points on the reclamation plans.	No	Once	8/24/2012	8/24/2012	Complete.	
87	Prohibit Night Operations in EMSA	The Mine Operator shall prohibit all heavy equipment operations in the northeasterly 11.5 acres of the EMSA (as shown in Draft EIR, Figure 4.13-8) during nighttime hours (i.e., between 10:00 p.m. to 7:00 a.m.).	Yes	Ongoing	NA	7/26/2012	No nighttime equipment operations occur in the EMSA.	
88	Caretakers Residence Control or Prohibit EMSA Operations within 1600 feet	The Mine Operator shall either: (1) limit all operations in the EMSA within 1,600 feet of the caretaker's residence (as shown in Figure 4.13-8) to no more than one 8-hour shift per day, or (2) submit evidence establishing to the County's satisfaction that there are legally-binding restrictions precluding any occupancy of the caretaker's residence during the entirety of Phase 1 of the RPA.	No	Once	NA	7/26/2012	Complete.	
89	Signage within EMSA regarding Light Prohibitions and Noise restrictions (COA 42 and 87)	Within thirty (30) days of the RPA Approval, the Mine Operator shall post a sign inside all mine equipment operating in the EMSA area with the text from Condition #42 (Light and Glare) and Conditions # 87 and # 88 (Noise). The sign shall be posted prominently within view of the vehicle operator. Within 30 days of the RPA approval, the Mine Operator shall submit to the Planning Manager photo documentation demonstrating compliance of this.	No	Maintain	7/26/2012	7/26/2012	Complete - Signs are in place and in good condition.	

APPENDIX A:

2014-2015 STORMWATER AND EROSION CONTROLS REPORT

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EXECUTIVE SUMMARY

The purpose of this report is to document the stormwater and erosion control actions that have been completed to comply with the requirements of the Conditions of Approval (COAs) for the Permanente Quarry Reclamation Plan Amendment (RPA) during the period of July 1, 2014 to June 30, 2015.

Between July 1, 2014 and June 30, 2015, WRA, Inc. (WRA) oversaw the completion of several actions that fulfilled various COAs at the Quarry. This report lists those actions completed and previously reported to Santa Clara County (County) and describes those actions that have been initiated, and/or completed since the last submittal (October 1, 2014). Actions include installation of erosion control Best Management Practices (BMPs) in order to prevent soil erosion in areas of reclamation activity and topsoil stockpiling; maintenance and repair of previously installed BMPs; routine clean out of vegetation and sediment from sedimentation basins, check dams, and stormwater ditches; diversions of water runoff to containment basins; and lining drainages with non-limestone materials. Figures depicting erosion control BMP installations and compliance activities from the 2014-2015 reporting year are provided in Appendix A. Further actions are ongoing as required by the RPA and the COAs.

1.0 INTRODUCTION

The RPA for Lehigh Permanente Quarry (Quarry) located at 24001 Stevens Creek Boulevard, in unincorporated Santa Clara County, amends and supersedes the previously approved 1985 Permanente Quarry Reclamation Plan for a 20-year period to satisfy the reclamation requirements of the Surface Mining and Reclamation Act (SMARA) of 1975. The RPA encompasses 1,238.7 acres within the Mine Operator's 3,510-acre ownership.

Reclamation activities will be implemented in three phases over an estimated 20-year period. The Quarry is currently in Phase I which involves reclamation activities in the East Material Storage Area (EMSA) and the Permanente Creek Restoration Area (PCRA) and continuation of existing mining activities in the Western Material Storage Area (WMSA) and Quarry Pit.

2.0 PURPOSE

The purpose of this compliance actions report is to document the stormwater and erosion control actions that have been completed to comply with the requirements of the Santa Clara County Conditions of Approval (COAs), approved by the Planning Commission, June 7, 2012 and modified by the Board of Supervisors on June 26, 2012. This Compliance Actions Report includes those actions that have been ongoing or completed since the last submittal and refer to past actions submitted in previous reports.

3.0 REPORTING REQUIREMENTS

Generally, the COAs call for an annual report to be completed by the County by December 1 of the year and for the mine operator, Lehigh Hanson (Lehigh), to present all data and compliance actions to the County by October 1. To inform the annual report, Lehigh wishes to present a report of the stormwater and erosion control actions carried out to date in order to comply with the COAs. This report will serve to provide a record to the County and track the reclamation actions that have been completed to date.

4.0 COMPLIANCE ACTIONS

4.1 Compliance Actions Reported in Previous Submittals

Stormwater and erosion control actions taken to address COA compliance began immediately after RPA finalization in June 2012 and continue to present. Actions taken to address COA compliance are required to be reported annually as per COA #8. Lehigh has submitted annual reports of COA compliance actions as required per COA #8 in 2013 (WRA 2013) and 2014 (WRA 2014).

4.2 Compliance Actions Completed Since 2013-2014 Annual Report Submittal

Actions to complete or advance the fulfillments of the COAs since the 2013-2014 Annual Report submittal (October 1, 2014) are described below. All erosion control BMPs previously reported from previous annual reports have been maintained and repaired as needed. To date, only BMPs that have been deemed entirely non-essential have been removed.

4.2.1 PCRA Subareas

The RPA calls for erosion control actions in all of the Permanente Creek Restoration Area (PCRA) treatment areas within Phase 1, and Lehigh has begun erosion control assessments and work in all subareas. The first year of the approximately nine-year Phase 1 was 2012. Prior to November 29, 2012, erosion control actions were completed in subareas 4-7, and were started in Subareas 1 and 2. During the current reporting year, erosion control actions were completed in Subarea 1 and Subareas 4-7, and all previously installed erosion controls were inspected for deficiencies and corrected as necessary. For a complete description of all previous erosion control actions in the PCRA Subareas, and associated figures and photographs, see the 2013 Annual Report (WRA 2013), and 2013-2014 Annual Report (WRA 2014).

Subarea 1

Subarea 1 is located in the westernmost portion of the PCRA, and is composed of an upper (northern) portion consisting primarily of fill slopes. The lower (southern) portion is mostly undisturbed, but contains an access road, established previous to the RPA. An erosion control silt fence was installed during this reporting period along the entirety of the access road along the south (downhill) edge to prevent erosion and trap any potential sediment associated with storm runoff originating from the upper WMSA (see Appendix A - attached map book pages 1, 15, and 17; see Appendix B photograph 1).

Subarea 2

Subarea 2 is located along the southern border of the WMSA, directly east of Subarea 1. Subarea 2 can be divided into the portions above and below the pre-RPA access road. The portion above the access road (and below the WMSA haul road) is protected by the existing berm on the downhill side of the access road. Previous breaches in the berm along the access road have been reinforced with straw bales staked down with T-posts. The BMPs used to repair the breaches in the berm have been routinely inspected and replaced when necessary. An additional erosion control BMP consisting of a row of straw bales reinforced with erosion control silt fence was installed this reporting year along downhill side of the access road at the border of

Subarea 1 and 2 where a concave linear swale exists at the convergence of pre-RPA fill slope and the vegetated hillslope. All previously installed erosion control BMPs below the access road were routinely inspected. No substantial evidence of erosion has been observed over the 2014-2015 period (see Appendix A - attached map book pages 2, 16, and 18).

Subarea 3

Subarea 3 is located at the southeastern border of the WMSA directly east of Subarea 2, and is generally extremely steep terrain without feasible access. All previously installed erosion control BMPs in PCRA Subarea 3 have been routinely inspected during the 2014-2015 reporting year. No substantial erosion was observed over the 2014-2015 reporting period.

Subarea 4

Subarea 4 is located at the southwestern border of the North Quarry directly east of Subarea 3 and generally parallels the North Quarry haul road. Limestone is stockpiled south of the haul road near the border of Subarea 4. The primary BMP used in this subarea is the large berm along the border of Subarea 4 and the North Quarry. This berm was reinforced with approximately 200 feet of erosion control wire-backed silt fence this reporting year. Additional erosion control BMPs, including wire-backed silt fence, jute netting, wattles, and hydroseed, have been installed throughout much of Subarea 4 in prior years. All areas have been inspected regularly and repaired as necessary throughout the 2014-2015 reporting year (see Appendix A - attached map book pages 4, 16, and 19).

Subarea 5

Subarea 5 is located at the southern border of the North Quarry, directly east of Subarea 4, south of Pond 4A and the newly constructed Interim Treatment System (ITS), which treats stormwater and process water before discharging into Permanente Creek. The majority of Subarea 5 is extremely steep with limited access. No new erosion control measures were implemented in Subarea 5. All previously installed erosion control BMPs below the access road were routinely inspected. No substantial evidence of erosion has been observed over the 2014-2015 reporting period.

Subarea 6

Subarea 6 is located along the southeastern border of the North Quarry directly east of Subarea 5, and generally parallels the North Quarry haul road. Subarea 6 is composed of areas of historic fill and other undisturbed, vegetated areas. Subarea 6 is generally extremely steep with limited access. The primary BMP used to stabilize hillside material is the large berm along the border of Subarea 6 and the North Quarry. New mining activities and grading were conducted in the southwest corner of the North Quarry this year, along the northern edge of Subarea 6, and in accordance with the RPA. WRA conducted biological surveys to clear the work area prior to commencement of mining activities and associated vegetation removal, in compliance with COAs #46 through 54 (see attached Appendix D for a list of biological survey reports submitted to the County for the 2014-2015 reporting year). In addition to required surveys, erosion control BMPs were installed below the new mining area in order to stabilize slopes and filter stormwater, in compliance with COA #68 (see Appendix B, photograph 2). An approximately 300 foot section of wire-backed silt fence was installed below the mining area prior to mining activities, and excavation began from the top of slope using a long-arm excavator (see Appendix A - attached map book pages 6 and 19).

Subarea 7

Subarea 7 is located directly east of Subarea 6, and south of the North Quarry and Crusher/Support Area. Subarea 7 is composed of areas of historic mining disturbance and more recent erosion control activities, interspersed with undisturbed areas. The majority of Subarea 7 is extremely steep and inaccessible, and moderately covered with vegetation, making erosion control BMP installation not feasible. During a large December rain event there was a slope failure in Subarea 7. To reduce further erosion on the exposed slopes, erosion control materials were installed, including approximately 18,000 square feet of jute netting, fiber rolls, and approximately 200 feet of wire-backed silt fence (see Appendix B, photograph 3). An approximately 100 foot stormwater diversion ditch was dug in across the debris slide, and lined with visqueen fabric to divert any additional stormwater and debris originating from the debris slide into Sedimentation Basin 13B (see Appendix A - attached map book pages 7 and 8).

4.2.2 WMSA

The WMSA is an overburden storage area located to the west of the North Quarry. All stormwater and erosion control BMPs previously installed within the WMSA were routinely inspected and repaired as needed throughout the 2014-2015 reporting year (see Appendix A - attached map book pages 15, 16, 17, and 18). Routine maintenance actions of existing BMPs included:

- Cleanout and maintenance of haul road check dams.
- Grading maintenance of the haul road.
- Repair and replacement of erosion control silt fences and fiber rolls securing the two topsoil stockpiles.

Routine inspection is ongoing. No additional stormwater and erosion control BMPs were deemed necessary in the WMSA.

4.2.3 North Quarry

The North Quarry is where mineral extraction currently takes place, and is located directly east of the WMSA and north of PCRA Subareas 4-7. All stormwater and erosion control BMPs previously installed within the North Quarry were routinely inspected and repaired as needed throughout the 2014-2015 reporting year (see Appendix A - attached map book page 19). In addition to the routine inspection and maintenance of existing BMPs, the following actions were taken this year.

North Quarry Hydroseeding

Hydroseeding at Lehigh Permanente Quarry is part of the reclamation Revegetation Plan and the ongoing erosion control BMP measures for COA compliance. Approximately 2.4 acres of newly-graded slopes in the North Quarry were hydroseeded with two different native seed mixtures in October 2014, prior to onset of the rainy season (see Appendix B, Photograph 4). Monitoring of hydroseeded areas are ongoing to determine the effectiveness of the different hydroseed mixtures for erosion control and revegetation.

4.2.4 Crusher/Support Area

The Crusher/Support Area is located directly east of the North Quarry, and contains primary and secondary crushing stations, the Quarry offices, and maintenance areas. All stormwater and

erosion control BMPs previously installed within the Crusher/Support Area were routinely inspected and repaired, replaced, or removed as needed throughout the 2014-2015 reporting year (see Appendix A - attached map book pages 7, 8, 9, and 13). In addition to the routine inspection and maintenance of existing BMPs, several actions were taken in response to consecutive rain events which occurred in December 2014. The following actions are summarized below.

C-Station Sedimentation Basins

A large sedimentation basin with 3 sub-basins was constructed below the C-Station in 2013 to capture mining fines that had previously been stockpiled around the C-Station (WRA 2013). Lehigh began removing mining fines from the historic stockpile and regrading in accordance with the RPA during this reporting year (see Appendix A - attached map book pages 8, 9, 10, 13, and 14). In order to access the historic stockpile, the sedimentation basins were removed and a temporary access road was created in their place. A new sedimentation basin will be constructed in the same location this September, prior to the onset of rains. In order to prepare for hydroseeding activities set to occur in October, straw wattles will be placed immediately uphill from the future C-Station sedimentation basins location.

4.2.5 EMSA

The EMSA is an overburden storage area located to the northeast of the Crusher/Support Area. All stormwater and erosion control BMPs previously installed within the EMSA were routinely inspected and repaired, replaced, or removed as needed throughout the 2014-2015 reporting year (see Appendix A - attached map book pages 10, 11, 13, and 14). Routine maintenance actions of existing BMPs included:

- Removal of sediment and vegetation from ditches and sedimentation basins.
- Cleanout and maintenance of haul road check dams.
- Grading maintenance of the haul road.

In addition to the routine inspection and maintenance of existing BMPs, several major stormwater and erosion control actions were taken this year, and are discussed below.

EMSA Regrading

Lehigh began extensive regrading of the EMSA during this reporting year to prepare the area for interim reclamation, and stormwater and erosion control BMP installation as per the RPA for the Quarry. New stormwater and erosion control BMPs installed in the EMSA during this reporting year include a new non-limestone rock-lined stormwater conveyance ditch and new checkdams along the EMSA haul road (see Appendix B, photograph 5), erosion control silt fences and straw wattles surrounding topsoil stockpiles, and erosion control silt fences and straw wattles on interim reclaimed slopes (see Appendix B, photograph 6). Additional stormwater and erosion control related work occurred in the lower EMSA area surrounding Pond 30. Low-lying areas around Pond 30 in the lower EMSA were raised and regraded with a low-gradient slope toward Pond 30 in order to direct potential stormwater flows into Pond 30. Additionally, the berm along the perimeter of the lower EMSA was bolstered to capture stormwater runoff (see Appendix J of this reporting package).

EMSA Hydroseeding

As discussed above, hydroseeding at Lehigh Permanente Quarry is part of the reclamation Revegetation Plan (WRA 2011) and the ongoing erosion control BMP measures for COA compliance. As per the Revegetation Plan developed for the RPA for, the Quarry cleared and re-graded areas are required to be revegetated by hydroseeding with native seed mixes. In addition to cleared and re-graded areas, topsoil stockpiles are required to be protected from erosion and weed establishment through erosion control measures including hydroseeding as per COA #27.

Approximately 25.2 acres of interim reclaimed slopes and topsoil stockpiles in the EMSA were hydroseeded in October 2014 and January 2015. Native hydroseed mixes developed from the Revegetation Plan (WRA 2011) Revegetation Test Plot Program (see Appendix A of the 2013-2014 annual report), were used along with two standard hydromulch mixes, and one experimental hydromulch mix. The Hillside seed mix which consists of native grasses, forbs and shrubs, was used for the majority of the EMSA. For the temporary topsoil stockpile, the erosion control seed mix, consisting of four native grass species and one subshrub, was used. Monitoring of hydroseeded areas in the EMSA is ongoing, and despite drought conditions experienced during this reporting year revegetation of hydroseeded areas in the EMSA has been successful (see Appendix C - Hydroseeding Memo; see Appendix B, photograph 8). Additional hydroseeding efforts are planned for October 2015.

4.2.6 Surge Pile/Rock Plant

The Surge Pile/Rock Plant area contains an existing stockpile of crushed aggregate, known as the Surge Pile, and rock processing facilities known as the Rock Plant. The Surge Pile/Rock Plant area is located to the southeast of the Crusher/Support Area, and PCRA Subarea 7. All stormwater and erosion control BMPs previously installed within the Surge Pile/Rock Plant area were routinely inspected and repaired as needed throughout the 2014-2015 reporting year. Routine maintenance actions of existing BMPs included cleanout and maintenance of Pond 17, a sedimentation basin that supports Rock Plant operations, and installation and repairs to an erosion control silt fence on the downhill side of Pond 17 (see Appendix A - attached map book pages 12, 13, and 14).

4.2.7 Sedimentation Basin Cleanout

As per COA #33, sedimentation basins are routinely inspected and cleaned of vegetation and sediment when necessary to maintain good condition and proper function. Several sedimentation basins required cleanout during this reporting year. Among the sedimentation basins within the RPA boundary, Pond 4a required vegetation removal. A table is provided below, depicting quantities of silt removed from the sedimentation basins within the RPA boundary that required silt removal.

Table 1. Sedimentation Basin Cleanout Quantities

Sedimentation Basin	Quantity of Silt Removed (Cubic Yards)	Location of Disposal
Pond 17	2,200	Quarry Pit – West Dump
Pond 30	120	Quarry Pit – West Dump
Pond 31B	110	Quarry Pit – West Dump
WMSA Haul Road Check Dams	100	Quarry Pit – West Dump
Rock Plant Road Check Dams	60	Quarry Pit – West Dump
C-Station	1,500	Quarry Pit – West Dump

4.3 PLANNED FUTURE COMPLIANCE ACTIONS

Beyond the routine inspection and maintenance of existing BMPs, actions are already planned to take place during the 2015-2016 reporting year for COA compliance. This is by no means a complete list of next year's actions, and actions taken during the upcoming year will follow the adaptive management process. Actions to complete or advance the fulfillments of the COAs that are planned to take place during the 2015-2016 reporting year are described below.

4.3.1 Planned Hydroseeding

In order to comply with COAs #27 and #78b, Lehigh plans to hydroseed topsoil stockpiles to be used for reclamation and interim reclaimed areas that directly or indirectly drain to Permanente Creek. The fall 2015 hydroseeding efforts are planned for early October and will include approximately 21 acres of interim reclaimed slopes, and 0.5 acre of topsoil stockpile in the EMSA. Planned hydroseeding areas will receive either the erosion control seed mix or the hillside hydroseeding mix, based on whether the area is a temporary topsoil stockpile or interim reclaimed slope.

Areas to receive the erosion control seed mix include a small temporary topsoil stockpile in the lower EMSA. Areas to receive the hillside hydroseeding mix include newly reclaimed areas in the lower and upper EMSA.

4.3.2 Potential BMP Removal

Select BMP's, such as silt fences and straw wattles, are expected to be removed, rather than replaced after the 2015-2016 rainy season. Given the stability of the slopes as evidenced by lack of material accumulating at select BMP's and the increase in vegetation from hydroseeding and natural recruitment around those BMP's, some may not be necessary. BMP's will be evaluated based on local conditions and their potential to be effective. Those BMP's that are not necessary and require replacement (due to weathering) will be removed rather than replaced.

5.0 SUMMARY

In the 2014-2015 reporting year, Lehigh took several erosion control actions to fulfill and comply with the requirements of the COAs and the RPA. Beginning in 2013, the County requires compliance reports to be submitted annually, and this report represents a portion of the overall annual report as required by COA #8. Monitoring will continue to take place, and actions will continue to be implemented in all areas to keep within compliance.

6.0 REFERENCES

[WRA] WRA, Inc. 2011. Revegetation Plan – Permanente Quarry, Santa Clara County, California. Prepared for Lehigh Southwest Cement Company. December

WRA. 2012. Permanente Quarry Reclamation Plan Amendment and Conditions of Approval Compliance – Fall 2012 Compliance Actions, Lehigh Permanente Quarry, Cupertino, Santa Clara County, California. Prepared for Lehigh Hanson. November.

WRA. 2013. Lehigh Permanente Quarry Reclamation Plan Amendment Conditions of Approval Compliance 2013 Annual Report, Santa Clara County, California. Prepared for Lehigh Southwest Cement Co. August.

WRA. 2014. Lehigh Permanente Quarry Reclamation Plan Amendment Conditions of Approval Compliance 2013-2014 Annual Report, Santa Clara County, California. Prepared for Lehigh Southwest Cement Co. August.

APPENDIX A

2014-2015 REPORTING YEAR COMPLIANCE ACTIONS AND BMP INSTALL FIGURES

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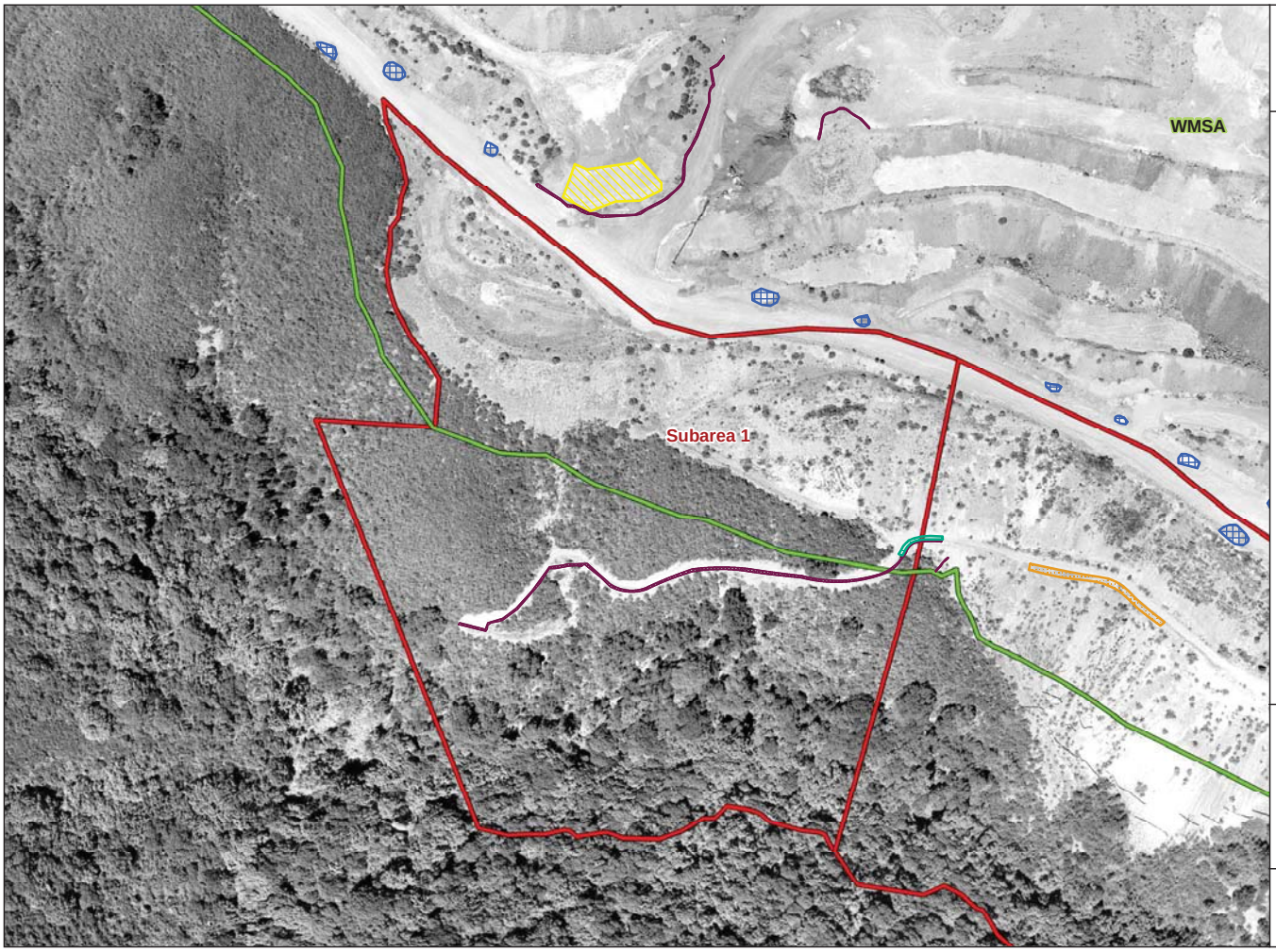

wra
ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, Santa Clara County, California

Subarea 1

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Sediment Cleanout
- Erosion Control Blanket and Wattles
- Hay Bale
- Hay Bales and Wattles
- Wire Back Silt Fence

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Feet

Date: September 2015
Map By: fhourigan

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, Santa Clara County, California

Subarea 2

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Sediment Cleanout
- Erosion Control Blanket and Wattles
- Hay Bale
- Hay Bales and Wattles
- Wire Back Silt Fence

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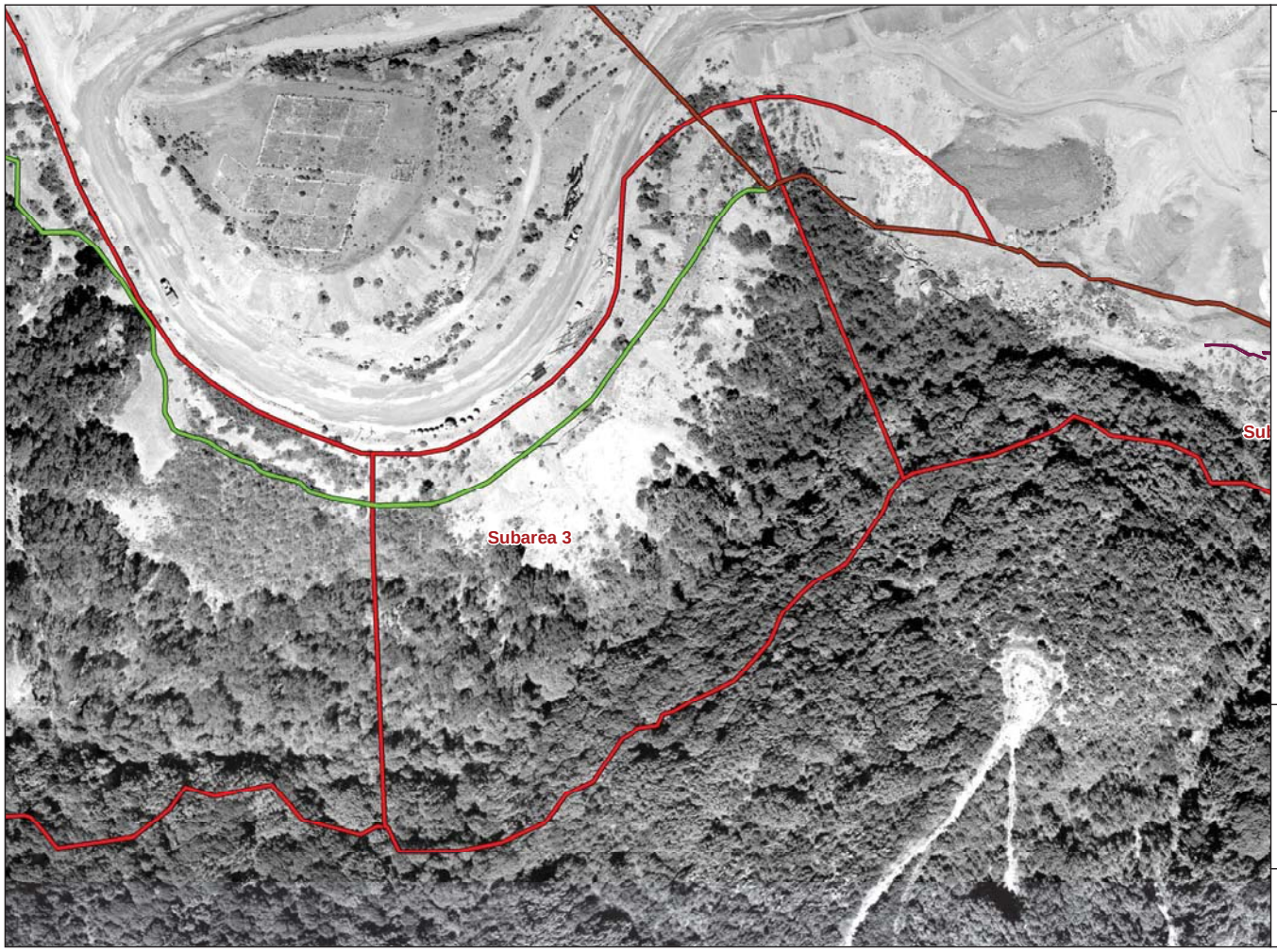

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry,
Santa Clara County,
California

Subarea 3

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Wire Back Silt Fence

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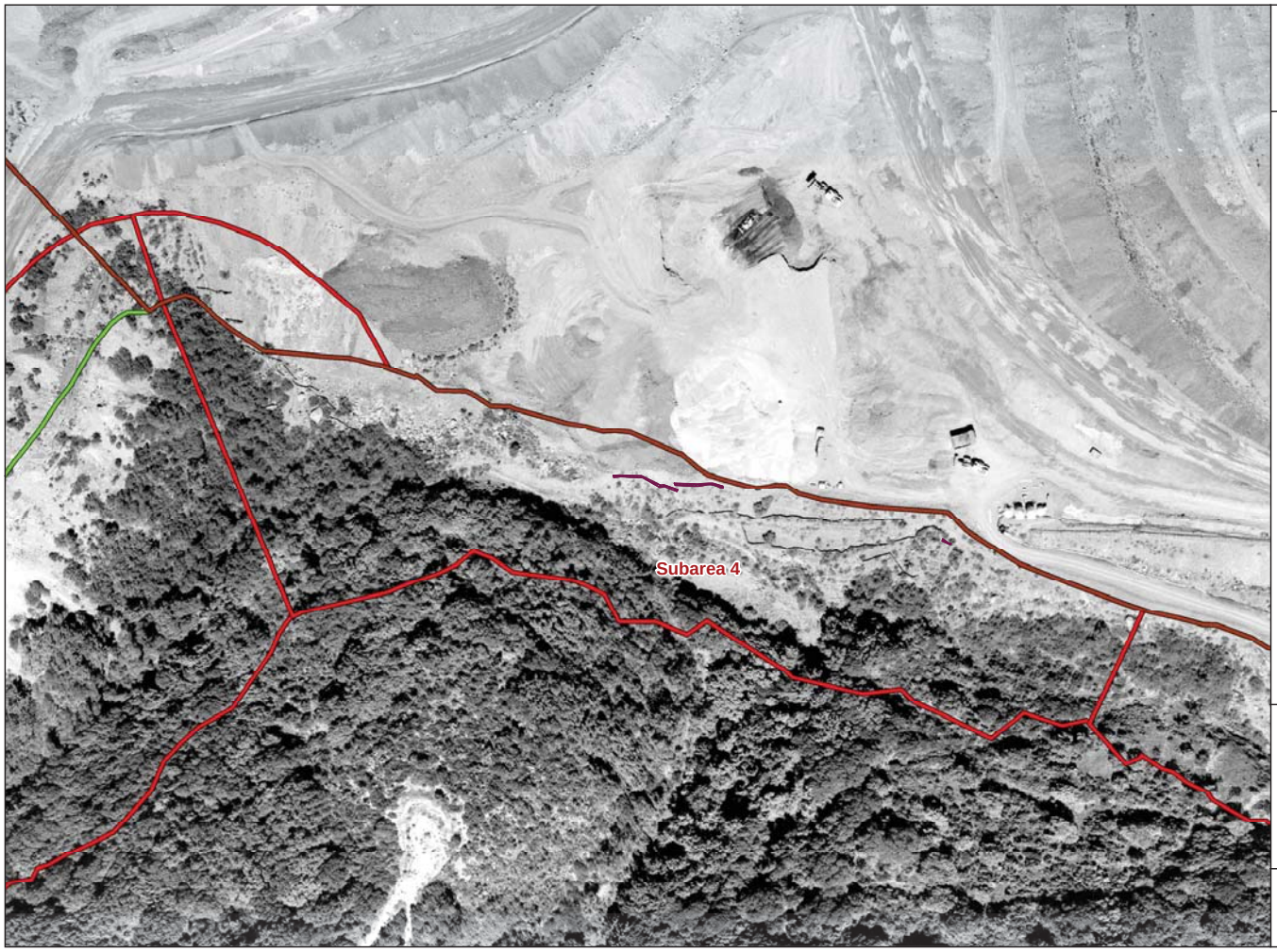

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry,
Santa Clara County,
California

Subarea 4

- Permanente Property Boundary
- Cement Factory
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- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Wire Back Silt Fence

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Date: September 2015
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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry,
Santa Clara County,
California

Subarea 5

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Vegetation Cleanout

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Feet

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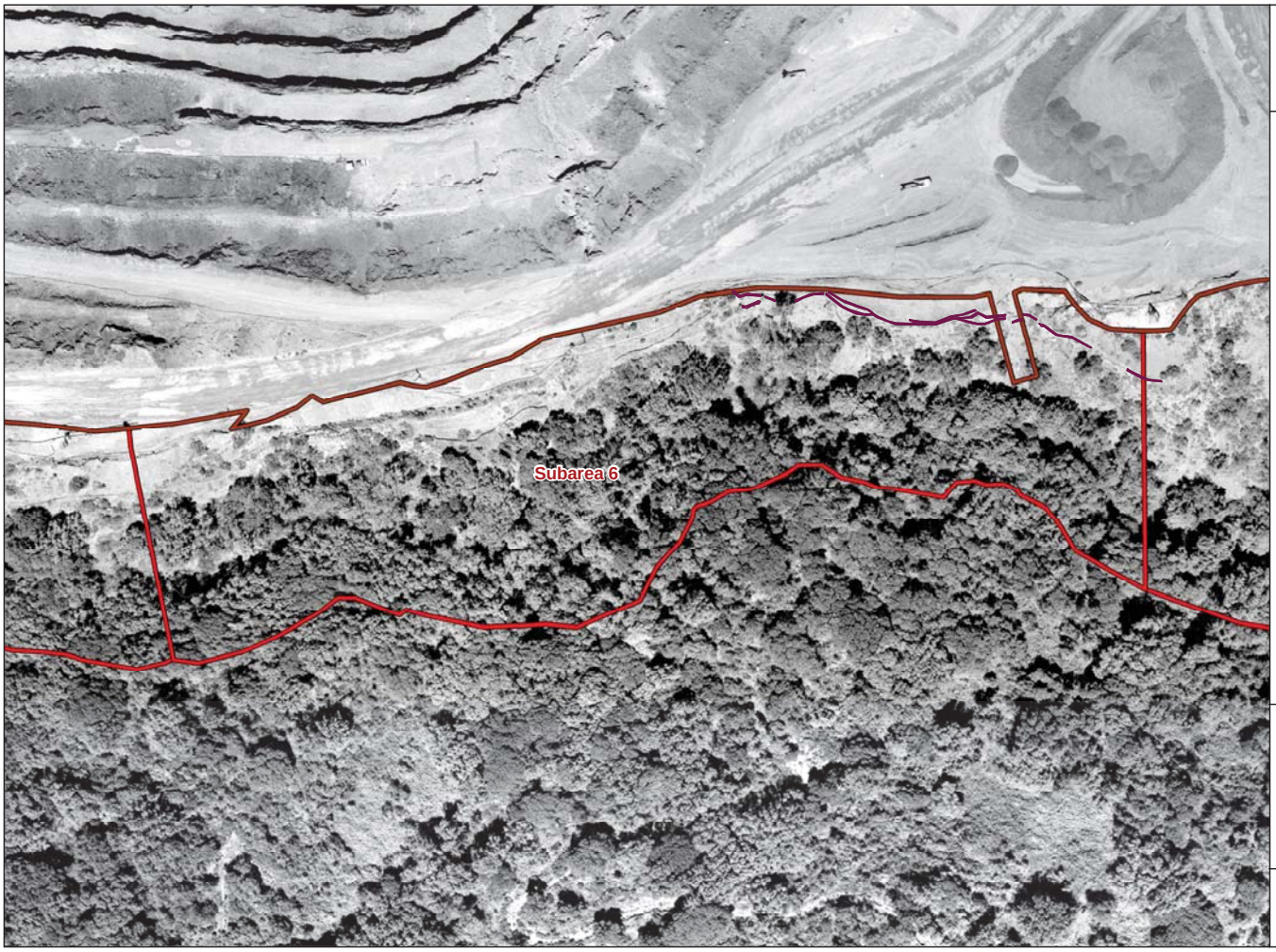

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry,
Santa Clara County,
California

Subarea 6

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Wire Back Silt Fence

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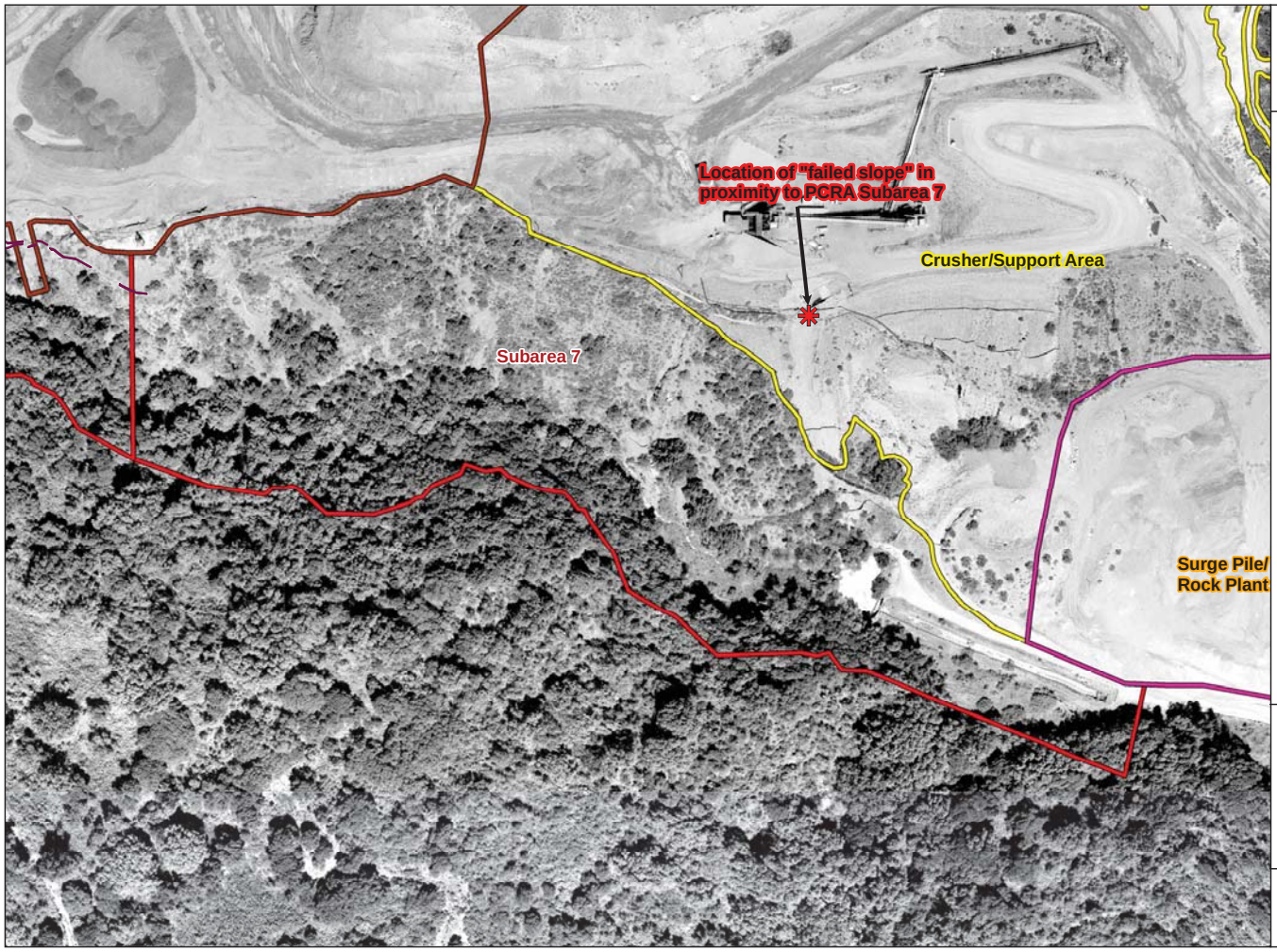

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, Santa Clara County, California

Subarea 7

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Wire Back Silt Fence

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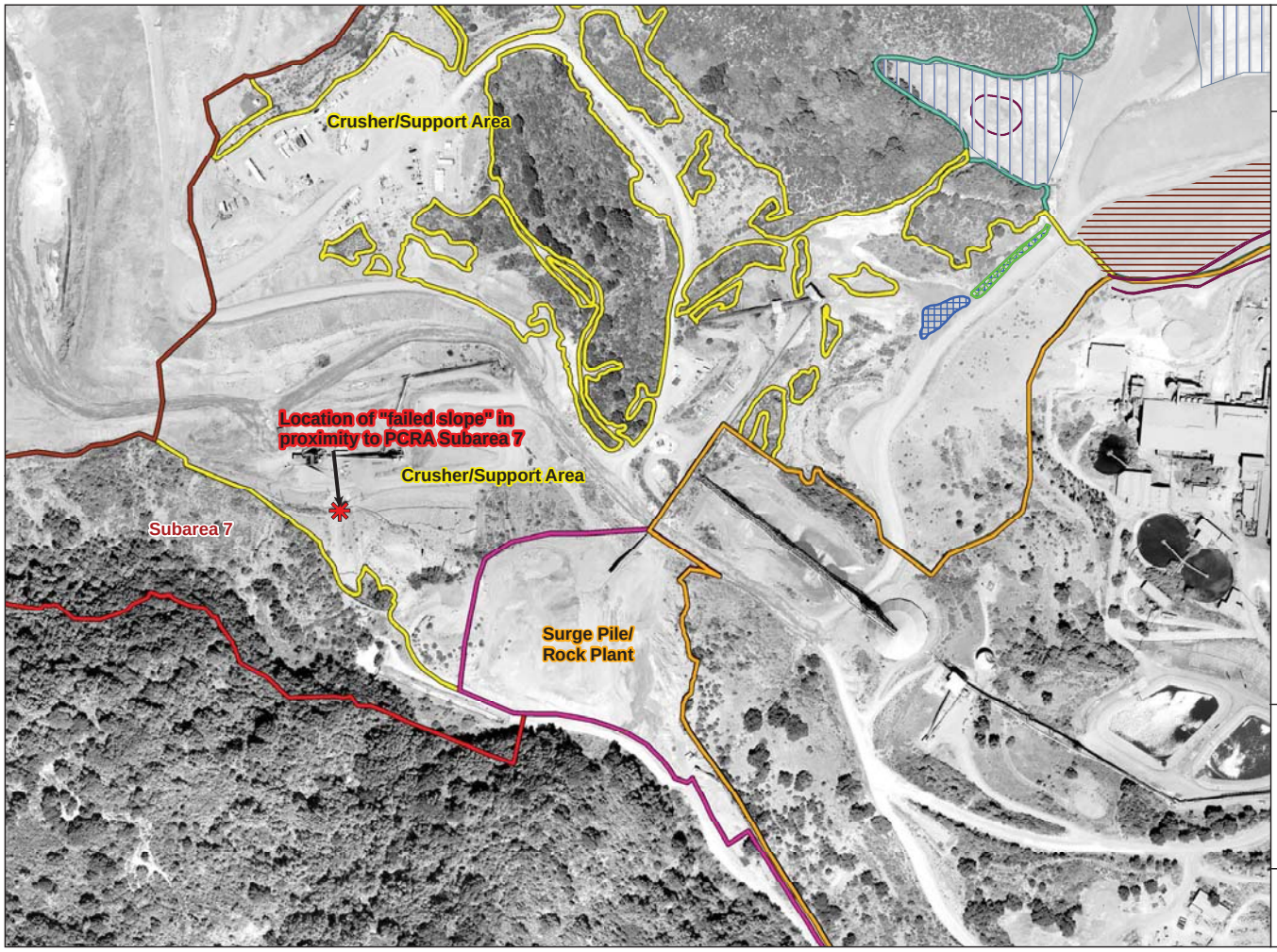

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, Santa Clara County, California

Crusher/Support South

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Sediment Cleanout
- Hydroseeding
- Vegetation Cleanout
- Wattles
- Wire Back Silt Fence

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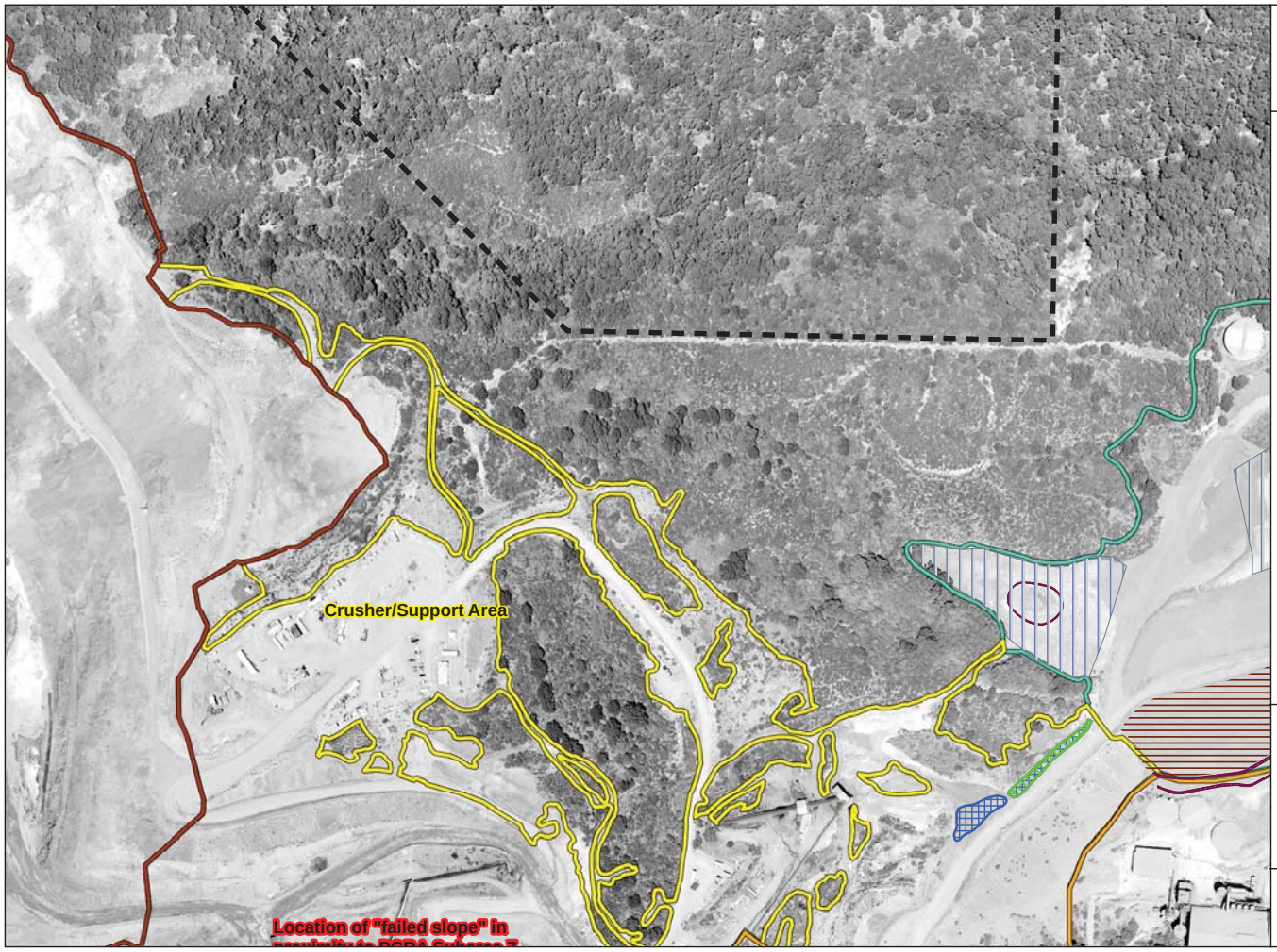

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry,
Santa Clara County,
California

Crusher/Support North

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- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Sediment Cleanout
- Hydroseeding
- Vegetation Cleanout
- Wattles
- Wire Back Silt Fence

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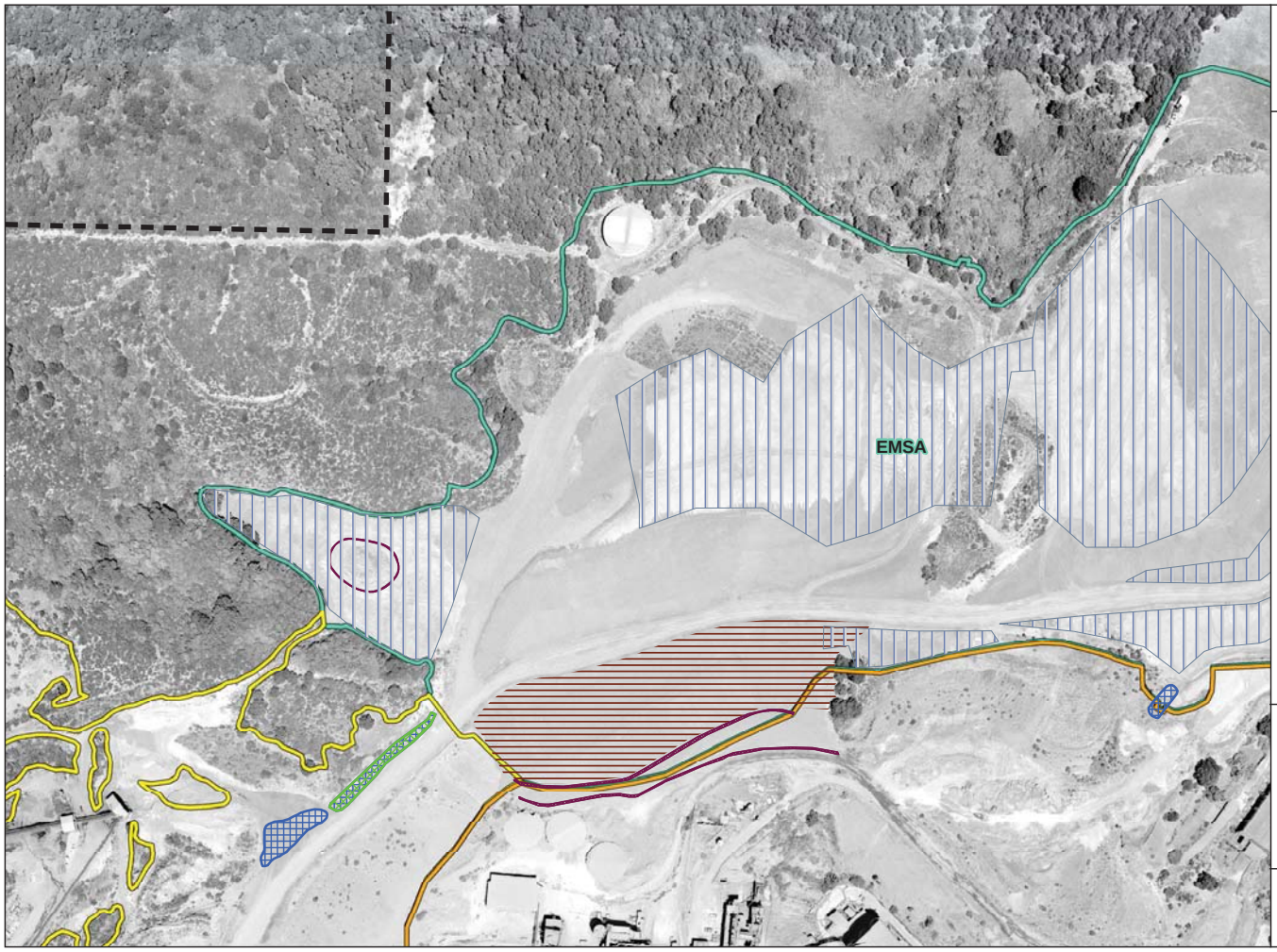

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry,
Santa Clara County,
California

EMSA West

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- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Sediment Cleanout
- Hydroseeding
- Vegetation Cleanout
- Wattles
- Wire Back Silt Fence

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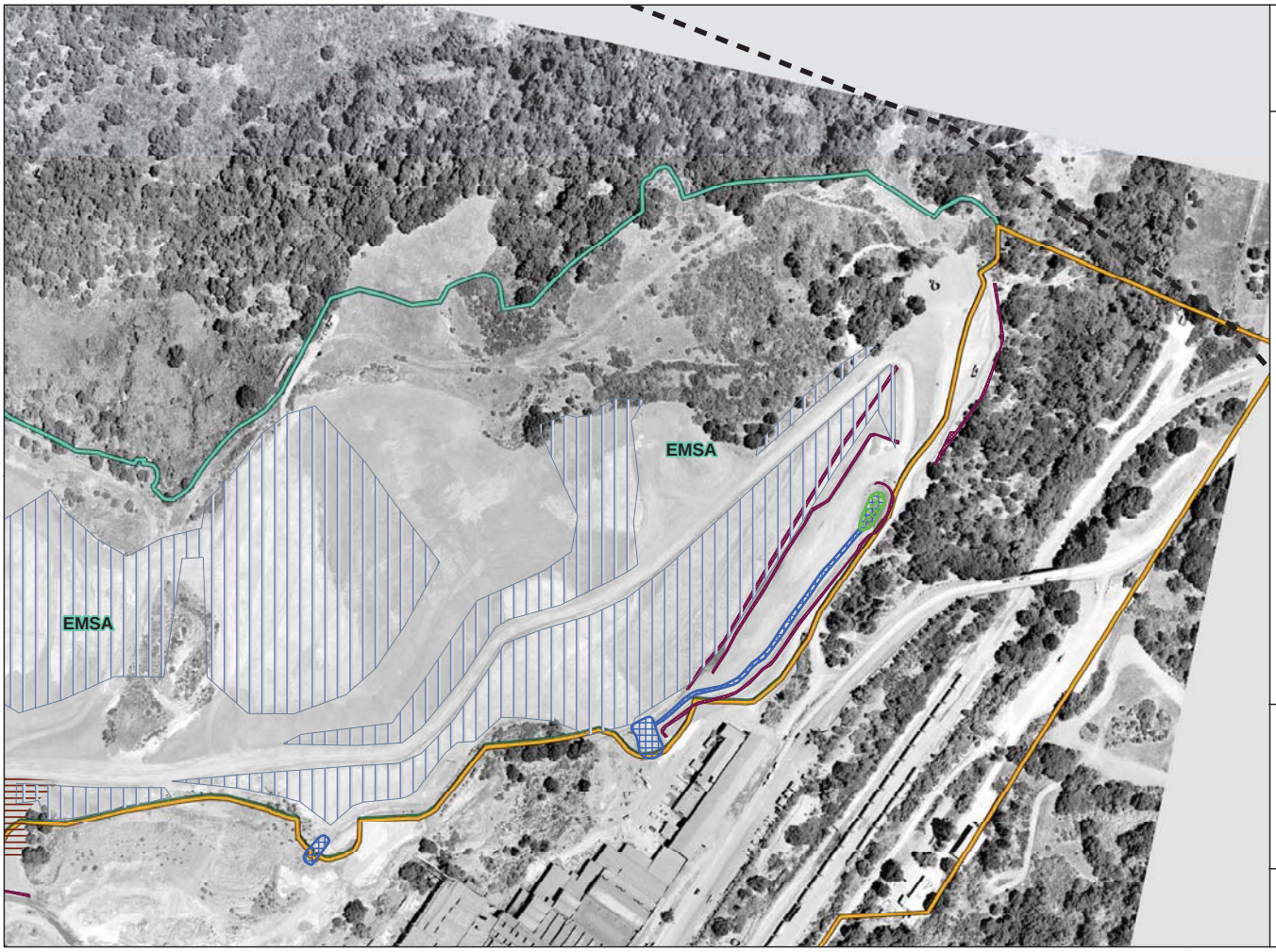

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, Santa Clara County, California

EMSA East

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Sediment Cleanout
- Hydroseeding
- Vegetation Cleanout
- Wattles
- Wire Back Silt Fence

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Date: September 2015
Map By: fhourigan

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry,
Santa Clara County,
California

Surge Pile/Rock Plant East

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Sediment Cleanout
- Wire Back Silt Fence

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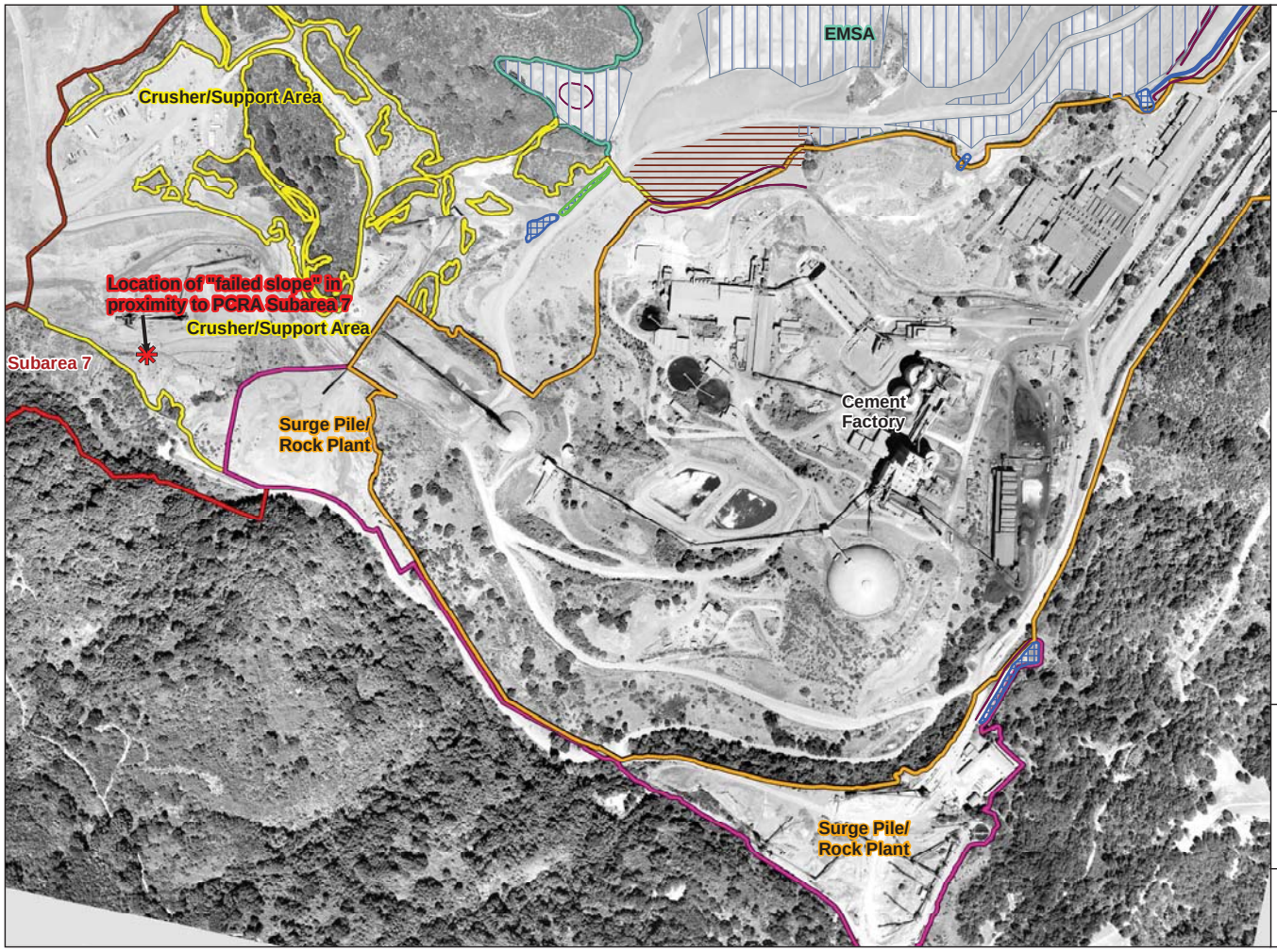

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, Santa Clara County, California

Cement Plant West

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Sediment Cleanout
- Hydroseeding
- Vegetation Cleanout
- Wattles
- Wire Back Silt Fence

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, Santa Clara County, California

Cement Plant East

- Permanente Property Boundary
- Cement Factory
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- EMSA
- North Quarry
- PCRA Subareas
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- WMSA
- Sediment Cleanout
- Hydroseeding
- Vegetation Cleanout
- Wattles
- Wire Back Silt Fence

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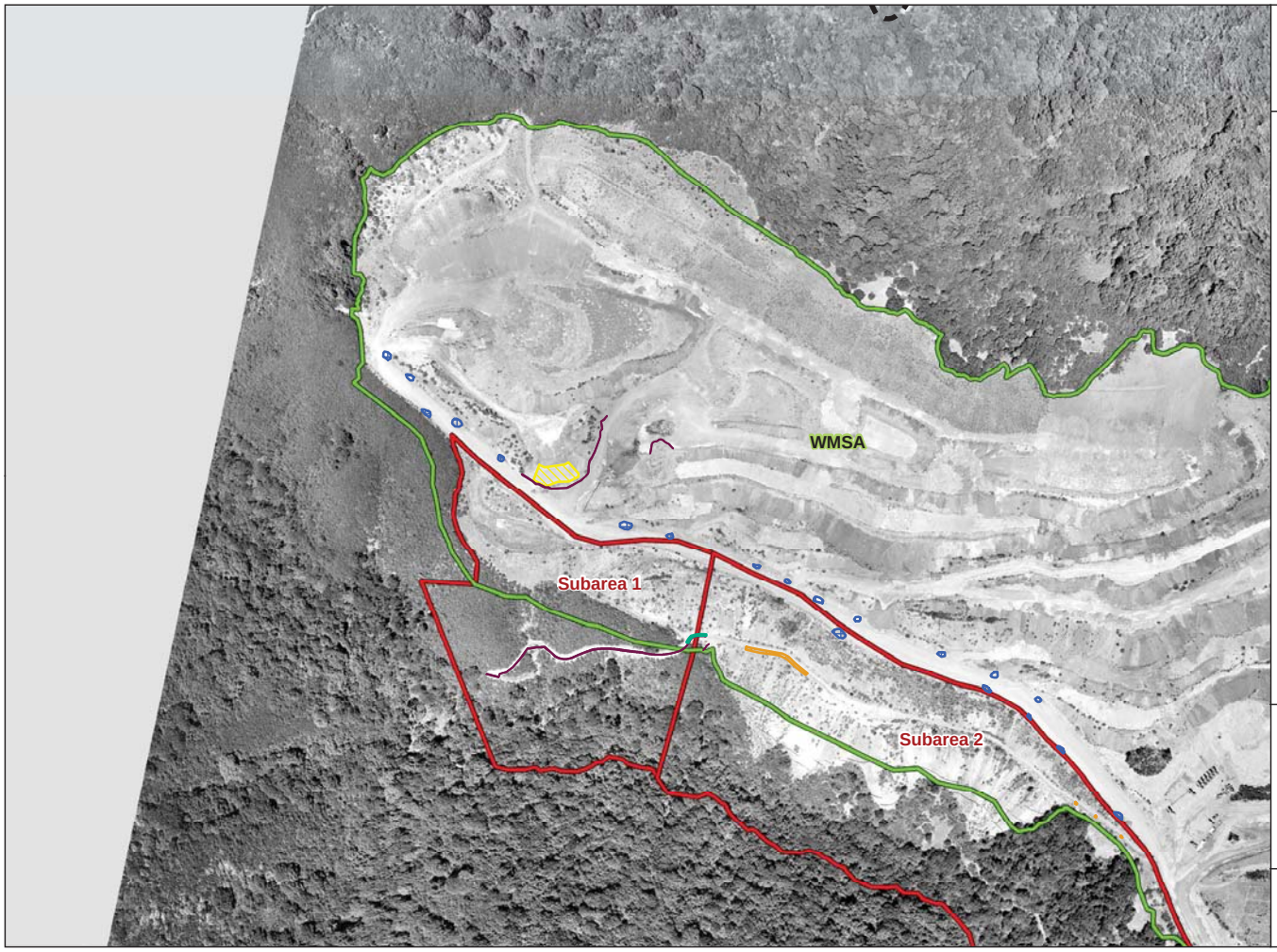

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry,
Santa Clara County,
California

WMSA West

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- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Sediment Cleanout
- Erosion Control Blanket and Wattles
- Hay Bale
- Hay Bales and Wattles
- Wire Back Silt Fence

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Date: September 2015
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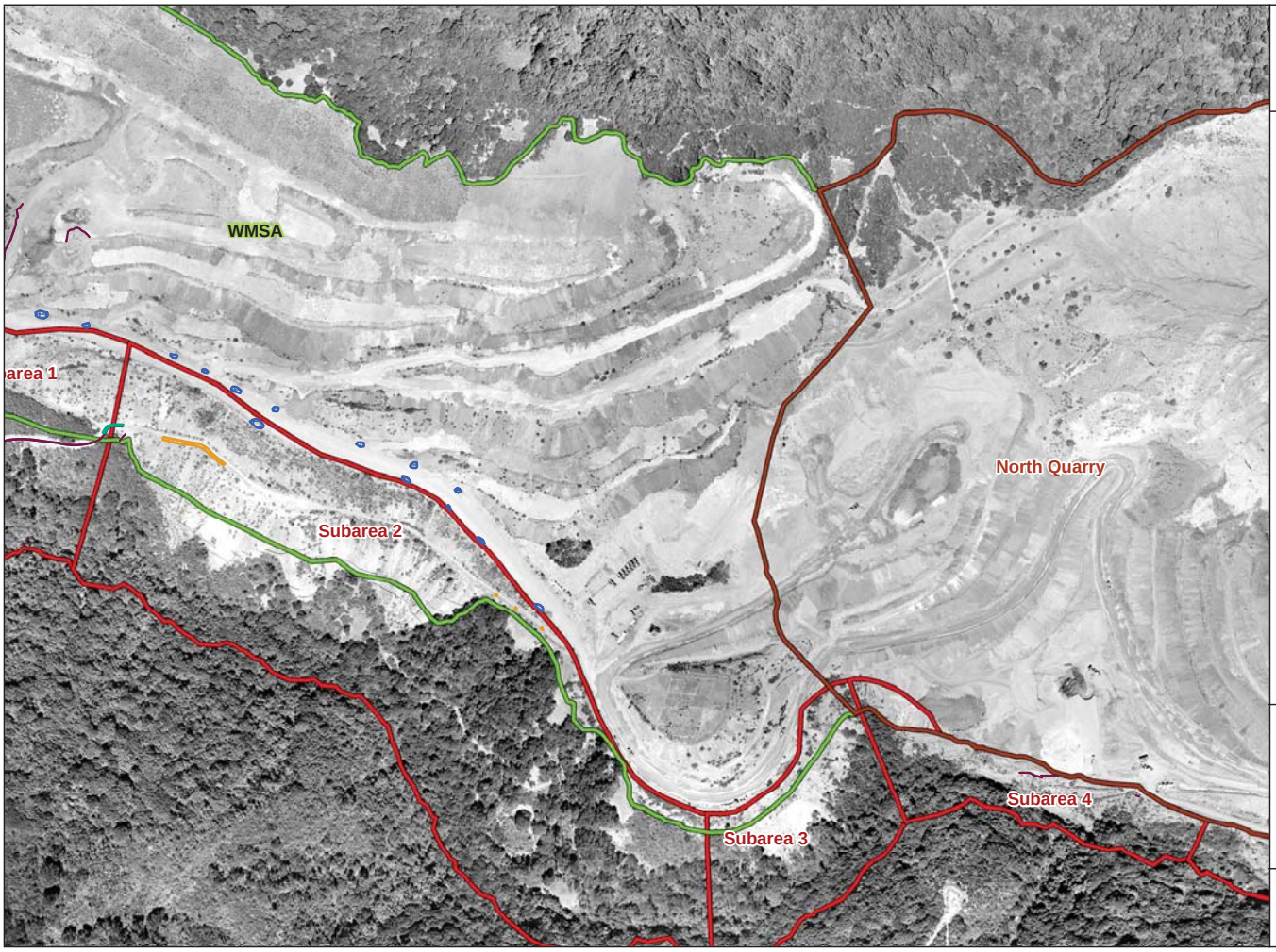

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry,
Santa Clara County,
California

WMSA East

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- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Sediment Cleanout
- Hay Bale
- Hay Bales and Wattles
- Wire Back Silt Fence

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Date: September 2015
Map By: fhourigan

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry,
Santa Clara County,
California

WMSA West (closeup)

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Sediment Cleanout
- Erosion Control Blanket and Wattles
- Wire Back Silt Fence

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Feet

Date: September 2015
Map By: fhourigan

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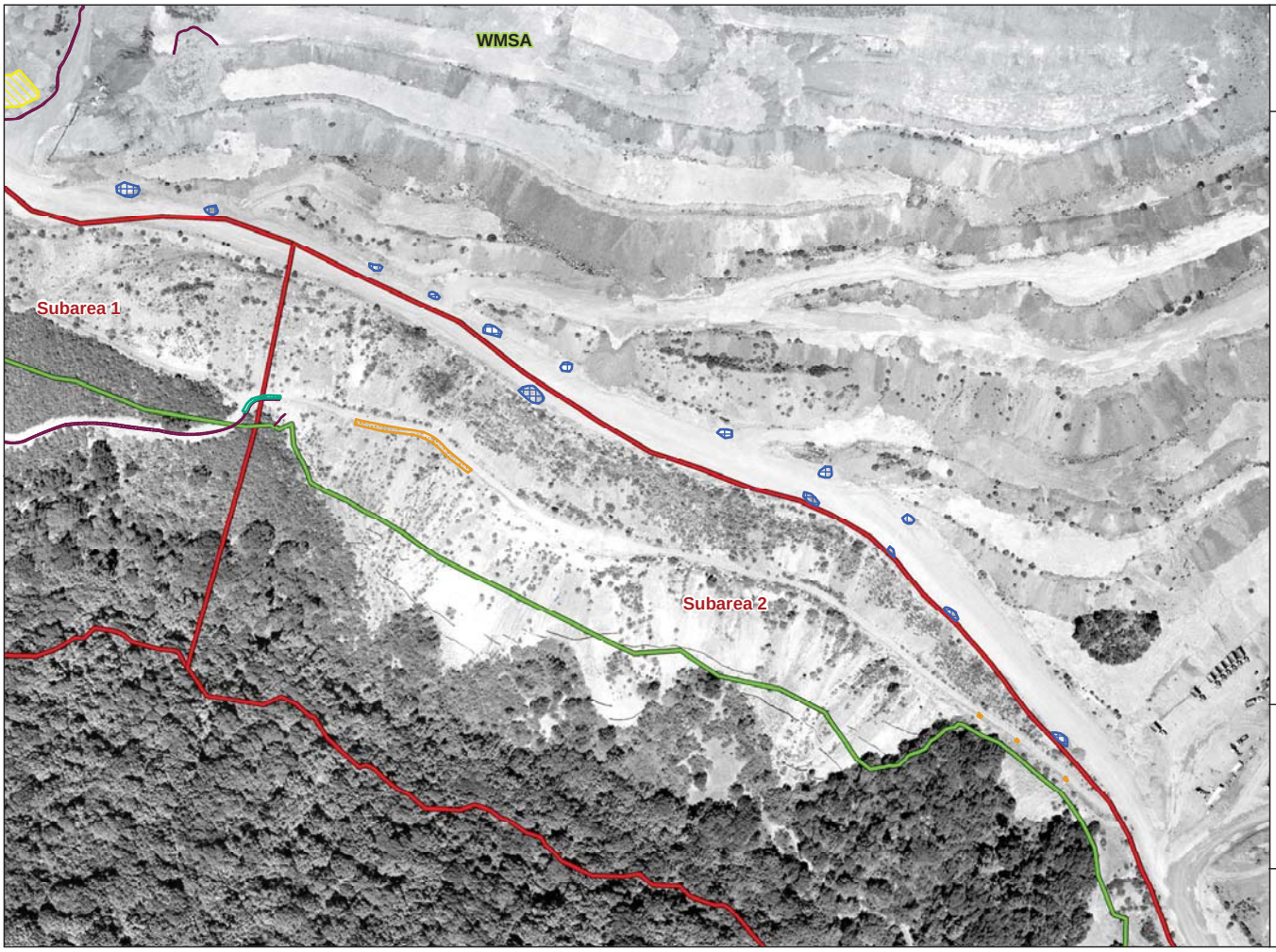

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry, Santa Clara County, California

WMSA East (closeup)

- Permanente Property Boundary
- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Sediment Cleanout
- Erosion Control Blanket and Wattles
- Hay Bale
- Hay Bales and Wattles
- Wire Back Silt Fence

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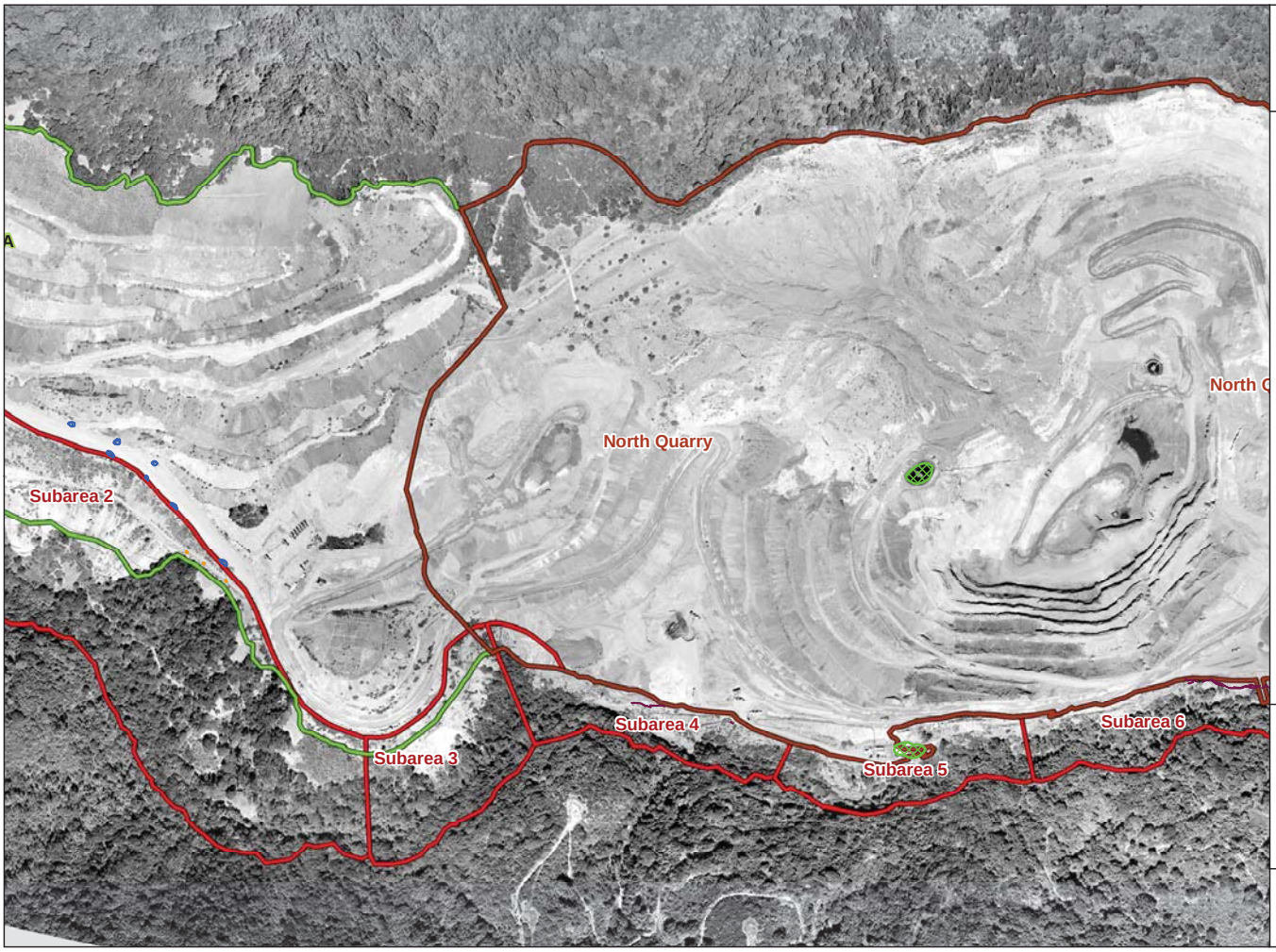

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry,
Santa Clara County,
California

North Quarry West

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- Cement Factory
- Crusher/Support Area
- EMSA
- North Quarry
- PCRA Subareas
- Surge Pile/Rock Plant
- WMSA
- Sediment Cleanout
- Hay Bale
- Vegetation Cleanout
- Wire Back Silt Fence

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Date: September 2015
Map By: fhourigan

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APPENDIX B

REPRESENTATIVE STORMWATER AND EROSION CONTROL BMP PHOTOGRAPHS

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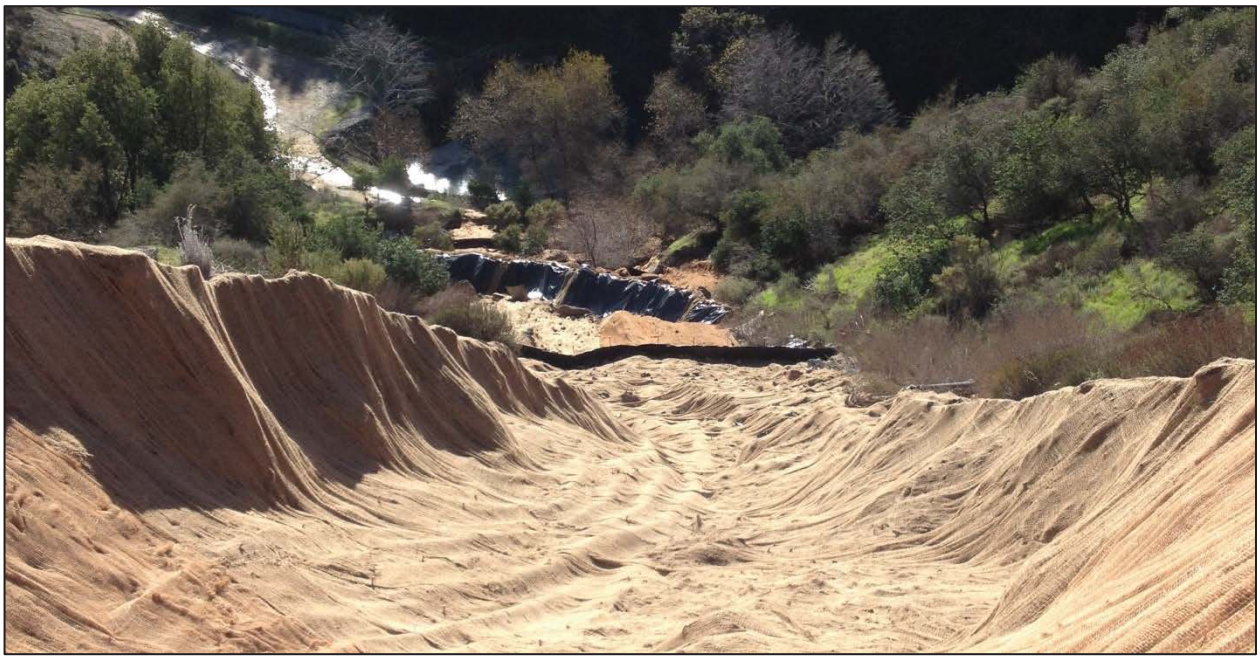
Photograph 1. Wire-backed erosion control silt fence installed on downhill side of access road in PCRA Subarea 1.

Photograph taken July 29, 2015.

Photograph 2. Wire-backed erosion control silt fence installed below new mining activity in PCRA Subarea 6.

Photograph taken March 9, 2015.



Photograph 3. Erosion control BMPs installed on debris slide below crusher in Crusher/Support Area and PCRA Subarea 7.

Photograph taken January 5, 2015.

Photograph 4. Newly reclaimed slope above north wall in North Quarry Area hydroseeded with erosion control seed mix.

Photograph taken October 16, 2014.

Photograph 5. New non-limestone lined stormwater conveyance ditch with checkdams along EMSA haul road. Bare soil shown in photograph will be hydroseeded in October 2015.

Photograph taken July 29, 2015.

Photograph 6. Erosion control straw wattles and silt fences installed on interim reclaimed slopes in the EMSA. Bare soil shown in photograph will be hydroseeded in October 2015.

Photograph taken July 29, 2015

Photograph 7. Hydroseed application of hillside on interim reclaimed slopes in the lower EMSA near Pond 30.

Photograph taken October 17, 2014.

Photograph 8. Revegetated hydroseeded interim reclaimed slope dominated by California poppy (*Eschscholzia californica*), in the lower EMSA near Pond 30.

APPENDIX C

2014-2015 RPA HYDROSEEDING MONITORING MEMO

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ENVIRONMENTAL CONSULTANTS

Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Greg Knapp, Lehigh Hanson
Cliff Maddocks, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: September 24, 2015
Subject: November 2014 & January 2015 RPA Area Hydroseeding

The purpose of this memorandum is to summarize the November 2014 and January 2015 hydroseeding activities performed within the Reclamation Plan Amendment (RPA) boundary of Lehigh Permanente Quarry (Quarry), for the purpose of preventing soil erosion and establishing native vegetation on temporary stockpiles and interim reclaimed slopes.

Hydroseeding at Lehigh Permanente Quarry is part of the reclamation Revegetation Plan (WRA 2011) and the ongoing erosion control BMP measures for Conditions of Approval compliance. As per the Revegetation Plan developed for the Reclamation Plan Amendment, (RPA) (EnviroMINE 2011) cleared and re-graded areas are required to be revegetated by hydroseeding with native seed mixes. In addition to cleared and re-graded areas, topsoil stockpiles are required to be protected from erosion and weed establishment through erosion control measures including hydroseeding as per COA #27:

> The Mine Operator shall safeguard stockpiles of topsoil or overburden to be used for reclamation from wind and erosion by using controls including, but not limited to, hydroseeding, erosion control mats, and coir wattles (aka “straw wattles”).

In general, hydroseeding is the application of seed for the establishment of vegetation using a mixture of water, seed, mulch, fertilizer, and tackifiers. As per the RPA, hydroseeding at the Quarry should take place in the fall (between September 1 and December 1) to take advantage of warm soil temperatures and winter rains for successful germination and establishment.
Approximately 25.2 acres were hydroseeded this year using two different seed native seed mixes and three different hydromulch mixes. For the temporary topsoil stockpile in the East Materials Storage Area (EMSA), an erosion control mix consisting of four grass species and one perennial subshrub was used. For interim reclaimed slopes, a hillside mix was used, which consists of grasses, forbs, subshrubs, and shrubs.

A figure showing the approximate areas that were hydroseeded is provided as an attachment to this Memo. It should be noted that a portion of the southeast polygon in the Lower EMSA was hydroseeded using a with a prototypical “all-in-one” hydromulch provided by HydroStraw, LLC. The area using the all-in-one product was demarcated in the field and will be monitored for effectiveness in comparison to the standard hillside hydroseed mix. The preliminary results of a late January site visit from David Gilpin of Pacific Coast Seed, Inc. and Ed Lee of HydroStraw, LLC as well as regular observations throughout the 2014-2015 report year are summarized below.

Preliminary Results

The overall establishment of hydroseeded plants is a success, especially given the weather conditions throughout the timeline of the hydroseeding and the time since. Lehigh Permanente Quarry experienced above average rain during the month of December, yet received below average rainfall throughout the entire water year (October 1, 2014 - September 30, 2015). As a result of these conditions, the areas that were hydroseeded in November 2014 experienced heavy rains that threatened to strip the hydroseed mixes from the hillslopes and then later in the growing season experienced, and continue to experience, a period of drought. The areas that were hydroseeded in January missed the early season large rain events, and therefore have had to persist through an extended period of below average rainfall and drought. Both David Gilpin of Pacific Coast Seed, Inc. and Ed Lee of HydroStraw, LLC stated very clearly to WRA biologists Erich Schickenberg and Ben Saragusa that the establishment of the areas that were hydroseeded is remarkable, especially given the weather conditions for the season.

WRA biologist Erich Schickenberg has continued to monitor hydroseeded areas throughout the year, and reports that the areas continue to demonstrate signs of successful establishment and the onset of favorable conditions for the succession of California native plants, nitrogen-fixing plants, and other vegetation that is effective in controlling erosion. He also reports that the establishment and expected improvement of these areas will effectively cover interim reclaimed slopes and provide a slope stabilizing function.

APPENDIX B:

2014-2015 WET SEASON EROSION CONTROL INSPECTION REPORTS

Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Greg Knapp, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: July 31, 2014
Subject: Permanente Quarry – July 2014 Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…regularly inspect all stormwater and erosion controls, especially before and following qualifying rain events. Inspections shall be documented and periodically reported. Any violations shall be corrected immediately."
>
> "Ensure that all stormwater, erosion, and sediment control BMPs are installed, inspected, maintained, and repaired under the direction of either a California certified engineer, geologist, or landscape architect, a registered professional hydrologist, or a certified erosion control specialist."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads
- Erosion control blankets, straw wattles, and silt fence installations within the PCRA treatment areas.
- Berms where stockpiles are placed

On July 31, 2014, Scott Yarger, WRA biologist, inspected the site for erosion control deficiencies.

This inspection occurred during the dry season, and there were no qualifying rain events prior to the inspection. Areas inspected include the PCRA Subareas up to Pond 13, and the East Materials Storage Area (EMSA). The Quarry Pit, WMSA, and PCRA areas upstream of Pond 13 were inaccessible on the day of inspection due to blasting in the Quarry Pit. WRA will return to assess those areas as soon as possible.

Most erosion controls were intact and did not need repair at the time of inspection. The deficiencies noted during the July 31 inspection are described below.

A new topsoil stockpile of non-limestone Santa Clara formation, to be used in reclamation activities, was formed in the EMSA. The stockpile was unprotected for approximately one week

as it was being formed. Quarry staff notified WRA to the existence of the new stockpile immediately. The stockpile was assessed by WRA on the date of inspection, and was determined to need straw wattles at the base of the pile on the upgradient side to prevent run-on and silt fencing at the downgradient perimeter to prevent run-off.

In the lower EMSA, the Pond 30 outfall area had been eroded during the rainy season. The outfall pipe was determined to need non-limestone boulders surrounding the pipe outfall to prevent erosion.

All deficiencies noted during the inspection have been addressed and fixed by WRA contractor, Ecological Concerns Inc., or Quarry staff.

If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

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Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Greg Knapp, Lehigh Hanson

From: Erich Schickenberg
schckenberg@wra-ca.com
ext. 1870

Date: August 16, 2014
Subject: Permanente Quarry – August 2014 Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…regularly inspect all stormwater and erosion controls, especially before and following qualifying rain events. Inspections shall be documented and periodically reported. Any violations shall be corrected immediately."
>
> "Ensure that all stormwater, erosion, and sediment control BMPs are installed, inspected, maintained, and repaired under the direction of either a California certified engineer, geologist, or landscape architect, a registered professional hydrologist, or a certified erosion control specialist."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads
- Erosion control blankets, straw wattles, and silt fence installations within the PCRA treatment areas.
- Berms where stockpiles are placed

On August 16, 2014, Scott Yarger and Ben Saragusa, WRA biologists, inspected the site for erosion control deficiencies. There were no deficiencies to record on the Erosion Controls Checklist and/or site maps, which are typically used to illustrate the location of deficiencies found during the site visit. During the same visit, WRA installed straw wattles around the northeast and southeast boundaries of the dinky shed pond to prevent further sedimentation within the basin. This deficiency had been noted during a previous site inspection and was being addressed at this time.

This inspection occurred during the dry season, and there were no qualifying rain events prior to the inspection. Areas inspected include the EMSA and WMSA haul roads (check dams), the topsoil reclamation area (erosion control blankets and silt fences), many pond berms, as well as the Santa Clara stockpile berms. In addition to the RPA area, BMPs in the Cement Plant area, outside of the RPA area, were inspected.

All erosion controls were intact and did not need repair at the time of inspection. There are no deficiencies to note from the August 16 site inspection.

WRA will continue to perform monthly site inspections to ensure that any deficiencies that develop in existing erosion control materials are addressed and fixed in a timely manner. Succeeding a qualifying rain event (0.5”), WRA will perform a similar inspection in order to ensure that installed erosion control BMPs are functioning as planned, as well as to better understand how stormwater moves throughout the site. Regular inspections will also allow WRA to identify the need for additional BMPs.

All deficiencies noted during previous inspections had been addressed and fixed by WRA contractor, Ecological Concerns Inc., or Quarry staff.

If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Greg Knapp, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: September 2014
Subject: Permanente Quarry – Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…regularly inspect all stormwater and erosion controls, especially before and following qualifying rain events. Inspections shall be documented and periodically reported. Any violations shall be corrected immediately."
>
> "Ensure that all stormwater, erosion, and sediment control BMPs are installed, inspected, maintained, and repaired under the direction of either a California certified engineer, geologist, or landscape architect, a registered professional hydrologist, or a certified erosion control specialist."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches.

Throughout the month of September, 0.63 inches of rain fell on Permanente Quarry. One qualifying rain event (totaling 0.5 inches rainfall or greater within one day) occurred on September 25, 2014. On September 28, 2014 Erich Schickenberg, a WRA biologist, inspected the site for erosion control deficiencies.

Most erosion controls were observed to be intact after the rain event on September 25, 2014, and do not need repair.

No further actions should be completed at this time.

If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

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Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Greg Knapp, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: October 31, 2014
Subject: Permanente Quarry – October 2014 Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…regularly inspect all stormwater and erosion controls, especially before and following qualifying rain events. Inspections shall be documented and periodically reported. Any violations shall be corrected immediately."
>
> "Ensure that all stormwater, erosion, and sediment control BMPs are installed, inspected, maintained, and repaired under the direction of either a California certified engineer, geologist, or landscape architect, a registered professional hydrologist, or a certified erosion control specialist."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.

On October 31, 2014, Sean Avent, WRA scientist, conducted a site inspection during an active rain storm in order to observe and record any deficiencies in erosion control and stormwater BMPs and to investigate the need for additional erosion control, stormwater and/or siltation containment measures. The storm on October 31, 2014 produced 0.14 inch of precipitation, significantly less than the 0.5 inch within one day to be considered a "qualifying rain event", however the storm produced enough rainfall to produce surface flow and to demonstrate the adequacy or deficiency of inspected BMPs.

Areas that were inspected include the Quarry, WMSA and EMSA haul roads and check dams, Pond 4a, the PCRA Subareas, Crusher area, Pond 17 and newly hydroseeded areas in the EMSA. In general, most erosion controls are functioning properly and do not need repair. Observed deficiencies were recorded on the Erosion Controls Checklist (Appendix A) and Maps 1-3 (Appendix B), and they were cross-referenced with photographs in Appendix C.

A particular focus of this inspection was to determine whether stormwater runoff on quarry roads is being properly diverted into “temporary basins, the Quarry pit, or temporary vegetated infiltration basins and kept away from drainage pathways entering Permanente Creek”, as per COA 78f. In general, stormwater runoff throughout the Quarry is being slowed properly by checkdams, and directed towards the Quarry pit and sedimentation basins. For instance, all portions of the WMSA and Quarry Pit area north of the main haul road were being drained to the Quarry Pit as designed (see Appendix C, Photo 1). Runoff collected in the Quarry Pit is then pumped to Pond 4a for water quality treatment prior to discharge.

A deficiency was found near the midpoint of the EMSA haul road, where stormwater runoff was collecting on the road instead of being diverted into the D-10 ditch which feeds into the network of EMSA sedimentation basins starting with Sedimentation Basin 31B. The collection of water on the road seemed to be due to recent regrading of the haul road which created a non-porous berm at the drainage entrance to the D-10 ditch. To prevent puddling and then overflow causing potential erosion on the active EMSA haul road, the non-porous berm will be removed and the D-10 ditch opened up to receive stormwater runoff from the upper EMSA. Additionally, non-limestone check dams will be installed along the EMSA haul road uphill from the D-10 ditch to slow down runoff and trap sediment before entering the D-10 ditch.

The lower EMSA haul road was recently regraded, and stormwater runoff was found to be flowing down the middle of the road instead of into a stormwater conveyance ditch on the side of the road. This portion of the road will be regraded to direct runoff into the in-sloped ditch, and BMPs will be installed to slow down runoff and trap sediment before reaching the lower EMSA. In addition regrading will also divert stormwater runoff to flow into the stormwater conveyance ditch leading to Sedimentation Basin 31A.

The lower EMSA, which was recently regraded, was hydroseeded in October 2014 with a native seed mixture of grasses, forbs, and shrubs (see Appendix C, Photo 2) to prevent erosion and noxious weed establishment and promote the establishment of native vegetation. No erosion was observed on the newly hydroseeded slopes during this inspection.

The biological exclusion silt fencing around Pond 17 in the Rock Plant area was found to be toppled over in sections. This fence has been repaired and/or replaced where needed.

Attention to all noted deficiencies during this inspection will be given as soon as feasible. If you have any questions regarding this inspection or the corrective actions that have been taken, please do not hesitate to contact me or other WRA staff at your convenience.

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Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Greg Knapp, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: November, 2014
Subject: Permanente Quarry – Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…regularly inspect all stormwater and erosion controls, especially before and following qualifying rain events. Inspections shall be documented and periodically reported. Any violations shall be corrected immediately."
>
> "Ensure that all stormwater, erosion, and sediment control BMPs are installed, inspected, maintained, and repaired under the direction of either a California certified engineer, geologist, or landscape architect, a registered professional hydrologist, or a certified erosion control specialist."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches.

This memorandum summarizes the erosion control inspections conducted by WRA biologists throughout the month of November, 2014. Permanente Quarry received 2.2 inches of rainfall over the month of November, with two qualifying rain events (events totaling 0.5 inches rainfall or greater within 24 hours) occurring on November 29 and November 30. Six additional days of rain occurred throughout the month, however none of these days had rainfall totals large enough to be considered "qualifying rain events".

WRA biologists conducted erosion control inspections on November 6, 14, and 25 in order to document the need for repairs to existing stormwater and erosion control BMPs and to identify the need for additional erosion controls. All areas of the Lehigh Permanente Quarry were inspected throughout the month of November during WRA's erosion control inspections. Areas that were inspected include the WMSA, North Quarry, Crusher/Support Area, EMSA, PCRA Subareas 1 through 7, and the Surge Pile/Rock Plant Area. All stormwater conveyances, check dams, and sedimentation basins were also inspected regularly.

Most erosion controls inspected during the month of November were intact and not needing repair. Deficiencies in erosion control measures were limited to damage to silt fences in the Crusher/Support area and in PCRA Subarea 4. Needs for additional erosion control BMPs were noted in the EMSA, and PCRA Subarea 4.

Sections of silt fence below the new crusher, in the Crusher/Support area were found to be weathered and in need of repair. The silt fences below the new crusher were put in place as temporary construction-related erosion control measures during the construction of the new crusher in 2013. For the most part, these silt fences have been effective in preventing erosion. The damage to the torn or downed silt fence sections appeared to have been caused by weathering and wind, as significant erosion was not evident uphill of the damaged sections. The downed sections of silt fence will be repaired, and the remaining intact silt fence in this area will be evaluated through the 2014-2015 winter season to determine whether it is still needed.

A downed section of wire-backed silt fence was discovered in PCRA Subarea 4. This silt fence will be repaired and additional wire-backed silt fence will be installed.

Corrections to the EMSA haul road noted in the October 2014 report have been made. The lower haul road above the hairpin turn was regraded to the prevent stormwater runoff from running down the center of the road. Additional BMPs that will be installed in December 2014 include: checkdams along the insloped ditch, and additional silt fence BMPs at the toe of the newly regraded and hydroseeded slope. These BMPs should effectively control stormwater runoff and prevent sedimentation of the lower EMSA pad.

If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Greg Knapp, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: December 31, 2014

Subject: Permanente Quarry – December 2014 Erosion Control Inspections

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…regularly inspect all stormwater and erosion controls, especially before and following qualifying rain events. Inspections shall be documented and periodically reported. Any violations shall be corrected immediately."

> "Ensure that all stormwater, erosion, and sediment control BMPs are installed, inspected, maintained, and repaired under the direction of either a California certified engineer, geologist, or landscape architect, a registered professional hydrologist, or a certified erosion control specialist."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection basins.
- Water conveyance berms and ditches.

This memorandum documents the erosion control inspections conducted by WRA biologists throughout the month of December, 2014. Permanente Quarry received 11.57 inches of rainfall over the month of December, well above the 4.5 inches average December rainfall total for the previous four years. Four qualifying rain events (totaling 0.5 inches rainfall or greater within one day) occurred during the month of December. The largest rain event, amounting 4.97 inches of rainfall, occurred on December 11, 2014. WRA biologists conducted erosion control inspections on December 1, 5, and 12, both before and after qualifying rain events in order to document the need for repairs to existing stormwater and erosion control BMPs and to identify the need for additional erosion controls. Additionally, Santa Clara County staff conducted routine monthly site visits on December 5, 2014 and December 12, 2014 to identify stormwater containment and erosion control issues. WRA biologists provided on-site support and oversight on repairs and corrections of noted

deficiencies throughout the month. Santa Clara County staff conducted a follow-up site visit on December 31, 2014 to confirm corrections to the deficiencies noted in the December site visits.

All areas of the Lehigh Permanente Quarry were inspected during the month of December during WRA erosion control inspections. Areas that were inspected include the WMSA, North Quarry, Crusher/Support Area, EMSA, PCRA Subareas 1 through 7 and the Surge Pile/Rock Plant Area. All stormwater conveyances, check dams, and sedimentation basins were inspected regularly.

Observations

December 1, 2014 Inspection

On December 1, 2014, WRA biologists conducted an erosion control BMP inspection in anticipation of a qualifying rain event forecasted for the following day. The purpose of the site visit was to observe and record any deficiencies in erosion control and stormwater BMPs and to investigate the need for additional erosion control, stormwater, and/or siltation containment measures. In general, most erosion control BMPs were functioning and not in need of repair. Observed deficiencies are described below.

Near the midpoint of the EMSA haul road, stormwater runoff was collecting on the road instead of being diverted into the D-10 ditch which feeds into the network of EMSA sedimentation basins starting with Sedimentation Basin 31B. The collection of water on the road seemed to be due to recent regrading of the haul road which created a non-porous berm at the drainage entrance to the D-10 ditch.

On the lower EMSA haul road, stormwater runoff was found to be flowing down the middle of the road instead of into a stormwater conveyance ditch on the side of the road.

The biological exclusion silt fencing around Pond 17 in the Rock Plant area was found to be toppled over in sections.

WMSA topsoil stockpile BMP materials were found to be old, tattered, slumping and in need of replacement in order to ensure that they are functioning properly.

The silt fence that surrounds Pond 30 showed signs of requiring patching or being trued up and re-staked in one area on the eastern side of the Pond.

The wire-backed silt fence on the hillside below the old crusher was in need of replacing and/or repairing.

December 5, 2014 Inspection

On December 5, 2014, a WRA biologist conducted a post-storm erosion control BMP inspection after two qualifying rain events that occurred on December 2 and December 3, 2014. Lehigh Permanente Quarry received 1.52 inches of rainfall on December 3, and 3 inches of rainfall on December 4, combining for a total of 4.52 inches of rainfall in a 48-hour period. The purpose of the inspection was to observe and record any deficiencies in erosion control and stormwater BMPs and to investigate the need for additional erosion control, stormwater, and/or siltation containment measures. The rain storms of December 2 and 3 produced intense rainfall and resulted in erosion and stormwater flows which were noted in the inspection.

BMPs covering the WMSA top soil stockpile were observed to be slumping and in need of replacement. Additionally, erosion was noted on the WMSA haul road, and check dams were in need of cleanout and repair.

Loose material was observed within PCRA subarea 7, which was covered with erosion control blankets (jute netting) in order to aid in stabilizing the slope and encourage percolation of rainfall rather than sheet flow.

Additionally, silt fence below the new crusher was found to be tattered and torn and in need of repair.

December 12, 2014 Inspection

On December 12, 2014, WRA biologists conducted a post-storm erosion control inspection after a qualifying rain event that occurred on December 11. Permanente Quarry received 4.97 inches of rain on December 11, and an additional 0.17 inches on December 12, the date of the inspection, which combined for a total of 5.14 inches over a 48-hour period. The purpose of the site visit was to observe and record any deficiencies in erosion control and stormwater BMPs and to investigate the need for additional erosion control, stormwater, and/or siltation containment measures.

The lower EMSA was recently regraded in accordance with the RPA. Regraded areas were hydroseeded in October 2014 with a native seed mixture of grasses, forbs, and shrubs to prevent erosion and noxious weed establishment and promote the establishment of native vegetation. The majority of the recently graded slopes in the EMSA did not show any sign of erosion during the site visit, however, stormwater flowing down the haul road required management.

On the lower EMSA haul road, stormwater was found to be flowing down the middle of the road instead of into a stormwater conveyance ditch on the side of the road. Future regrading of this road will help to reroute stormwater into this conveyance ditch.

Other minor deficiencies noted in the EMSA included: a newly formed topsoil stockpile without protective BMPs, a downed section of silt fence along the lower eastern edge of the EMSA, and sections of the silt fence that surrounds Pond 30 required patching and re-staking.

The biological exclusion silt fencing around Pond 17 in the Rock Plant Area was found to be downed in sections.

The WMSA stockpile BMP materials remained in need of repair or replacement in order to ensure that they are functioning properly.

Corrective Actions

Several corrective actions were taken throughout the month of December to repair or replace stormwater and erosion control BMP deficiencies noted during WRA erosion control inspections and site visits by Santa Clara County staff. All deficiencies described above have been corrected by erosion control contractor, Ecological Concerns Inc. (ECI), or by quarry staff. Specific corrective actions taken throughout the month are described below.

Stormwater conveyances and erosion control BMPs in the EMSA were a major focus of corrective actions during the month of December. The EMSA haul road was regraded to divert stormwater into the conveyance ditch and checkdams were installed to control the stormwater flow and trap sediment before it reaches the lower EMSA (Photo 1). The berm at the lower EMSA haul road was replaced with an approximately six foot, non-limestone berm reinforced by hay bales and silt fence, which will help to divert stormwater towards Sedimentation Basin 31A (Photo 2). An additional silt fence was installed along the length of the conveyance ditch to Sedimentation Basin 31A as an additional sediment control measure (Photo3).

The non-porous berm at the D-10 ditch near the midpoint of the EMSA haul road was removed and sediment was removed from the D-10 ditch. This effectively opened the D-10 ditch back up to

stormwater conveyance into Sedimentation Basin 31B as designed. The D-10 ditch was retrofitted with three checkdams to slow stormwater and trap sediment before reaching Sedimentation 31B (Photo 4). Additional corrections completed in the EMSA include installation of a silt fence around the perimeter of the EMSA topsoil stockpile (Photo 5).

Summary

Lehigh Permanente Quarry received higher than average rainfall during the month of December, 2014. WRA conducted erosion control inspections before, during, and after qualifying rain events to document erosion control and stormwater containment issues, and the need for additional BMPs. Santa Clara County staff conducted two additional site visits during the month to document stormwater containment and erosion control. Deficiencies noted during WRA erosion control inspections and County site visits were corrected as soon as feasible. The follow-up site visit conducted by the County on December 31, 2014 confirmed that all noted deficiencies during the month of December had been corrected. WRA will continue to conduct routine stormwater and erosion control inspections and provide oversight on repairs and corrections of noted deficiencies, in fulfillment of the COAs.

If you have any questions regarding the results of these inspections or the corrective actions taken, please do not hesitate to contact me or other WRA staff at your convenience.

Photo 1: Lower EMSA haul road regraded with non-limestone checkdams installed.

Photograph taken December 29, 2014.

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Photo 2: EMSA hairpin turn reinforced with haybales, silt fence and non-limestone berm.

Photograph taken December 29, 2014.

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Photo 3: Stormwater containment ditch from EMSA haul road hairpin turn to Pond 31B with installed silt fence BMP.

Photograph taken December 31, 2014.

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Photo 4: D-10 ditch opened up to receive stormwater with checkdams installed.

Photograph taken December 29, 2014.

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Photo 5: EMSA topsoil stockpile with silt fence BMP installed.

Photographs taken December 31, 2014.

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Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Greg Knapp, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: January 2015
Subject: Permanente Quarry – Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…regularly inspect all stormwater and erosion controls, especially before and following qualifying rain events. Inspections shall be documented and periodically reported. Any violations shall be corrected immediately."
>
> "Ensure that all stormwater, erosion, and sediment control BMPs are installed, inspected, maintained, and repaired under the direction of either a California certified engineer, geologist, or landscape architect, a registered professional hydrologist, or a certified erosion control specialist."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches.

Throughout the month of January, no rain fell on Permanente Quarry. While there was no "qualifying rain event", regular Erosion Control BMP inspections were performed to ensure the integrity of the BMPs in place throughout the RPA area. Ben Saragusa, Erich Schickenberg, and Scott Yarger, WRA biologists inspected the site for erosion control deficiencies.

Most erosion controls are intact and do not need repair. Deficiencies in erosion control measures were limited to damage to the erosion control netting on the WMSA soil stockpile, minor repairs as needed to silt fence, non-limestone berms and ditches in the EMSA below C-Station, and check dams on the haul road requiring maintenance.

The major repair that has been seen to and acted upon throughout the second half of the month is the replacing of jute netting and straw wattles protecting the entire WMSA topsoil stockpile.

The stormwater ditch just upstream of Pond 30 is receiving sediment inflow from the haul road and parking areas above it (emanating from water flowing down the EMSA haul road). This ditch should be cleaned out and relined with non-limestone rock. A preventative measure to keep sediment from

entering the ditch would be to place straw wattles or hay bales along the boulders that act as a haul road berm.

A small area, roughly 2 x 5 feet, of the erosion control netting on the WMSA soil stockpile is slumping. Although the deficiency is present, it is small and will not immediately pose a significant threat to erosion.

Attention to all noted deficiencies should be given as soon as feasible. Plans were made to maintain and replace check dams on the haul road by the Permanente Quarry staff and work is expected to be completed by March 15, 2013.

If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Greg Knapp, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: February, 2015
Subject: Permanente Quarry – Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…regularly inspect all stormwater and erosion controls, especially before and following qualifying rain events. Inspections shall be documented and periodically reported. Any violations shall be corrected immediately."
>
> "Ensure that all stormwater, erosion, and sediment control BMPs are installed, inspected, maintained, and repaired under the direction of either a California certified engineer, geologist, or landscape architect, a registered professional hydrologist, or a certified erosion control specialist."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches.

This memorandum documents the erosion control inspections conducted by WRA biologists throughout the month of February, 2015. Permanente Quarry received approximately 7.45 inches of rainfall over the month of February. Four qualifying rain events (totaling 0.5 inches rainfall or greater within one day) occurred during the month of February. WRA biologists conducted erosion control inspections on February 2 and 9, both before and after qualifying rain events in order to document the need for repairs to existing stormwater and erosion control BMPs and to identify the need for additional erosion controls. Additionally, Santa Clara County staff conducted a routine monthly site visit on February 5, 2015 to identify stormwater containment and erosion control. WRA biologists provided on-site support and oversight on repairs and corrections of noted deficiencies throughout the month.

WRA erosion control inspections, for the month of February, included all areas of the Lehigh Permanente Quarry. Areas that were inspected include the WMSA, North Quarry, Crusher/Support Area, EMSA, PCRA Subareas 1 through 7 and the Surge Pile/Rock Plant Area. All stormwater conveyances, check dams, and sedimentation basins were inspected regularly. Deficiencies observed and corrective actions taken are summarized in the following section.

Observations

February 2, 2015 Inspection

On February 2, 2015, WRA biologists conducted an erosion control BMP inspection in anticipation of a qualifying rain event forecasted for the following days. The purpose of the site visit was to observe and record any deficiencies in erosion control and stormwater BMPs and to investigate the need for additional erosion control, stormwater, and/or siltation containment measures. In general, most erosion control BMPs were functioning and not in need of repair. Observed deficiencies are described below:

- A portion of wire-backed silt fence near Pond 13b was toppled.
- The biological exclusion silt fencing around Pond 17 in the Rock Plant area needed repair in sections.
- Sections of wire-backed silt fence on the hillside in PCRA subarea 4 needed replacing and/or repair. A county representative recommended that an additional section of silt fence be installed in the north-western most portion of PCRA subarea 2.
- Sections of wire-backed silt fence on the hillside in PCRA subarea 4 needed replacing and/or repair.
- Sections of wire-backed silt fence in the EMSA needed replacing and/or repair.

Corrective Actions

Several corrective actions were taken throughout the month of February to repair or replace stormwater and erosion control BMP deficiencies noted during WRA erosion control inspections and site visits by Santa Clara County staff. All deficiencies described above have been corrected by erosion control contractor, Ecological Concerns Inc. (ECI), or by quarry staff

If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Greg Knapp, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: March 2015
Subject: Permanente Quarry – Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…regularly inspect all stormwater and erosion controls, especially before and following qualifying rain events. Inspections shall be documented and periodically reported. Any violations shall be corrected immediately."
>
> "Ensure that all stormwater, erosion, and sediment control BMPs are installed, inspected, maintained, and repaired under the direction of either a California certified engineer, geologist, or landscape architect, a registered professional hydrologist, or a certified erosion control specialist."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches.

Throughout the month of March, no rain fell on Permanente Quarry. While there was no "qualifying rain event", regular Erosion Control BMP inspections were performed to ensure the integrity of the BMPs in place throughout the RPA area. Erich Schickenberg, a WRA ecologist, inspected the site for erosion control deficiencies.

All erosion control BMPs are intact and do not need repair. The deficiencies that were noted in the February 2015 report were taken care of, including the maintenance of haul road check dams.

No further actions should be completed at this time.

If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

wra
ENVIRONMENTAL CONSULTANTS

Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Greg Knapp, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: April 2015
Subject: Permanente Quarry – Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…regularly inspect all stormwater and erosion controls, especially before and following qualifying rain events. Inspections shall be documented and periodically reported. Any violations shall be corrected immediately."
>
> "Ensure that all stormwater, erosion, and sediment control BMPs are installed, inspected, maintained, and repaired under the direction of either a California certified engineer, geologist, or landscape architect, a registered professional hydrologist, or a certified erosion control specialist."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on the haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches.

Throughout the month of April, 2.56 inches of rain fell on Permanente Quarry. Two qualifying rain events (totaling 0.5 inches rainfall or greater within one day) occurred during the month of April. The largest rain event, amounting 1.31 inches of rainfall, occurred on April 25, 2015. The other qualifying rain event occurred on April 8, 2015, and amounted to 0.88 inches of rainfall. WRA biologist Erich Schickenberg conducted erosion control inspections on April 6 and April 10, 2015, before and after the qualifying rain event, and again on April 29, 2015 after the latter qualifying rain event.

Minor deficiencies in erosion control measures were observed on April 29, 2015 and were limited to damage to the erosion control netting at the toe of the slope beneath the road in PCRA subarea 5. Sediment should be removed from this silt fence and the damaged sections should be repaired and/or replaced.

If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Greg Knapp, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: May 2015
Subject: Permanente Quarry – Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…regularly inspect all stormwater and erosion controls, especially before and following qualifying rain events. Inspections shall be documented and periodically reported. Any violations shall be corrected immediately."
>
> "Ensure that all stormwater, erosion, and sediment control BMPs are installed, inspected, maintained, and repaired under the direction of either a California certified engineer, geologist, or landscape architect, a registered professional hydrologist, or a certified erosion control specialist."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches.

Throughout the month of May, no rain fell on Permanente Quarry. While there was no "qualifying rain event", regular Erosion Control BMP inspections were performed to ensure the integrity of the BMPs in place throughout the RPA area. Erich Schickenberg, a WRA biologist, inspected the site for erosion control deficiencies.

Most erosion controls are intact and do not need repair. All deficiencies observed during this time were addressed immediately.

No further actions should be completed at this time.

If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

wra
ENVIRONMENTAL CONSULTANTS

Memorandum

To: Sam Barket, Lehigh Hanson
Cc: Greg Knapp, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: June 2015
Subject: Permanente Quarry – Erosion Control Inspection

Per COA 78 of the Final Conditions of Approval, the Mine Operator shall:

> "…regularly inspect all stormwater and erosion controls, especially before and following qualifying rain events. Inspections shall be documented and periodically reported. Any violations shall be corrected immediately."
>
> "Ensure that all stormwater, erosion, and sediment control BMPs are installed, inspected, maintained, and repaired under the direction of either a California certified engineer, geologist, or landscape architect, a registered professional hydrologist, or a certified erosion control specialist."

WRA has been actively managing the inspections of stormwater, erosion, and sediment control BMPs in the RPA. WRA regularly reports on the inspections of the various BMP's to include:

- Check dams on haul roads.
- Erosion control blankets, straw wattles, and silt fence installations within the RPA area.
- Berms where stockpiles are placed.
- Sedimentation and stormwater collection ponds.
- Water conveyance berms and ditches.

Throughout the month of June, no rain fell on Permanente Quarry. While there was no "qualifying rain event", regular Erosion Control BMP inspections were performed to ensure the integrity of the BMPs in place throughout the RPA area. Erich Schickenberg, a WRA biologist, inspected the site for erosion control deficiencies. Deficiencies were recorded on the Erosion Controls Checklist.

Most erosion controls are intact and do not need repair. All deficiencies observed during this time were addressed immediately.

No further actions should be completed at this time.

If you have any questions regarding this inspection or the actions that should be taken, please do not hesitate to contact me or other WRA staff at your convenience.

APPENDIX C:

RECLAMATION PLAN AMMENDMENT AND FINAL CONDITIONS OF APPROVAL ANNUAL WORKER TRAINING

LEHIGH HEIDELBERGCEMENT Group Permanente Plant	Lehigh Hanson ENVIRONMENTAL ANNUAL TRAINING TOPIC RPA Provisions and Conditions of Approval	**Annual** **2015**

Santa Clara County: Reclamation Plan Amendment (RPA)

RECLAMATION PLAN AMENDMENT AND FINAL CONDITIONS OF APPROVAL TRAINING TOPICS

Per the Final Conditions of Approval number 11 (COA 11), Lehigh shall annually train all mining staff, including outside vendors, contractors, or consultants who are responsible for implementation of any part of the mine operations or reclamation at Permanente Quarry, on the requirements and provisions of the RPA, the conditions of approval, and the MMRP.

Reclamation Plan Amendment (RPA) and Provisions

Approval of the project would amend the existing reclamation plan for the Quarry and would result in the reclamation of an approximately 1,238-acre project area within the Applicant's overall 3,510-acre ownership. The Project is designed to make the reclaimed lands suitable for future open space uses. It includes site-specific activities to satisfy the reclamation requirements of the Surface Mining and Reclamation Act of 1975 and the County's surface mining ordinance and surface mining and land reclamation standards. The Project would be implemented in three phases over an approximately 20-year period, expected to begin in 2012 and conclude with final reclamation by approximately 2030.

As part of the RPA approval process, mitigation measures and provisions were agreed upon for the project. The Project Draft Environmental Impact Report (EIR) and Final EIR describe the various conditions and activities that the quarry must adhere to through the project. Quarry staff shall be aware of the conditions of approval that correspond to their job descriptions and responsibilities. These are listed and described throughout the Reclamation Plan Amendment, which is available for all quarry staff to view as needed.

Final Conditions of Approval

The County issued a Final Conditions of Approval which contains 89 different Conditions of Approval which shall be met by the Quarry. Quarry staff shall be aware of the COA's and be knowledgeable in those COA's which correspond to their job descriptions and responsibilities. A copy of the Final COAs is available for all quarry staff to view as needed.

LEHIGH HEIDELBERGCEMENT Group Permanente Plant	Lehigh Hanson ENVIRONMENTAL ANNUAL TRAINING TOPIC RPA – Prevention of Triggering Debris Slides	**Annual** **2015**

Santa Clara County: Reclamation Plan Amendment (RPA)

PREVENTION OF TRIGGERING DEBRIS SLIDES

As a condition of approval for the Reclamation Plan Amendment, the County has mandated that mine operators shall be trained in the prevention of triggering debris slides. This is targeted at keeping sediment, especially limestone-based materials, from entering Permanente Creek and PCRA areas.

Please discuss the following topics with all employees:

1. General awareness of the causes and impacts of debris slides.

   Debris slides can occur on steep hillsides where consolidation of the substrate cannot support the loads above. Slides usually happen where fill slopes are steep and composed of loose materials. Any loosening or disturbance of supporting materials can cause a debris slide.

2. Maintaining thorough and adequate erosion control measures.

   Controls to prevent materials from sloughing off include debris/silt fencing placed on outer edge of grading and excavation operations, back-sloping excavations to prevent grade slope towards the creek, operations buffer areas, and berms along the outer extent of operations closest to the creek.

   At the Permanente Quarry, the main control is the haul road berms to prevent materials from entering the PCRA. Secondary controls are installed on the slopes below the haul road berm in various subareas on the creek slopes including erosion control matting, straw wattles, and wire-backed silt fencing.

3. Prevention of actions that may cause or exacerbate debris slide conditions

   Avoid unnecessarily removing vegetation, boulders and other substrates. Restrict vehicle operations to maintained roads. Stockpile fill and other debris in appropriate areas as designated with the haul road berms.

4. Regularly inspect areas with a high potential for slides and report any suspected conditions that might cause a debris slide into Permanente Creek and PCRA areas.

Lehigh Permanente Quarry

EROSION CONTROL TRAINING TOPICS

Erosion control is the practice of preventing or controlling wind or water erosion in agriculture, land development and construction. Effective erosion controls are important techniques in preventing water pollution and soil loss. Erosion controls are used in natural areas, agricultural settings or urban environments. Erosion controls often involve the creation of a physical barrier, such as vegetation or rock, to absorb some of the energy of the wind or water that is causing the erosion. On construction sites they are often implemented in conjunction with sediment controls such as sediment basins and silt fences.

On the Permanente Quarry Site, the main erosion controls include:

- Haul road berms to keep water out of the creek and directed toward siltation basins or ponds
- Siltation basins or ponds to settle out sediment and control waters leaving the site
- Silt fences, straw wattles, and erosion control blankets on the creek side of the haul road berms in select locations
- Silt fences, straw wattles, and erosion control blankets on the topsoil stockpiles

6 *Goals Of Erosion Control*

1. *No Sediment Leaves the Site*
2. *Lines of Defense Everywhere* & *Always*
3. *Cover Quickly*
4. *Protect the Swale, Ditch ,and Channel*
5. *Keep Clean Water Clean*
6. *Inspect, Clean* & *Fix*

Inlet Barriers (i.e.: sand bags, gutter buddies, straw wattles)

- Is the structure deteriorating
- Is sediment >1/2 the height of structure?
- Evidence of water/sediment getting around or under barrier?
- Are there other structures that require inlet barriers?

Sediment Barriers (i.e.: haul road check dams, ditch checks)

- Are they trenched in or falling down?
- Evidence of sediment/water getting around or under barrier?
- Is sediment more than 1/2 height of structure?
- Are there areas where more sediment barriers are required or need extended?

Perimeter Control (i.e.: Haul road berms, silt fence, straw wattles)

- Is all the off-site water being diverted where applicable?
- Evidence of water/sediment getting around or under barrier?
- Are there areas that need extended or additions to other locations?
- Are the barriers in good condition or in need of repair?
- Straw Blankets-are they deteriorating and need replaced?
- Are the haul road berms preventing water from entering the creek?

Stabilized Construction Entrance

- Evidence of sediment being tracked off site onto public streets?

Soil and Fines Stockpiles

- An earth berm must be constructed upstream around the area to prevent runoff from contacting stockpile and a downstream ditch to prevent waters from leaving the stockpile site

Sediment Basins

- Note the basin depth. Is the basin more than half full of sediment from original design?
- Condition of basin side slopes
- Evidence of water overtopping embankments
- Condition of outfall

General Site Conditions

- Trash barrels-any evidence of trash lying around site
- Location of porta potties
- Leaking vehicles
- Concrete Washouts Designated

LEHIGH HEIDELBERGCEMENT Group Permanente Plant	Lehigh Hanson ENVIRONMENTAL ANNUAL TRAINING TOPIC RPA – SWPPP: Best Management Practices	**Annual** **2015**

Santa Clara County: Reclamation Plan Amendment (RPA)

STORM WATER POLLUTION PREVENTION PLAN: BMPs

Best Management Practices (BMPs) are practices used to reduce the amount of pollution entering surface waters. Based on the potential pollutant areas identified at the facility, existing and recommended BMPs for the facility are discussed below.

Please discuss the following areas with all employees:

1) **Truck Loading Areas**
    a. Continue to immediately cleanup any spilled cement or aggregate.

2) **Raw Material Storage**
    a. Any total suspended solids (TSS) generated by stormwater contact with the aggregate storage areas is directed to detention ponds or basins which are designed to remove TSS prior to discharge. BMP in these areas would be to insure that stormwater runoff from aggregate storage or cement loading areas does not leave the property, but indeed goes to ponds or basins.
    b. Maintain bag houses to prevent dust from cement. Immediately cleanup any spill material to limit exposure to stormwater.

3) **Secondary Containment Storage**
    a. Secondary containment walls should be maintained, inspected and repaired when necessary to prevent leaks. Secondary containment is defined as spill containment for the contents of the single largest tank plus sufficient freeboard to allow for a 25 year, 24 hour storm event.
    b. Maintain the equipment and hoses within the containment area used to transfer the materials. Clean inside walls when necessary.

4) **Diesel Tanks**
    a. Fuel overflows during storage tank filling can be a major source of spills. Watch the transfer constantly to prevent overfilling and spilling.
    b. Clean up any spills or drips immediately.
    c. Verify that drain plug is installed.
    d. Discourage topping off of fuel tanks.
    e. Properly protect portable fuel tanks, pumps and hoses from contact with trucks and other mobile equipment.
    f. Install secondary containment around tank pump and piping if not already done, this would prevent a leak or spill from entering ponds, basins or from leaving the property.

5) **Oil Storage Areas**
   a. Place all drums and lubricants on drip containment pallets.
   b. Clean up any spills or drips with sorbent materials immediately.
   c. Maintain valves to prevent leaks.
   d. Clean out within containment when necessary. Inspect for residue prior to rainwater release.
   e. Remove old & unused barrels

6) **Ponds and Basins**
   a. Inspect basins regularly for damage, erosion, waste, and sediment buildup.
   b. Clean out basins when necessary to prevent a stormwater overflow.
   c. Reduce amount of sediment and processed water to keep basins level low.
   d. Inspect outfall regularly for dry weather discharge.

7) **Sediment Drying Areas**
   a. Inspect area regularly for damage, erosion, waste, and sediment buildup.
   b. Clean out area when necessary to prevent a stormwater overflow.
   c. Reduce amount of sediment to keep sediment levels low.

8) **Equipment Wash Areas**
   a. Continue to wash mobile equipment to the basins and direct all wash water to prevent it from leaving the containment area
   b. Keep area swept and free of aggregates, fines and trash that could enter the ponds, basins or leave property.
   c. Inspect area regularly for damage and erosion.

REMEMBER:
Keep tanks inside secondary containment.

- **Prevent a leak or spill from entering the ponds, basins or leaving the property.**

LEHIGH HEIDELBERGCEMENT Group Permanente Plant	Lehigh Hanson ENVIRONMENTAL ANNUAL TRAINING TOPIC RPA – Prevention of Triggering Debris Slides	**Annual** **2015**

Santa Clara County: Reclamation Plan Amendment (RPA)

CULTURAL RESOURCES IDENTIFICATION AND PRESERVATION

Because cultural artifacts have been encountered on the Quarry site, mine operators shall be trained in the identification of archaeological artifacts and preservation of those resources. Please discuss the following topics with all employees:

1. General awareness of COA 65.
   If cultural resources are encountered the Mine Operator shall notify the Planning Manager and all activity within 100 feet of the find shall stop until the cultural resource is evaluated by a qualified archaeologist and a Native American representative. Ground disturbance shall not resume within 100 feet of the find until an agreement has been reached as to the appropriate treatment of the find

2. Identification of Cultural Resources:
   a. Prehistoric Archaeological Materials might include:
      i. obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris;
      ii. culturally darkened soil (“midden”) containing heat-affected rocks, artifacts, or shellfish remains;
      iii. stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones.
   b. Historic-period materials might include:
      i. stone, concrete, or adobe footings and walls;
      ii. filled wells or privies;
      iii. deposits of metal, glass, and/or ceramic refuse.

Figure 1. A grinding stone or ‘metate’ found on Permanente Quarry property.

Lehigh Southwest Cement Company
Permanente Quarry

2015 Reclamation Plan Amendment Staff Training

8/26/2015

Training Topics

1) Reclamation Plan Amendment (RPA)
2) Environmental Impact Report (EIR) Mitigation Monitoring and Reporting Plan (MMRP)
3) Conditions of Approval (COA's)
4) Storm Water Pollution Prevention Plan (SWPPP)
5) Prevention of Triggering Debris Slides
6) Erosion Control Training

Sign-in Sheet

Name	Department	Date
Jorge Morano Jr.	Quarry	8-27-2015
Michael Ambrosio	Quarry	8-27-15
FIDEL A. CASTILLO	QUARRY	8-27-15
Joel Hernandez	Quarry	8-27-15
Edwin Trabanino	Operator	8-27-15
Christopher Pachteco	Quarry	8-27-15
Marcos Lutin	Quarry	8-27-15
Vicente Cortes	Quarry	8/27/15
NATHEN CASTRO	Quarry	8-27-15
George Dias	Quarry	8-27-15
Jesse Vallejos	Quarry	8/27/15
Jose E. Rivas		
Jose Solorio	Quarry	8-27-15
Courtney Perry	Quarry	8-27-15
	Quarry	8-27-15
Cody Cordes	Quarry	8-27-15
Harry Bread	Quarry	8-27-15
Cory Bent	quarry	8-27-15

Lehigh Southwest Cement Company
Permanente Quarry

Name	Department	Date
Kaleb sherrill	~~Quarry~~ TCI	8-27-15
Kyle Johnson	TCI	8-27-15
Johnathan Jerrells	TCI	8-27-15
Jon Harris	TCI	8-27-15
Travis Brown	TCI	8-27-15
Jeff Card	TCI	8-27-15
Greg Murray	TCI	8-27-15
Matt Jarvis	TCI	8-27-15
Anthony Baker	TCI	8-27-15
Cory Jones	TCI	8-27-15
Mason Ballew	TCI	8/27/15
Chris [illegible]	TCI	8/27/15
Gilbert Rodriguez	Intech	8/27/15
Mario Beltran	Quarry.	8-27-15
Hector Martinez	Quarry.	8-27-15
Antonio Barrera	QUARRY	8/27/15
F Navarro	Quarry	8-27-15
ROGELIO FLORES	Quarry	8/27/15
Joey Gonzalez	Quarry	8-27-15
PASTOR G LOPEZ	QUARRY	8 27-15
George Taylor	Quarry	8/27/15
TERRY DUKE	Quarry	8-27-15
Jimmy [illegible]	Quarry	8/27/15
Jose Valdez	Quarry	8/27/15
Adan Vega	Quarry	8/27/15
Vicente Aceves	ECI	8/27/15
Jesus Ibarra	ECI	8-27-15

Lehigh Southwest Cement Company
Permanente Quarry

2015 Reclamation Plan Amendment Staff Training

8/26/2015

Training Topics

1) Reclamation Plan Amendment (RPA)
2) Environmental Impact Report (EIR) Mitigation Monitoring and Reporting Plan (MMRP)
3) Conditions of Approval (COA's)
4) Storm Water Pollution Prevention Plan (SWPPP)
5) Prevention of Triggering Debris Slides
6) Erosion Control Training

Sign-in Sheet

Name	Department	Date
	TCI	8-27-15
	TCI	8-27-15
	TCI	8-27-15
	TCI	8/27/15
	TCI	8/27/15
	TCI	8/27/15
	TCI	08/27/15
	TCI	8/27/15

Lehigh Hanson - Heidelberg Cement Group
Permanente Quarry

2015 Reclamation Plan Amendment Staff Training

Training Topics

1) Reclamation Plan Amendment (RPA)
2) Environmental Impact Report (EIR) Mitigation Monitoring and Reporting Plan (MMRP)
3) Conditions of Approval (COA's)
4) Storm Water Pollution Prevention Plan (SWPPP)
5) Prevention of Triggering Debris Slides
6) Erosion Control Training

Sign-in Sheet

Name	Department	Date
David Zwick	E.S. WRA	8/27/15
Erick Schickelberg	ES WRA	8/28/15
Megan Stromberg	LA WRA	8/28/15
BEN SARAGUSA	E.S. WRA	9/1/15
Nick Brinton	Wildlife WRA	9/1/15
	ES ish	9/8/15
	E.S. WRA	9/8/15
	WILDLIFE WRA	9/8/15

APPENDIX D:

2014-2015 LIST OF BIOLOGICAL SURVEY REPORTS SUBMITTED TO COUNTY

List of Biological Survey Reports Submitted to County, July 31, 2014 - June 3, 2015

Date Conducted	Date Submitted to County	Title of Report	Surveys Conducted
October 14, 2014	October 20, 2014	EMSA Woodrat Midden Removal Results	Woodrat nest.
December 12, 2014	January 19, 2015	EMSA Bat Hibernation Habitat Biological Survey Results	Bat hibernation habitat.
December 12, 2014	January 19, 2015	EMSA Vegetation Removal Biological Survey Results	Bat hibernation habitat, woodrat nests.
November 25, 2014 January 16, 2015	January 19, 2015	North Quarry Vegetation Removal Area Biological Survey Results	Bat hibernation habitat, woodrat nests.
February 20, 2015	February 23, 2015	WMSA Vegetation Removal Area Biological Survey Results	Nesting bird, woodrat nests.
April 7, 2015 April 13, 2015	April 14, 2015	C-Station Vegetation Removal Biological Survey Results	Nesting bird, woodrat nest, and bat maternity roosts.
May 4, 2015	May 6, 2015	EMSA Vegetation Removal Biological Survey Results	Nesting bird, woodrat nests.
May 28, 2015	June 1, 2015	EMSA Vegetation Removal Biological Survey Results	Nesting birds, woodrat nests.
May 28, 2015	June 1, 2015	Upper Permanente Creek Vegetation Removal Biological Survey Results.	Nesting birds, woodrat nests.
June 3, 2015	June 5, 2015	Northeast WMSA Well Drilling Vegetation Removal	Nesting birds, woodrat nests.
June 3, 2015	June 5, 2015	Northeast WMSA Well Drilling Vegetation Removal	Nesting birds, woodrat nests.
June 4, 2015	June 5, 2015	Southeast WMSA Vegetation Removal Biological Survey Results	Nesting birds, woodrat nests.

Memorandum

To: Greg Knapp, Lehigh Hanson

Cc: Sam Barket, Lehigh Hanson

George Taylor, Lehigh Hanson

Cliff Maddocks, Lehigh Hanson

From: Erich Schickenberg

schickenberg@wra-ca.com

ext. 1870

Date: April 14, 2015

Subject: Permanente Quarry C-Station Vegetation Removal Biological Survey Results

Introduction and Project Description

Lehigh Permanente Quarry ("Lehigh") plans to remove vegetation (i.e., grub) in eastern portion of the Crusher/Support Area, directly east of the conveyor junction known as "C-Station" ("Disturbance Area") (Attachment 1 "C-Station Vegetation Removal and Woodrat Nest Location Map"). The purpose of the grubbing is to prepare the area for mining activities and regrading according to the Reclamation Plan Amendment. The disturbance area is approximately 0.5 acres with a maximum length of approximately 180 feet, and a maximum width of approximately 160 feet. The disturbance area is within the RPA area, and is generally west of the Cement Plant. This memorandum describes the biological survey requirements and results for the vegetation removal.

Conditions of Approval Requirements

Conditions of Approval (COA) numbers 46 through 54 of the Santa Clara County Final Conditions of Approval specify the measures to be taken to protect sensitive wildlife species when clearing vegetated areas. In summary, the mine operator shall have qualified biologists perform surveys during the times of year when sensitive species have potential to be present. Table 1 shows the timing requirements for each survey.

In anticipation of the vegetation removal described above occurring between April 22 and April 29, 2015 wildlife resource surveys are required for San Francisco dusky-footed woodrat nests (COA 53) and nesting birds (COA 46).

COA number 53 specifies the measures to be taken to protect San Francisco dusky-footed woodrat when conducting ground disturbance or vegetation removal into woodland or scrub/chaparral communities (as identified in the Draft EIR Figures 4.4-1 through 4.4-4). In summary a woodrat nest survey is required. The work must also begin within 30 days of the woodrat nest survey; otherwise that survey and removal of any new nests will need to be repeated.

COA number 46 specifies that if vegetation removal or ground disturbance occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and location of nesting bird species. Documentation shall be submitted to the Planning Manager no later than five business days prior to the start of such activities. This memorandum serves as notification in advance of vegetation removal work in compliance with this COA.

Table 1. Wildlife Resources Surveys Required Timeline

Wildlife Resource	**Survey Requirement**	**Survey Completion Date**	**Survey Submittal Date**	**Ground Disturbance Commencement Period**	
				Start After (5 Business Days after Submittal)	**Start By (within Survey Requirement)**
Hibernating Bats	Survey for suitable hibernating conditions required Nov 1 – Mar 31	N/A	N/A	N/A	N/A
Woodrat Nests	Survey and removal required within 30 days prior to construction year-round	04/07/2015	04/14/2015	04/22/2015	05/05/2015
Nesting Birds	Surveys required Feb 1 – August 31	04/13/2015	04/13/2015	04/22/2015	04/27/2015
Maternity Roosting Bats	Surveys required April 1 – August 31	04/13/2015	04/13/2015	4/22/2015	05/05/2015

Each of the relevant COAs is summarized below:

COA 46. Avian Species.

Ground disturbance into undisturbed areas and vegetation (tree and shrub) removal should occur between September 1 and January 30, outside of the breeding season for most bird species. If ground disturbance or tree and shrub removal occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and

location of nesting bird species. If ground disturbance or removal of vegetation occurs between June 16 and August 31, pre-construction surveys will be performed within 30 days prior to such activities.

Thirty (30) days prior to the start of any ground disturbance into undisturbed areas or vegetation removal, the Mine Operator shall submit to the Planning Manager a copy of a contract with a qualified ornithologist to conduct pre-activity surveys.

The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of such activities. If the tree removal or vegetation clearing shall occur during the non-nesting season, submit documentation both before and after tree removal / vegetation clearing confirmation completion of work within this time frame.

COA 49. Bat Species – Maternity Roosting Season.

If removal of potential bat roost habitat cannot occur during September and October, bat roost surveys will be conducted to determine if bats are occupying roosts.

Nighttime evening emergence surveys and/or internal searches within large tree cavities shall be conducted by a qualified biologist during the maternity season (April 1 to August 31) to determine presence/absence of bat maternity roosts within 100 feet of wooded Project boundaries. All active roosts identified during surveys shall be protected by a minimum buffer determined by a qualified bat biologist, in consultation with California Department of Fish and Game (CDFG). The buffer shall be determined by the type of bat observed, topography, slope aspect, surrounding vegetation, sensitivity of roost, type of potential disturbance. Each exclusion zone shall remain in place until the end of the maternity roosting season. If no active roosts are identified, then work may commence as planned. Survey results are valid for 30 days from the survey date. Should work commence later than 30 days from the survey date surveys shall be repeated. Operations may continue for many years. Surveys do not need to be repeated annually unless additional clearing of potential roosting or hibernation habitat could occur outside of the non-roosting season.

Thirty days prior to the removal of potential bat roost habitat, the Mine Operator shall submit to the Planning Manager a copy of a contract with a qualified biologist to conduct pre-activity surveys. The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the removal of any potential habitat.

COA 51. Special Status Bat Species - Maternity Season Emergence.

Any trees felled during vegetation removal will not be chipped or otherwise disturbed for a period of 48 hours to allow any undetected bats potentially occupying these trees to escape.

COA 53. San Francisco Dusky Footed Woodrat.

Within 30 days prior to initial ground disturbance in woodland or scrub/chaparral communities, (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), conduct pre-construction surveys for active woodrat stick nests that could be directly impacted. Surveys should take place in all suitable habitat types within the Project Area. Any stick nests within active work areas will be flagged and dismantled under the supervision of a biologist. If young are encountered during the dismantling process, the material shall be placed back on the nest and remain unmolested for three (3) weeks in order to give the young enough time to mature and leave of their own accord. After that period, the nest dismantling process may begin again. Nest material shall be moved to suitable adjacent areas (oak woodland, scrub, or chaparral) that will not be disturbed. If construction does not occur within 30 days of the pre-construction survey, surveys shall be repeated. The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of initial ground disturbance.

Nesting Bird Survey

Two WRA biologists surveyed the project area for the presence and location of nesting bird species within the disturbance area and 250 feet of the disturbance boundary on April 13, 2015. During the survey, no nesting bird species or evidence of nest building was observed within the disturbance area or survey buffer. Overall bird activity was low during the survey, and observed species were limited to American crow (*Corvus brachyrhynchos*), rock dove (*Columba livia*), Anna's hummingbird (*Calypte anna*), dark-eyed junco (*Junco hyemalis*), and song sparrow (*Melospiza melodia*).

Maternity Roosting Bat Survey

A WRA biologist surveyed the project area for the presence of bat roosts within the disturbance area and 100 feet of the disturbance boundary on April 7, 2015. The habitat quality for roosting bats in and surrounding the disturbance area is very poor, having a lack of mature trees with cavities, lack of exposure, lack of snags (i.e. dead standing trees), lack of proximity to a water source, and lack of nearby high-quality foraging resources.

Woodrat Nest Survey

A WRA biologist surveyed the project area for the occurrence of woodrat nests within the disturbance area on April 7, 2015, and found three woodrat nests within or adjacent to the disturbance area (Attachment 1). The woodrat nests were determined to be abandoned and dismantled in accordance with COA 53.

Summary

In anticipation of vegetation removal work WRA performed surveys for nesting birds (COA 46), roosting bats (COA 49), and San Francisco dusky-footed woodrat nests (COA 53), and found three woodrat nests, and no nesting bird species or bat roosts. The three woodrat nests were determined to be abandoned and then dismantled in accordance with COA 53.

Per the Final Conditions of Approval and mitigation measures with the Environmental Impact Report, all requirements for proceeding with vegetation removal and ground disturbance have been met and the project may proceed on April 22, 2015. Any trees felled during vegetation removal will not be chipped or otherwise disturbed for a period of 48 hours in accordance with COA 51. If vegetation removal work is delayed beyond April 27, 2015, additional nesting bird surveys will be required.

Attachement 1. C-Station Vegetation and Wood Rat Nest Location Map

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Lehigh Permanente Quarry
Santa Clara County, California

0 50 100 200
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Map Prepared Date: 4/14/2015
Map Prepared By: pkobylarz
Base Source: ESRI World Imagery (2010)
Data Source(s): WRA

Path: L:\Acad 2000 Files\16000\16143-4\ArcMap\2015\FigX_Middens_20150410.mxd

Memorandum

To: Greg Knapp, Lehigh Hanson

Cc: Sam Barket, Area Environmental Manager

Cliff Maddocks, Lehigh Hanson

Dan Zacharisen, Lehigh Hanson

From: Erich Schickenberg

schickenberg@wra-ca.com

ext. 1870

Date: January 19, 2015

Subject: EMSA Ongoing Work Bat Hibernation Habitat Biological Survey

Introduction and Project Description

Lehigh Permanente Quarry plans to perform work within the limit of mining of the Eastern Materials Storage Area (EMSA). This work includes re-grading the already disturbed and unvegetated active areas of the EMSA to comply with the Reclamation Plan. In anticipation of this ongoing work occurring during the November 1 to March 31 bat hibernation season, WRA has conducted surveys for bat hibernation habitat within 100 feet of the work areas.

Conditions of Approval Requirements

Conditions of Approval (COA) numbers 46 through 54 of the Santa Clara County Final Conditions of Approval specify the measures to be taken to protect sensitive wildlife species when clearing vegetated areas or working within 100 feet of any woodland habitat. In summary, the mine operator shall have qualified biologists perform surveys during the times of year when sensitive species have potential to be present. Table 1 shows the timing requirements for each survey.

In anticipation of ongoing work activities in the EMSA occurring during the November 1 to March 31 bat hibernation season, surveys for suitable bat hibernation conditions (COA 50) are required. If ground disturbance is planned within woodland or scrub/chaparral communities, surveys for woodrat nests (COA 53) will be required.

Table 1. Wildlife Resources Surveys Required Timing

Wildlife Resource	Survey Requirement	Survey Completion Date	Survey Submittal Date	Ground Disturbance Commencement Period	
				Start After (5 Business Days after Submittal)	Start By (within Survey Requirement)
Hibernating Bats	Survey for suitable hibernating conditions required Nov 1 – Mar 31	12/12/2014	1/19/2015	N/A	N/A
Woodrat Nests	Survey and removal required within 30 days prior to construction year-round	N/A	N/A	N/A	N/A
Nesting Birds	Surveys required Feb 1 – August 31	N/A	N/A	N/A	N/A
Maternity Roosting Bats	Surveys required April 1 – August 31	N/A	N/A	N/A	N/A

Each of the relevant COAs is summarized below:

> **COA 50. Special Status Bat Species - Hibernation Season.** During the November 1 to March 31 hibernation season, work shall not be conducted within 100 feet of any woodland habitat (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), unless a qualified bat biologist determines that woodland areas do not provide suitable hibernating conditions for bats and they are unlikely to be present in the area.
>
> Submit a report by a qualified bat biologist to the Planning Manager verifying the absence of suitable habitat as described above if work is proposed within 100 feet of woodland habitat between November 1 and March 31 (Implements Mitigation Measure 4.4-2a).

EMSA Ongoing Work Activities

Bat Hibernation Habitat Survey

In anticipation of ongoing work within the EMSA, WRA biologists surveyed areas of the EMSA where active work is occurring or likely to occur between November 1 and March 31 for suitable bat hibernation habitat. Areas surveyed included those mapped as oak woodlands and forest (as identified in the Draft EIR Figure 4.4-4), and areas mapped as non-woodland, but containing potential habitat trees (see Figure 1, attached).

The majority of ongoing work activities within the EMSA is occurring more than 100 feet from woodland habitat, and therefore has no potential to affect roosting bats. The work planned is an ongoing and continual effort to comply with the Reclamation plan.

Woodland habitat within 100 feet of ongoing and planned work activities within the EMSA does not contain suitable habitat for bat hibernation. Moreover, bats in California are generally physiologically incapable of hibernating in trees because of the lack of stable temperatures. Bats are believed to hibernate in natural and man-made structures that provide consistent cold, but non-freezing temperatures. These conditions allow bats to lower their metabolism to conserve energy stores. Frequent rousing from hibernation due to the rapid heating and cooling of a tree, can cause rapid consumption and ultimately exhaustion of energy stores prior to the emergence of insects in the spring.

However, within the surveyed areas, trees generally lack cavities and exfoliating bark that could support any bat roosting. The majority of mature trees surveyed throughout all the survey areas were healthy coast live oaks that are retaining branches, and lacking in cavities or exfoliating bark that could support roosting. The only area where cavities were encountered was the survey area at the north western section of the EMSA near the water tower. This area had two mature blue oak (*Quercus douglasii*) trees with sizeable cavities. However the location of these cavities near the base of the trees and presence of woodrat nests at the base of each tree preclude potential bat roosting, due to competition for space from woodrats, and exposure to potential predators due to the openness of the cavities. It should be noted that these trees are not within the work area, but are within 100 feet of the work area.

Summary

In anticipation of work associated with compliance of the Reclamation plan occurring between November 1 and January 30, a survey was conducted for hibernating bat habitat (COA 50) and found no potential hibernating bat habitat. Therefore, work may continue entirely within the disturbance area without incurring impacts to hibernating bats.

In anticipation of ongoing work activities within the EMSA occurring during the November 1 to March 31 bat hibernation season, a survey was conducted for suitable bat hibernation conditions (COA 50), and found no suitable habitat for bat hibernation within 100 feet of woodland habitat.

Rob Schell, a WRA qualified bat biologist familiar with site, reviewed the survey findings, habitat types, and site photographs, to confirm the findings. Per the Final Conditions of Approval and mitigation measures in the Environmental Impact Report, all requirements for proceeding with ongoing work activities described above have been met.

EMSA Disturbance Limit Boundary
Survey Area
Active Work Area
Permanente Property Boundary

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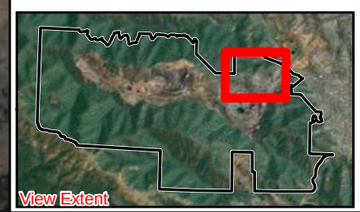
Lehigh Permanente Quarry,
Santa Clara County,
California

Figure 1.

Bat Hibernation
Habitat Survey
Map



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Date: December 2014
Map By: Chris Zumwalt
Aerial: Microsoft 2010

Path: L:\Acad 2000 Files\16000\16143-4\ArcMap\2014\Bat Hibernation\Bat Hibernation Habitat Survey 1.mxd

ENVIRONMENTAL CONSULTANTS

Memorandum

To: Greg Knapp, Lehigh Hanson

Cc: Sam Barket, Lehigh Hanson

Cliff Maddocks, Lehigh Hanson

Dan Zacharisen, Lehigh Hanson

From: Erich Schickenberg

schickenberg@wra-ca.com

ext. 1870

Date: January 19, 2015

Subject: Permanente Quarry EMSA Vegetation Removal Biological Survey Results

Introduction and Project Description

Lehigh Permanente Quarry ("Lehigh") plans to remove vegetation (i.e., grub) in the south western portion of the East Material Storage Area (EMSA; Figure 1 "EMSA Vegetation Removal Biological Survey Area Map"). The purpose of the grubbing is to prepare the EMSA for regrading according to the Reclamation Plan Amendment (RPA). The maximum length of the vegetation removal area is approximately 200 feet and its maximum width is approximately 50 feet. The vegetation removal is within the disturbance limit boundary of the EMSA and is generally north of the Cement Plant area and northeast of the Crusher/Support area.

Conditions of Approval Requirements

Conditions of Approval (COA) numbers 46 through 54 of the Santa Clara County Final Conditions of Approval specify the measures to be taken to protect sensitive wildlife species when clearing vegetated areas. In summary, the mine operator shall have qualified biologists perform surveys during the times of year when sensitive species have potential to be present. Table 1 shows the timing requirements for each survey.

In anticipation of the vegetation removal described above occurring between January 15 and January 31, 2015 wildlife resource surveys are required for hibernating bat habitat (COA 50). COA number 50 specifies the measures to be taken to protect special status bat species during the hibernation season. During the November 1 to March 31 hibernation season, COA 50 specifies that no work shall be conducted within 100 feet of any woodland habitat (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), unless a qualified bat biologist determines that woodland areas do not provide suitable hibernating conditions for bats. The vegetation removal

area is within 100 feet of area mapped as “Oak Woodlands And Forest” as per Draft EIR Figure 4.4-4. In summary, a bat hibernation habitat survey is required.

In anticipation of the vegetation removal occurring prior to February 1, 2015, no nesting bird surveys are required. If the vegetation removal work is delayed beyond January 31, 2015, the appropriate surveys for avian species will be required. The vegetation removal area is within the disturbance limit boundary of the EMSA and is mapped as “Active Quarry” as per Draft EIR Figure 4.4-4, therefore no woodrat nest survey is required.

COA number 46 specifies that if tree removal or vegetation clearing occurs during the non-nesting season (September 1 through January 31) for bird species, documentation shall be submitted both before and after the tree removal or vegetation clearing occurs to confirm completion of work within this time frame. This memorandum serves as notification in advance of vegetation removal work in compliance with this COA.

Table 1. Wildlife Resources Surveys Required Timing

Wildlife Resource	Survey Requirement	Survey Completion Date	Survey Submittal Date	Ground Disturbance Commencement Period	
				Start After (5 Business Days after Submittal)	Start By (within Survey Requirement)
Hibernating Bats	Survey for suitable hibernating conditions required Nov 1 – Mar 31	12/12/2014	1/19/2015	N/A	N/A
Woodrat Nests	Survey and removal required within 30 days prior to construction year-round	N/A	N/A	N/A	N/A
Nesting Birds	Surveys required Feb 1 – August 31	N/A	N/A	N/A	N/A
Maternity Roosting Bats	Surveys required April 1 – August 31	N/A	N/A	N/A	N/A

Each of the relevant COAs is summarized below:

> **COA 50. Special Status Bat Species - Hibernation Season.** During the November 1 to March 31 hibernation season, work shall not be conducted within 100 feet of any woodland habitat (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), unless a qualified bat biologist determines that woodland areas do not provide suitable hibernating conditions for bats and they are unlikely to be present in the area.

Submit a report by a qualified bat biologist to the Planning Manager verifying the absence of suitable habitat as described above if work is proposed within 100 feet of woodland habitat between November 1 and March 31 (Implements Mitigation Measure 4.4-2a).

COA 46. Avian Species. If the tree removal or vegetation clearing shall occur during the non-nesting season, submit documentation both before and after tree removal / vegetation clearing confirmation [sic] completion of work within this time frame.

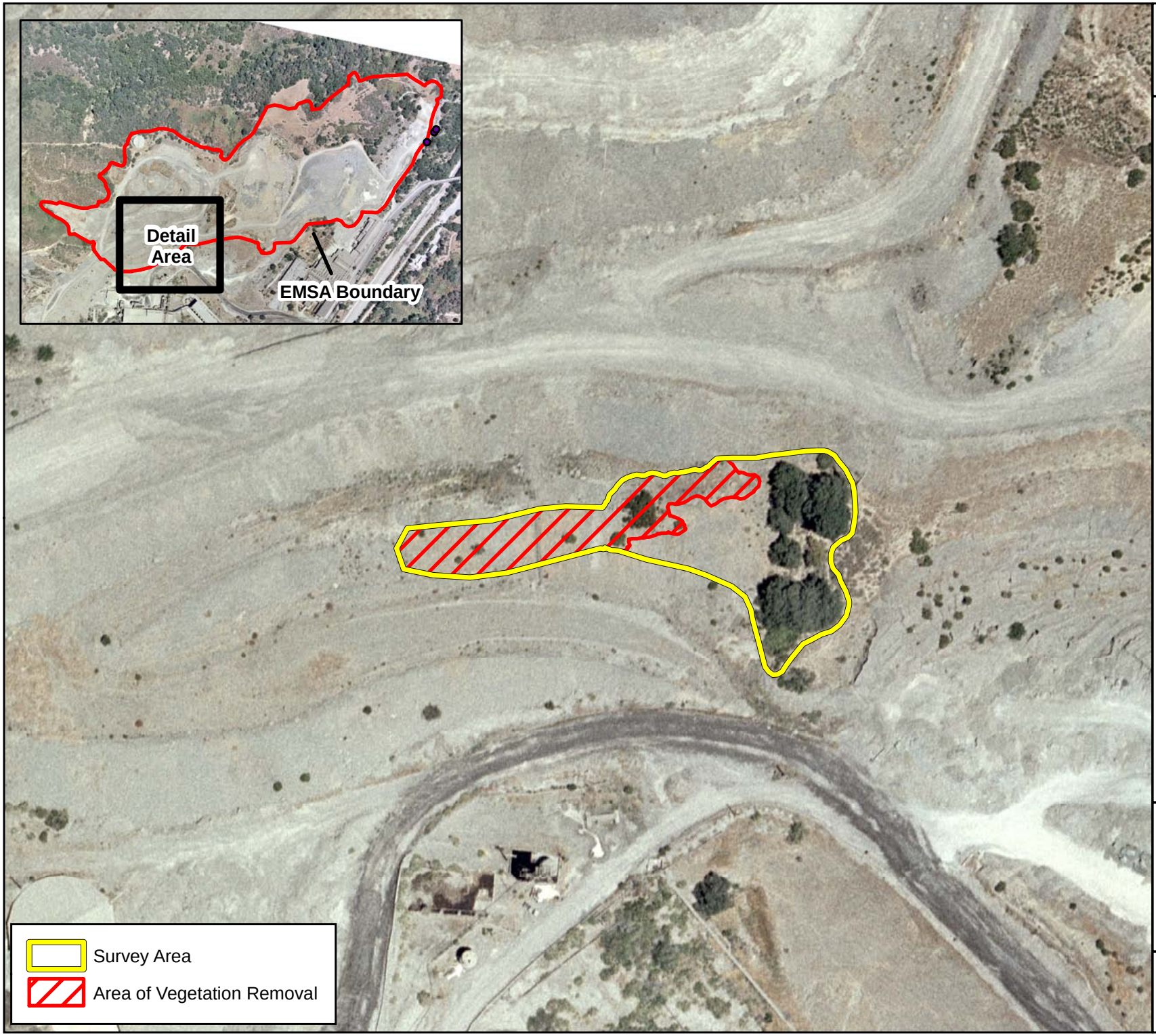
Bat Hibernation Habitat Survey

WRA biologists surveyed the disturbance area and 100 foot buffer around the impacted vegetation for suitable bat hibernation habitat on January 16, 2015. The survey concluded woodland habitat within 100 feet of the vegetation removal area does not contain suitable habitat for bat hibernation, and bats are unlikely to be present in the area. The only mature trees within the survey area lack cavities or exfoliating bark capable of supporting hibernating or roosting bats, and is situated on an exposed hillside subject to high winds which bats generally avoid. Moreover, bats in California are generally physiologically incapable of hibernating in trees because of the lack of stable temperatures. Bats are believed to hibernate in natural and man-made structures that provide consistent cold, but non-freezing temperatures. These conditions allow bats to lower their metabolism to conserve energy stores. Frequent rousing from hibernation due to the rapid heating and cooling of a tree, can cause rapid consumption and ultimately exhaustion of energy stores prior to the emergence of insects in the spring.

Summary

In anticipation of vegetation removal work required to regrade the EMSA according to the Reclamation Plan Ammendment, WRA performed a bat hibernation habitat survey and found no suitable habitat within 100 feet of the disturbance area boundary.

Per the Final Conditions of Approval and mitigation measures with the Environmental Impact Report, all requirements for proceeding with vegetation removal and ground disturbance have been met and the project may proceed on January 19, 2015. If vegetation removal work is delayed beyond January 31, 2015, nesting bird surveys will be required.



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Lehigh Permanente Quarry

Santa Clara County, California

Figure 1.

EMSA Vegetation Removal Biological Survey Map

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Map Prepared Date: 1/16/2015
Map Prepared By: MRochelle
Base Source: WRA
Data Source(s): WRA

Path: L:\Acad 2000 Files\16000\16143-4\ArcMap\2015\Figure 1 Disturbance Area Location.mxd

Memorandum

To: Greg Knapp, Lehigh Hanson

Cc: Sam Barket, Lehigh Hanson

George Taylor, Lehigh Hanson

Cliff Maddocks, Lehigh Hanson

From: Erich Schickenberg

schickenberg@wra-ca.com

ext. 1870

Date: May 6, 2015

Subject: Permanente Quarry EMSA Vegetation Removal Biological Survey Results

Introduction and Project Description

Lehigh Permanente Quarry ("Lehigh") plans to remove vegetation (i.e., grub) along the northern border of the Eastern Materials Storage Area (EMSA) ("Disturbance Area") (Attachment 1 "EMSA Vegetation Removal Disturbance Area Map"). The purpose of the grubbing is to clear a path for a drilling rig to access a water quality monitoring well drilling site in the northeastern portion of the EMSA. The disturbance area is approximately 0.2 acres with a maximum length of approximately 160 feet, and a maximum width of approximately 50 feet. This memorandum describes the biological survey requirements and results for the vegetation removal.

Conditions of Approval Requirements

Conditions of Approval (COA) numbers 46 through 54 of the Santa Clara County Final Conditions of Approval specify the measures to be taken to protect sensitive wildlife species when clearing vegetated areas. In summary, the mine operator shall have qualified biologists perform surveys during the times of year when sensitive species have potential to be present. Table 1 shows the timing requirements for each survey.

In anticipation of the vegetation removal described above occurring between May 14 and May 19, 2015 wildlife resource surveys are required for San Francisco dusky-footed woodrat nests (COA 53) and nesting birds (COA 46).

COA number 53 specifies the measures to be taken to protect San Francisco dusky-footed woodrat when conducting ground disturbance or vegetation removal into woodland or

scrub/chaparral communities (as identified in the Draft EIR Figures 4.4-1 through 4.4-4). In summary a woodrat nest survey is required. The work must also begin within 30 days of the woodrat nest survey; otherwise that survey and removal of any new nests will need to be repeated.

COA number 46 specifies that if vegetation removal or ground disturbance occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and location of nesting bird species. Documentation shall be submitted to the Planning Manager no later than five business days prior to the start of such activities. This memorandum serves as notification in advance of vegetation removal work in compliance with this COA.

Table 1. Wildlife Resources Surveys Required Timeline

Wildlife Resource	**Survey Requirement**	**Survey Completion Date**	**Survey Submittal Date**	**Ground Disturbance Commencement Period**	
				Start After (5 Business Days after Submittal)	**Start By (within Survey Requirement)**
Hibernating Bats	Survey for suitable hibernating conditions required Nov 1 – Mar 31	N/A	N/A	N/A	N/A
Woodrat Nests	Survey and removal required within 30 days prior to construction year-round	05/04/2015	05/06/2015	05/13/2015	06/04/2015
Nesting Birds	Surveys required Feb 1 – August 31	05/04/2015	05/06/2015	05/13/2015	05/19/2015
Maternity Roosting Bats	Surveys required April 1 – August 31 (if potential bat roosting habitat is being removed)	N/A	N/A	N/A	N/A

Each of the relevant COAs is summarized below:

COA 46. Avian Species.

Ground disturbance into undisturbed areas and vegetation (tree and shrub) removal should occur between September 1 and January 30, outside of the breeding season for most bird species. If ground disturbance or tree and shrub removal occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and

location of nesting bird species. If ground disturbance or removal of vegetation occurs between June 16 and August 31, pre-construction surveys will be performed within 30 days prior to such activities.

Thirty (30) days prior to the start of any ground disturbance into undisturbed areas or vegetation removal, the Mine Operator shall submit to the Planning Manager a copy of a contract with a qualified ornithologist to conduct pre-activity surveys.

The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of such activities. If the tree removal or vegetation clearing shall occur during the non-nesting season, submit documentation both before and after tree removal / vegetation clearing confirmation completion of work within this time frame.

COA 53. San Francisco Dusky Footed Woodrat.

Within 30 days prior to initial ground disturbance in woodland or scrub/chaparral communities, (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), conduct pre-construction surveys for active woodrat stick nests that could be directly impacted. Surveys should take place in all suitable habitat types within the Project Area. Any stick nests within active work areas will be flagged and dismantled under the supervision of a biologist. If young are encountered during the dismantling process, the material shall be placed back on the nest and remain unmolested for three (3) weeks in order to give the young enough time to mature and leave of their own accord. After that period, the nest dismantling process may begin again. Nest material shall be moved to suitable adjacent areas (oak woodland, scrub, or chaparral) that will not be disturbed. If construction does not occur within 30 days of the pre-construction survey, surveys shall be repeated. The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of initial ground disturbance.

Nesting Bird Survey

Two WRA biologists surveyed the project area for the presence and location of nesting bird species within the disturbance area and 250 feet of the disturbance boundary on May 4, 2015. During the survey, no nesting bird species or evidence of nest building was observed within the disturbance area or survey buffer. Overall bird activity was low during the survey, and observed species were limited to American crow (*Corvus brachyrhynchos*), California quail (*Callipepla californica*), rock dove (*Columba livia*), Anna's hummingbird (*Calypte anna*), western scrub jay (*Aphelocoma californica*), and wrentit (*Chamaea fasciata*).

Woodrat Nest Survey

Two WRA biologists surveyed the project area for the occurrence of woodrat nests within the disturbance area on May 4, 2015, and found no woodrat nests within or adjacent to the disturbance area (Attachment 1).

Summary

In anticipation of vegetation removal work WRA performed surveys for nesting birds (COA 46) and San Francisco dusky-footed woodrat nests (COA 53). No bird or dusky-footed woodrat nests were observed in the Disturbance Area.

Per the Final Conditions of Approval and mitigation measures with the Environmental Impact Report, all requirements for proceeding with vegetation removal and ground disturbance have been met and the project may proceed on May 14, 2015. If vegetation removal work is delayed beyond May 19, 2015, additional nesting bird surveys will be required.

Attachment 1. EMSA Vegetation Removal
Disturbance Area Map

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry
Santa Clara County, California

0 50 100 200
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Map Prepared Date: 5/6/2015
Map Prepared By: pkobylarz
Base Source: ESRI World Imagery (2010)
Data Source(s): WRA

Path: L:\Acad 2000 Files\16000\16143-4\ArcMap\2015\FigX_Disturbance Area .mxd

Memorandum

To: Greg Knapp, Lehigh Hanson

Cc: Sam Barket, Lehigh Hanson

George Taylor, Lehigh Hanson

Cliff Maddocks, Lehigh Hanson

From: Erich Schickenberg

schickenberg@wra-ca.com

ext. 1870

Date: June 1, 2015

Subject: Permanente Quarry EMSA Vegetation Removal Biological Survey Results

Introduction and Project Description

Lehigh Permanente Quarry ("Lehigh") plans to remove vegetation (i.e., grub) along the northern border of the Eastern Materials Storage Area (EMSA) ("Disturbance Area") (Attachment 1 "EMSA Vegetation Removal Disturbance Area Map"). The purpose of the grubbing is to clear a path for a drilling rig to access a water quality monitoring well drilling site in the northeastern portion of the EMSA. The disturbance area is approximately 0.2 acres with a maximum length of approximately 160 feet, and a maximum width of approximately 50 feet. This memorandum describes the biological survey requirements and results for the vegetation removal.

Conditions of Approval Requirements

Conditions of Approval (COA) numbers 46 through 54 of the Santa Clara County Final Conditions of Approval specify the measures to be taken to protect sensitive wildlife species when clearing vegetated areas. In summary, the mine operator shall have qualified biologists perform surveys during the times of year when sensitive species have potential to be present. Table 1 shows the timing requirements for each survey.

In anticipation of the vegetation removal described above occurring between May 14 and May 19, 2015 wildlife resource surveys are required for San Francisco dusky-footed woodrat nests (COA 53) and nesting birds (COA 46).

COA number 53 specifies the measures to be taken to protect San Francisco dusky-footed woodrat when conducting ground disturbance or vegetation removal into woodland or

scrub/chaparral communities (as identified in the Draft EIR Figures 4.4-1 through 4.4-4). In summary a woodrat nest survey is required. The work must also begin within 30 days of the woodrat nest survey; otherwise that survey and removal of any new nests will need to be repeated.

COA number 46 specifies that if vegetation removal or ground disturbance occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and location of nesting bird species. Documentation shall be submitted to the Planning Manager no later than five business days prior to the start of such activities. This memorandum serves as notification in advance of vegetation removal work in compliance with this COA.

Table 1. Wildlife Resources Surveys Required Timeline

Wildlife Resource	**Survey Requirement**	**Survey Completion Date**	**Survey Submittal Date**	**Ground Disturbance Commencement Period**	
				Start After (5 Business Days after Submittal)	**Start By (within Survey Requirement)**
Hibernating Bats	Survey for suitable hibernating conditions required Nov 1 – Mar 31	N/A	N/A	N/A	N/A
Woodrat Nests	Survey and removal required within 30 days prior to construction year-round	05/28/2015	06/01/2015	06/06/2015	06/10/2015
Nesting Birds	Surveys required Feb 1 – August 31	05/28/2015	06/01/2015	06/06/2015	06/10/2015
Maternity Roosting Bats	Surveys required April 1 – August 31 (if potential bat roosting habitat is being removed)	N/A	N/A	N/A	N/A

Each of the relevant COAs is summarized below:

COA 46. Avian Species.

Ground disturbance into undisturbed areas and vegetation (tree and shrub) removal should occur between September 1 and January 30, outside of the breeding season for most bird species. If ground disturbance or tree and shrub removal occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and

location of nesting bird species. If ground disturbance or removal of vegetation occurs between June 16 and August 31, pre-construction surveys will be performed within 30 days prior to such activities.

Thirty (30) days prior to the start of any ground disturbance into undisturbed areas or vegetation removal, the Mine Operator shall submit to the Planning Manager a copy of a contract with a qualified ornithologist to conduct pre-activity surveys.

The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of such activities. If the tree removal or vegetation clearing shall occur during the non-nesting season, submit documentation both before and after tree removal / vegetation clearing confirmation completion of work within this time frame.

COA 53. San Francisco Dusky Footed Woodrat.

Within 30 days prior to initial ground disturbance in woodland or scrub/chaparral communities, (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), conduct pre-construction surveys for active woodrat stick nests that could be directly impacted. Surveys should take place in all suitable habitat types within the Project Area. Any stick nests within active work areas will be flagged and dismantled under the supervision of a biologist. If young are encountered during the dismantling process, the material shall be placed back on the nest and remain unmolested for three (3) weeks in order to give the young enough time to mature and leave of their own accord. After that period, the nest dismantling process may begin again. Nest material shall be moved to suitable adjacent areas (oak woodland, scrub, or chaparral) that will not be disturbed. If construction does not occur within 30 days of the pre-construction survey, surveys shall be repeated. The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of initial ground disturbance.

Nesting Bird Survey

Two WRA biologists surveyed the project area for the presence and location of nesting bird species within the disturbance area and 250 feet of the disturbance boundary on May 28, 2015. During the survey, no nesting bird species or evidence of nest building was observed within the disturbance area or survey buffer. Overall bird activity was low during the survey, and observed species were limited to Anna's hummingbird (*Calypte anna*), North American mockingbird (*Mimus polyglottos*), dark-eyed junco (*Junco hyemalis*), blue-gray gnatcatcher (*Polioptila caerulea*), and wrentit (*Chamaea fasciata*).

Woodrat Nest Survey

Two WRA biologists surveyed the project area for the occurrence of woodrat nests within the disturbance area on May 28, 2015, and found no woodrat nests within or adjacent to the disturbance area (Attachment 1).

Summary

In anticipation of vegetation removal work WRA performed surveys for nesting birds (COA 46) and San Francisco dusky-footed woodrat nests (COA 53). No bird or dusky-footed woodrat nests were observed in the Disturbance Area.

Per the Final Conditions of Approval and mitigation measures with the Environmental Impact Report, all requirements for proceeding with vegetation removal and ground disturbance have been met and the project may proceed on June 6, 2015. If vegetation removal work is delayed beyond June 10, 2015, additional nesting bird surveys will be required.

Attachment 1. EMSA Vegetation Removal
Disturbance Area Map

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wra
ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry
Santa Clara County, California

0 50 100 200
Feet

Map Prepared Date: 5/6/2015
Map Prepared By: pkobylarz
Base Source: ESRI World Imagery (2010)
Data Source(s): WRA

Path: L:\Acad 2000 Files\16000\16143-4\ArcMap\2015\FigX_Disturbance Area .mxd

Memorandum

To: Greg Knapp, Lehigh Hanson

Cc: Cliff Maddocks, Lehigh Hanson

Dan Zacharisen, Lehigh Hanson

From: Sean Avent

avent@wra-ca.com

ext. 112

Date: October 15, 2014

Subject: Permanente Quarry EMSA Vegetation Removal Woodrat Midden Removal Results

Introduction and Project Description

Lehigh Permanente Quarry plans to remove vegetation (i.e., grub) in the north eastern portion of the East Material Storage Area (EMSA; Figure 1 "Disturbance Area"). The purpose of the grubbing is to prepare the EMSA for regrading according to the Reclamation Plan Amendment (RPA). The maximum length of the entire EMSA regrading disturbance area is approximately 1,000 feet and its maximum width is approximately 130 feet. The disturbance area is located within the RPA disturbance limits and generally north of the existing EMSA access haul road and south of the RPA disturbance limit boundary. Vegetation removal will be followed by grading according to the Reclamation Plan Amendment. This memorandum describes the requirements and dusky-footed woodrat (*Neotoma fuscipes)* midden removal and inspection results for the EMSA Regrading Project.

Conditions of Approval Requirements

Conditions of Approval (COA) numbers 46 through 54 of the Santa Clara County Final Conditions of Approval specify the measures to be taken to protect sensitive wildlife species when clearing vegetated areas. In summary, the mine operator shall have qualified biologists perform surveys during the times of year when sensitive species have potential to be present. Table 1 shows the timing requirements for each survey.

Based on the expected start date of no sooner than October 25, the only wildlife resource surveys required is for the dusky-footed woodrat (COA 53). Because the grubbing will occur after September 1 and be complete prior to October 31, the project will fall outside any dates requiring nesting bird and roosting and maternity bat surveys. If vegetation removal continues beyond October 31, 2014, the relevant surveys will be required for nesting birds and roosting

bats. If the start of vegetation removal is delayed beyond November 14, 2014, the area will be resurveyed for woodrat nests and an updated memo will be submitted.

Conditions of Approval (COA) number 53 of the Santa Clara County Final Conditions of Approval specify the measures to be taken to protect sensitive wildlife species when clearing vegetated areas. In summary, woodrat midden surveys and removal will be required. The work must also begin within 30 days of the woodrat midden survey; otherwise that survey and removal of any new middens will need to be repeated. Because the vegetation removal is occurring during the month of October, no avian or bat surveys are required.

Table 1. Wildlife Resources Surveys Required Timing

Wildlife Resource	Survey Requirement	Survey Completion Date	Survey Submittal Date	Ground Disturbance Commencement Period	
				Start After (5 Business Days after Submittal)	Start By (within Survey Requirement)
Nesting Birds	Not Required Sept 1 – Jan 30	None	None	N/A	N/A
Woodrat Nests	Within 30 days prior to construction	10/14/2014	10/17/2014	10/24/2014	11/14/2014
Roosting Bats	Not Required Sept 1 – Oct 31	None	None	N/A	N/A

Each of the relevant COAs is summarized below:

COA 53. San Francisco Dusky Footed Woodrat.
Within 30 days prior to initial ground disturbance in woodland or scrub/chaparral communities, (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), conduct pre-construction surveys for active woodrat stick nests that could be directly impacted. Surveys should take place in all suitable habitat types within the Project Area. Any stick nests within active work areas will be flagged and dismantled under the supervision of a biologist. If young are encountered during the dismantling process, the material shall be placed back on the nest and remain unmolested for three (3) weeks in order to give the young enough time to mature and leave of their own accord. After that period, the nest dismantling process may begin again. Nest material shall be moved to suitable adjacent areas (oak woodland, scrub, or chaparral) that will not be disturbed. If construction does not occur within 30 days of the pre-construction survey, surveys shall be repeated. The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of initial ground disturbance.

Woodrat Nest Surveys and Removal

A WRA biologist surveyed the disturbance area for occurrence of woodrat middens on October 14, 2014. WRA's biologist found a total of 5 middens within the disturbance area. The five middens encountered during the survey were located on the ground and occurred at the base of coast live oak trees (*Quercus agrifolia*) and within large thick stands of black sage (*Salvia mellifera*), white sage (*Salvia apiana*) and poison oak (*Toxicodendron diversilobum*). All middens on the ground were cleared and disassembled. Before a midden or material was removed from the site, WRA biologists disassembled the midden to inspect for presence of young. Once a midden was cleared, the materials were relocated, to the extent feasible, to adjacent suitable habitat. No young were observed during nest inspections and both middens were successfully dismantled. All woodrat midden removal and material relocation efforts were completed by October 14, 2014.

Summary

In anticipation of vegetation removal work required to regrade the EMSA according to the RPA, WRA performed woodrat midden inspections and removal of the five middens in the disturbance area on October 14, 2014. No young of woodrats were observed in the middens.

Per the Final Conditions of Approval and mitigation measures with the Environmental Impact Report, all requirements for proceeding with vegetation removal and ground disturbance have been met and the project may proceed on October 25, 2014..

Memorandum

To: Greg Knapp, Lehigh Hanson

Cc: Cliff Maddocks, Lehigh Hanson

Dan Zacharisen, Lehigh Hanson

From: Sean Avent

avent@wra-ca.com

ext. 112

Date: October 15, 2014

Subject: Permanente Quarry EMSA Vegetation Removal Woodrat Midden Removal Results

Introduction and Project Description

Lehigh Permanente Quarry plans to remove vegetation (i.e., grub) in the north eastern portion of the East Material Storage Area (EMSA; Figure 1 "Disturbance Area"). The purpose of the grubbing is to prepare the EMSA for regrading according to the Reclamation Plan Amendment (RPA). The maximum length of the entire EMSA regrading disturbance area is approximately 1,000 feet and its maximum width is approximately 130 feet. The disturbance area is located within the RPA disturbance limits and generally north of the existing EMSA access haul road and south of the RPA disturbance limit boundary. Vegetation removal will be followed by grading according to the Reclamation Plan Amendment. This memorandum describes the requirements and dusky-footed woodrat (*Neotoma fuscipes)* midden removal and inspection results for the EMSA Regrading Project.

Conditions of Approval Requirements

Conditions of Approval (COA) numbers 46 through 54 of the Santa Clara County Final Conditions of Approval specify the measures to be taken to protect sensitive wildlife species when clearing vegetated areas. In summary, the mine operator shall have qualified biologists perform surveys during the times of year when sensitive species have potential to be present. Table 1 shows the timing requirements for each survey.

Based on the expected start date of no sooner than October 25, the only wildlife resource surveys required is for the dusky-footed woodrat (COA 53). Because the grubbing will occur after September 1 and be complete prior to October 31, the project will fall outside any dates requiring nesting bird and roosting and maternity bat surveys. If vegetation removal continues beyond October 31, 2014, the relevant surveys will be required for nesting birds and roosting

bats. If the start of vegetation removal is delayed beyond November 14, 2014, the area will be resurveyed for woodrat nests and an updated memo will be submitted.

Conditions of Approval (COA) number 53 of the Santa Clara County Final Conditions of Approval specify the measures to be taken to protect sensitive wildlife species when clearing vegetated areas. In summary, woodrat midden surveys and removal will be required. The work must also begin within 30 days of the woodrat midden survey; otherwise that survey and removal of any new middens will need to be repeated. Because the vegetation removal is occurring during the month of October, no avian or bat surveys are required.

Table 1. Wildlife Resources Surveys Required Timing

Wildlife Resource	Survey Requirement	Survey Completion Date	Survey Submittal Date	Ground Disturbance Commencement Period	
				Start After (5 Business Days after Submittal)	Start By (within Survey Requirement)
Nesting Birds	Not Required Sept 1 – Jan 30	None	None	N/A	N/A
Woodrat Nests	Within 30 days prior to construction	10/14/2014	10/17/2014	10/24/2014	11/14/2014
Roosting Bats	Not Required Sept 1 – Oct 31	None	None	N/A	N/A

Each of the relevant COAs is summarized below:

COA 53. San Francisco Dusky Footed Woodrat.
Within 30 days prior to initial ground disturbance in woodland or scrub/chaparral communities, (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), conduct pre-construction surveys for active woodrat stick nests that could be directly impacted. Surveys should take place in all suitable habitat types within the Project Area. Any stick nests within active work areas will be flagged and dismantled under the supervision of a biologist. If young are encountered during the dismantling process, the material shall be placed back on the nest and remain unmolested for three (3) weeks in order to give the young enough time to mature and leave of their own accord. After that period, the nest dismantling process may begin again. Nest material shall be moved to suitable adjacent areas (oak woodland, scrub, or chaparral) that will not be disturbed. If construction does not occur within 30 days of the pre-construction survey, surveys shall be repeated. The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of initial ground disturbance.

Woodrat Nest Surveys and Removal

A WRA biologist surveyed the disturbance area for occurrence of woodrat middens on October 14, 2014. WRA's biologist found a total of 5 middens within the disturbance area. The five middens encountered during the survey were located on the ground and occurred at the base of coast live oak trees (*Quercus agrifolia*) and within large thick stands of black sage (*Salvia mellifera*), white sage (*Salvia apiana*) and poison oak (*Toxicodendron diversilobum*). All middens on the ground were cleared and disassembled. Before a midden or material was removed from the site, WRA biologists disassembled the midden to inspect for presence of young. Once a midden was cleared, the materials were relocated, to the extent feasible, to adjacent suitable habitat. No young were observed during nest inspections and both middens were successfully dismantled. All woodrat midden removal and material relocation efforts were completed by October 14, 2014.

Summary

In anticipation of vegetation removal work required to regrade the EMSA according to the RPA, WRA performed woodrat midden inspections and removal of the five middens in the disturbance area on October 14, 2014. No young of woodrats were observed in the middens.

Per the Final Conditions of Approval and mitigation measures with the Environmental Impact Report, all requirements for proceeding with vegetation removal and ground disturbance have been met and the project may proceed on October 25, 2014..

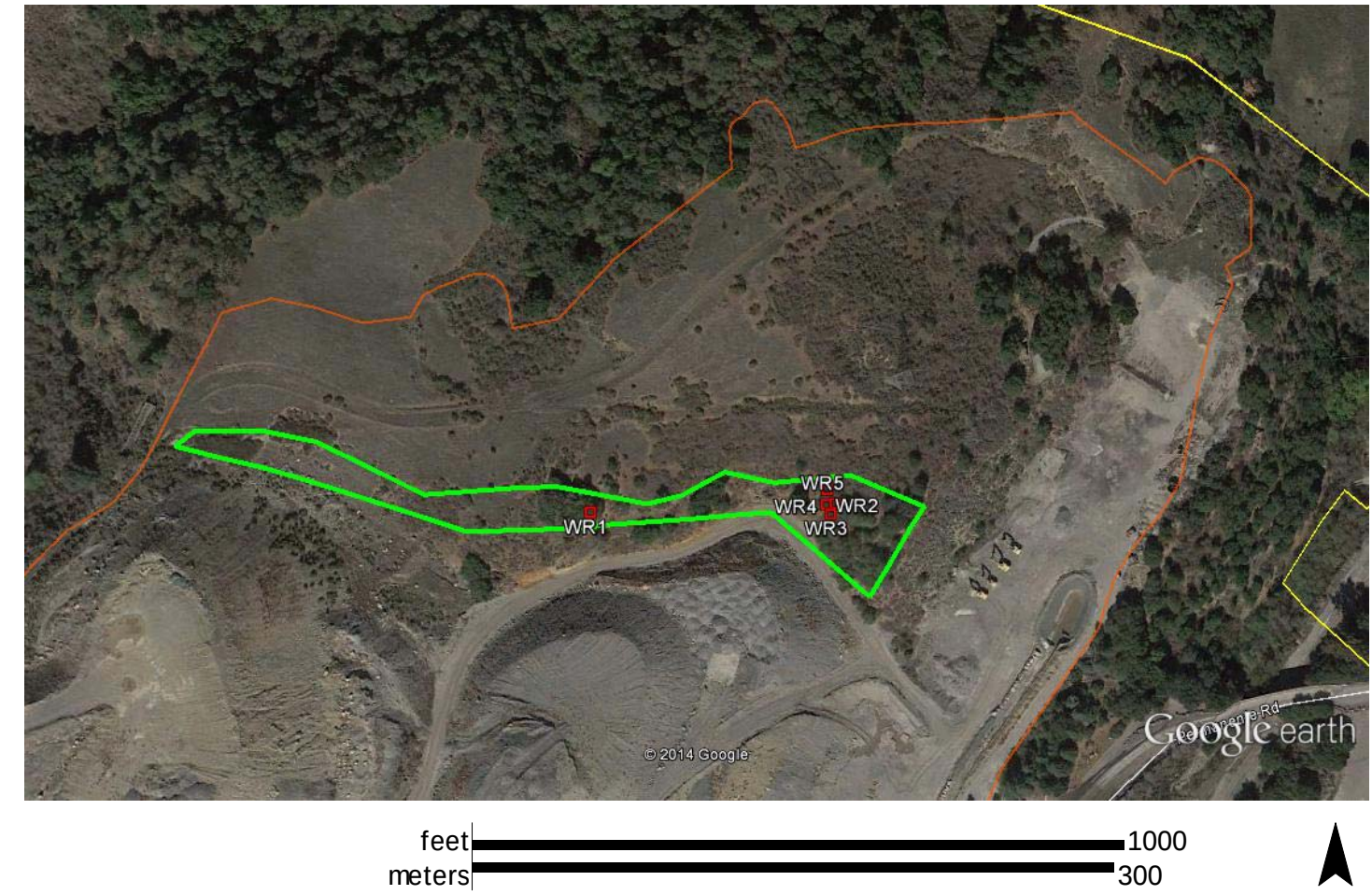


Figure 1. EMSA Disturbance Area and woodrat middens.

Memorandum

To: Greg Knapp, Lehigh Hanson

Cc: Sam Barket, Lehigh Hanson

Cliff Maddocks, Lehigh Hanson

Dan Zacharisen, Lehigh Hanson

From: Erich Schickenberg

schickenberg@wra-ca.com

ext. 1870

Date: January 15, 2015

Subject: Permanente Quarry North Quarry Vegetation Removal Biological Survey Results

Introduction and Project Description

Lehigh Permanente Quarry ("Lehigh") plans to remove vegetation (i.e., grub) in southeast corner of the North Quarry ("Disturbance Area") (Figure 1 "North Quarry Vegetation Removal Biological Survey Map"). The purpose of the grubbing is to prepare the area for mining activities and regrading according to the Reclamation Plan Amendment. The maximum length of the disturbance area is approximately 250 feet, and its maximum width is approximately 50 feet. The disturbance area is within the limit of mining area, and is generally west of the Crusher/Support area and north of the PCRA Subarea 6. This memorandum describes the biogical survey requirements and results for the vegetation removal.

Conditions of Approval Requirements

Conditions of Approval (COA) numbers 46 through 54 of the Santa Clara County Final Conditions of Approval specify the measures to be taken to protect sensitive wildlife species when clearing vegetated areas. In summary, the mine operator shall have qualified biologists perform surveys during the times of year when sensitive species have potential to be present. Table 1 shows the timing requirements for each survey.

In anticipation of the vegetation removal described above occurring between January 15 and January 31, 2015 wildlife resource surveys are required for hibernating bat habitat (COA 50), and San Francisco dusky-footed woodrat nests (COA 53). If vegetation removal takes place after January 31, surveys will be required for nesting birds as per COA 46.

COA number 50 specifies the measures to be taken to protect special status bat species during the hibernation season. During the November 1 to March 31 hibernation season, COA 50 specifies that no work shall be conducted within 100 feet of any woodland habitat (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), unless a qualified bat biologist determines that woodland areas do not provide suitable hibernating conditions for bats. The disturbance area is within 100 feet of area mapped as "White Alder Riparian Forest" as per Draft EIR Figure 4.4-4. In summary, a bat hibernation habitat survey is required.

COA number 53 specifies the measures to be taken to protect San Francisco dusky-footed woodrat when conducting ground disturbance or vegetation removal into woodland or scrub/chaparral communities (as identified in the Draft EIR Figures 4.4-1 through 4.4-4). Part of the disturbance area is mapped as "Mixed Scrub", as per Draft EIR Figure 4.4-4. In summary a woodrat nest survey is required. The work must also begin within 30 days of the woodrat nest survey; otherwise that survey and removal of any new nests will need to be repeated.

COA number 46 specifies that if tree removal or vegetation clearing occurs during the non-nesting season (September 1 through January 31) for bird species, documentation shall be submitted both before and after the tree removal or vegetation clearing occurs to confirm completion of work within this time frame. This memorandum serves as notification in advance of vegetation removal work in compliance with this COA.

Because the vegetation removal is occurring prior to February 1, 2015, no nesting bird surveys are required. If the vegetation removal work is delayed beyond January 31, 2015, the appropriate surveys for avian species will be required.

Table 1. Wildlife Resources Surveys Required Timeline

Wildlife Resource	**Survey Requirement**	**Survey Completion Date**	**Survey Submittal Date**	**Ground Disturbance Commencement Period**	
				Start After (5 Business Days after Submittal)	**Start By (within Survey Requirement)**
Hibernating Bats	Survey for suitable hibernating conditions required Nov 1 – Mar 31	11/25/2014	01/19/2015	N/A	N/A
Woodrat Nests	Survey and removal required within 30 days prior to construction year-round	01/16/2015	01/19/2015	01/26/2015	02/15/2015
Nesting Birds	Surveys required Feb 1 – August 31	N/A	N/A	N/A	N/A
Maternity Roosting Bats	Surveys required April 1 – August 31	N/A	N/A	N/A	N/A

Each of the relevant COAs is summarized below:

> **COA 50. Special Status Bat Species - Hibernation Season.** During the November 1 to March 31 hibernation season, work shall not be conducted within 100 feet of any woodland habitat (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), unless a qualified bat biologist determines that woodland areas do not provide suitable hibernating conditions for bats and they are unlikely to be present in the area.
>
> Submit a report by a qualified bat biologist to the Planning Manager verifying the absence of suitable habitat as described above if work is proposed within 100 feet of woodland habitat between November 1 and March 31 (Implements Mitigation Measure 4.4-2a).
>
> **COA 53. San Francisco Dusky Footed Woodrat.** Within 30 days prior to initial ground disturbance in woodland or scrub/chaparral communities, (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), conduct pre-construction surveys for active woodrat stick nests that could be directly impacted. Surveys should take place in all suitable habitat types within the Project Area. Any stick nests within active work areas will be flagged and dismantled under the supervision of a biologist. If young are encountered during the dismantling process, the material shall be placed back on the nest and remain unmolested for three (3) weeks in order to give the young enough time to mature and leave of their own accord. After that period, the nest dismantling process may begin again. Nest material shall be moved to suitable adjacent areas (oak woodland, scrub, or chaparral) that will not be disturbed. If construction does not occur within 30 days of the pre-construction survey, surveys shall be repeated. The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of initial ground disturbance.
>
> **COA 46. Avian Species.** If the tree removal or vegetation clearing shall occur during the non-nesting season, submit documentation both before and after tree removal / vegetation clearing confirmation [sic] completion of work within this time frame.

Bat Hibernation Habitat Survey

WRA biologists surveyed the disturbance area and 100 foot buffer around the impacted vegetation for suitable bat hibernation habitat on November 24, 2014. The survey concluded woodland habitat within 100 feet of the vegetation removal area does not contain suitable habitat for bat hibernation, and bats are unlikely to be present in the area. The only mature tree within the survey area lacks cavities or exfoliating bark capable of supporting hibernating or roosting bats, and is situated on an exposed hillside subject to high winds which bats generally avoid. Moreover, bats in California are generally physiologically incapable of hibernating in trees because of the lack of stable temperatures. Bats are believed to hibernate in natural and man-made structures that provide consistent cold, but non-freezing temperatures. These conditions allow bats to lower their metabolism to conserve energy stores. Frequent rousing

from hibernation due to the rapid heating and cooling of a tree, can cause rapid consumption and ultimately exhaustion of energy stores prior to the emergence of insects in the spring.

Woodrat Nest Survey

A WRA biologist surveyed the vegetation removal area for the occurrence of woodrat nests on January 16, 2015, and found no woodrat nests within or adjacent to the disturbance area.

Summary

In anticipation of vegetation removal work WRA performed surveys for hibernating bat habitat (COA 50), and San Francisco dusky-footed woodrat nests (COA 53), and found no woodrat nests, nor potential hibernating bat habitat.

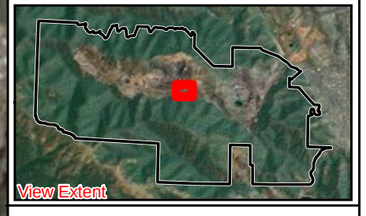
Per the Final Conditions of Approval and mitigation measures with the Environmental Impact Report, all requirements for proceeding with vegetation removal and ground disturbance have been met and the project may proceed on January 26, 2015. If vegetation removal work is delayed beyond January 31, 2015, nesting bird surveys will be required.

wra
ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry,
Santa Clara County,
California

Figure 1.

North Quarry
Vegetation Removal
Biological Survey
Map



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Date: December 2014
Map By: Chris Zumwalt
Aerial: Microsoft 2010

Path: L:\Acad 2000 Files\16000\16143-4\ArcMap\2014\Bat Hibernation\Bat Hibernation Habitat Survey 2.mxd

Memorandum

To: Greg Knapp, Lehigh Hanson

Cc: Sam Barket, Lehigh Hanson

George Taylor, Lehigh Hanson

Cliff Maddocks, Lehigh Hanson

From: Erich Schickenberg

schickenberg@wra-ca.com

ext. 1870

Date: June 5, 2015

Subject: Permanente Quarry Northeast WMSA Vegetation Removal Biological Survey Results

Introduction and Project Description

Lehigh Permanente Quarry ("Lehigh") plans to remove vegetation (i.e., grub) along the northeast border of the Western Materials Storage Area (WMSA) ("Disturbance Area") (Attachment 1 "WMSA Vegetation Removal Northeast Disturbance Area"). The purpose of the grubbing is to clear a path for a drilling rig to access a water quality monitoring well drilling site in the northeast portion of the WMSA. The disturbance area is approximately 0.44 acres with a maximum length of approximately 310 feet, and a maximum width of approximately 73 feet. This memorandum describes the biological survey requirements and results for the vegetation removal.

Conditions of Approval Requirements

Conditions of Approval (COA) numbers 46 through 54 of the Santa Clara County Final Conditions of Approval specify the measures to be taken to protect sensitive wildlife species when clearing vegetated areas. In summary, the mine operator shall have qualified biologists perform surveys during the times of year when sensitive species have potential to be present. Table 1 shows the timing requirements for each survey.

In anticipation of the vegetation removal described above occurring between May 14 and May 19, 2015 wildlife resource surveys are required for San Francisco dusky-footed woodrat nests (COA 53) and nesting birds (COA 46).

COA number 53 specifies the measures to be taken to protect San Francisco dusky-footed woodrat when conducting ground disturbance or vegetation removal into woodland or scrub/chaparral communities (as identified in the Draft EIR Figures 4.4-1 through 4.4-4). In summary a woodrat nest survey is required. The work must also begin within 30 days of the woodrat nest survey; otherwise that survey and removal of any new nests will need to be repeated.

COA number 46 specifies that if vegetation removal or ground disturbance occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and location of nesting bird species. Documentation shall be submitted to the Planning Manager no later than five business days prior to the start of such activities. This memorandum serves as notification in advance of vegetation removal work in compliance with this COA.

Table 1. Wildlife Resources Surveys Required Timeline

Wildlife Resource	**Survey Requirement**	**Survey Completion Date**	**Survey Submittal Date**	**Ground Disturbance Commencement Period**	
				Start After (5 Business Days after Submittal)	**Start By (within Survey Requirement)**
Hibernating Bats	Survey for suitable hibernating conditions required Nov 1 – Mar 31	N/A	N/A	N/A	N/A
Woodrat Nests	Survey and removal required within 30 days prior to construction year-round	06/03/2015	06/05/2015	06/12/2015	06/16/2015
Nesting Birds	Surveys required Feb 1 – August 31	06/03/2015	06/05/2015	06/12/2015	06/16/2015
Maternity Roosting Bats	Surveys required April 1 – August 31 (if potential bat roosting habitat is being removed)	N/A	N/A	N/A	N/A

Each of the relevant COAs is summarized below:

COA 46. Avian Species.

Ground disturbance into undisturbed areas and vegetation (tree and shrub) removal should occur between September 1 and January 30, outside of the breeding season for most bird species. If ground disturbance or tree and shrub

removal occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and location of nesting bird species. If ground disturbance or removal of vegetation occurs between June 16 and August 31, pre-construction surveys will be performed within 30 days prior to such activities.

Thirty (30) days prior to the start of any ground disturbance into undisturbed areas or vegetation removal, the Mine Operator shall submit to the Planning Manager a copy of a contract with a qualified ornithologist to conduct pre-activity surveys.

The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of such activities. If the tree removal or vegetation clearing shall occur during the non-nesting season, submit documentation both before and after tree removal / vegetation clearing confirmation completion of work within this time frame.

COA 53. San Francisco Dusky Footed Woodrat.

Within 30 days prior to initial ground disturbance in woodland or scrub/chaparral communities, (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), conduct pre-construction surveys for active woodrat stick nests that could be directly impacted. Surveys should take place in all suitable habitat types within the Project Area. Any stick nests within active work areas will be flagged and dismantled under the supervision of a biologist. If young are encountered during the dismantling process, the material shall be placed back on the nest and remain unmolested for three (3) weeks in order to give the young enough time to mature and leave of their own accord. After that period, the nest dismantling process may begin again. Nest material shall be moved to suitable adjacent areas (oak woodland, scrub, or chaparral) that will not be disturbed. If construction does not occur within 30 days of the pre-construction survey, surveys shall be repeated. The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of initial ground disturbance.

Nesting Bird Survey

Two WRA biologists surveyed the project area for the presence and location of nesting bird species within the disturbance area and 250 feet of the disturbance boundary on June 3, 2015. During the survey, no nesting bird species or evidence of nest building was observed within the disturbance area or survey buffer. Overall bird activity was low during the survey, and observed species were limited to Anna's hummingbird (*Calypte anna*), North American mockingbird (*Mimus polyglottos*), dark-eyed junco (*Junco hyemalis*), blue-gray gnatcatcher (*Polioptila caerulea*), California quail (*Callipepla californica*), western scrub-jay (*Aphelocoma californica*), mourning dove (*Zenaida macroura*), Brewer's blackbird (*Euphagus cyanocephalus*), rock wren (*Salpinctes obsoletus*), and wrentit (*Chamaea fasciata*).

Woodrat Nest Survey

Two WRA biologists surveyed the project area for the occurrence of woodrat nests within the disturbance area on June 3, 2015, and found no woodrat nests within or adjacent to the disturbance area (Attachment 1).

Summary

In anticipation of vegetation removal work WRA performed surveys for nesting birds (COA 46) and San Francisco dusky-footed woodrat nests (COA 53). No bird or dusky-footed woodrat nests were observed in the Disturbance Area.

Per the Final Conditions of Approval and mitigation measures with the Environmental Impact Report, all requirements for proceeding with vegetation removal and ground disturbance have been met and the project may proceed on June 13, 2015. If vegetation removal work is delayed beyond June 16, 2015, additional nesting bird surveys will be required.

Attachment 2. WMSA Vegetation Removal
Northeast Disturbance Area

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry
Santa Clara County, California

0 50 100 200
Feet

Map Prepared Date: 6/5/2015
Map Prepared By: MRochelle
Base Source: ESRI World Imagery (2010)
Data Source(s): WRA

Path: L:\Acad 2000 Files\16000\16143-4\ArcMap\2015\June\Disturbance Area NE.mxd

Memorandum

To: Greg Knapp, Lehigh Hanson

Cc: Sam Barket, Lehigh Hanson

George Taylor, Lehigh Hanson

Cliff Maddocks, Lehigh Hanson

From: Erich Schickenberg

schickenberg@wra-ca.com

ext. 1870

Date: June 5, 2015

Subject: Permanente Quarry Northwest WMSA Vegetation Removal Biological Survey Results

Introduction and Project Description

Lehigh Permanente Quarry ("Lehigh") plans to remove vegetation (i.e., grub) along the northwest border of the Western Materials Storage Area (WMSA) ("Disturbance Area") (Attachment 1 "WMSA Vegetation Removal Northwest Disturbance Area"). The purpose of the grubbing is to clear a path for a drilling rig to access a water quality monitoring well drilling site in the northwest portion of the WMSA. The disturbance area is approximately 1.78 acres with a maximum length of approximately 445 feet, and a maximum width of approximately 430 feet. This memorandum describes the biological survey requirements and results for the vegetation removal.

Conditions of Approval Requirements

Conditions of Approval (COA) numbers 46 through 54 of the Santa Clara County Final Conditions of Approval specify the measures to be taken to protect sensitive wildlife species when clearing vegetated areas. In summary, the mine operator shall have qualified biologists perform surveys during the times of year when sensitive species have potential to be present. Table 1 shows the timing requirements for each survey.

In anticipation of the vegetation removal described above occurring between May 14 and May 19, 2015 wildlife resource surveys are required for San Francisco dusky-footed woodrat nests (COA 53) and nesting birds (COA 46).

COA number 53 specifies the measures to be taken to protect San Francisco dusky-footed woodrat when conducting ground disturbance or vegetation removal into woodland or scrub/chaparral communities (as identified in the Draft EIR Figures 4.4-1 through 4.4-4). In summary a woodrat nest survey is required. The work must also begin within 30 days of the woodrat nest survey; otherwise that survey and removal of any new nests will need to be repeated.

COA number 46 specifies that if vegetation removal or ground disturbance occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and location of nesting bird species. Documentation shall be submitted to the Planning Manager no later than five business days prior to the start of such activities. This memorandum serves as notification in advance of vegetation removal work in compliance with this COA.

Table 1. Wildlife Resources Surveys Required Timeline

Wildlife Resource	**Survey Requirement**	**Survey Completion Date**	**Survey Submittal Date**	**Ground Disturbance Commencement Period**	
				Start After (5 Business Days after Submittal)	**Start By (within Survey Requirement)**
Hibernating Bats	Survey for suitable hibernating conditions required Nov 1 – Mar 31	N/A	N/A	N/A	N/A
Woodrat Nests	Survey and removal required within 30 days prior to construction year-round	06/03/2015	06/05/2015	06/12/2015	06/16/2015
Nesting Birds	Surveys required Feb 1 – August 31	06/03/2015	06/05/2015	06/12/2015	06/16/2015
Maternity Roosting Bats	Surveys required April 1 – August 31 (if potential bat roosting habitat is being removed)	N/A	N/A	N/A	N/A

Each of the relevant COAs is summarized below:

COA 46. Avian Species.

Ground disturbance into undisturbed areas and vegetation (tree and shrub) removal should occur between September 1 and January 30, outside of the breeding season for most bird species. If ground disturbance or tree and shrub

removal occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and location of nesting bird species. If ground disturbance or removal of vegetation occurs between June 16 and August 31, pre-construction surveys will be performed within 30 days prior to such activities.

Thirty (30) days prior to the start of any ground disturbance into undisturbed areas or vegetation removal, the Mine Operator shall submit to the Planning Manager a copy of a contract with a qualified ornithologist to conduct pre-activity surveys.

The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of such activities. If the tree removal or vegetation clearing shall occur during the non-nesting season, submit documentation both before and after tree removal / vegetation clearing confirmation completion of work within this time frame.

COA 53. San Francisco Dusky Footed Woodrat.

Within 30 days prior to initial ground disturbance in woodland or scrub/chaparral communities, (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), conduct pre-construction surveys for active woodrat stick nests that could be directly impacted. Surveys should take place in all suitable habitat types within the Project Area. Any stick nests within active work areas will be flagged and dismantled under the supervision of a biologist. If young are encountered during the dismantling process, the material shall be placed back on the nest and remain unmolested for three (3) weeks in order to give the young enough time to mature and leave of their own accord. After that period, the nest dismantling process may begin again. Nest material shall be moved to suitable adjacent areas (oak woodland, scrub, or chaparral) that will not be disturbed. If construction does not occur within 30 days of the pre-construction survey, surveys shall be repeated. The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of initial ground disturbance.

Nesting Bird Survey

Two WRA biologists surveyed the project area for the presence and location of nesting bird species within the disturbance area and 250 feet of the disturbance boundary on June 3, 2015. During the survey, no nesting bird species or evidence of nest building was observed within the disturbance area or survey buffer. Overall bird activity was low during the survey, and observed species were limited to Anna's hummingbird (*Calypte anna*), dark-eyed junco (*Junco hyemalis*), ash-throated flycatcher (*Myiarchus cinerascens*), California quail (*Callipepla californica*), western scrub-jay (*Aphelocoma californica*), Bewick's wren (*Thyromanes bewickii altus*), and wrentit (*Chamaea fasciata*).

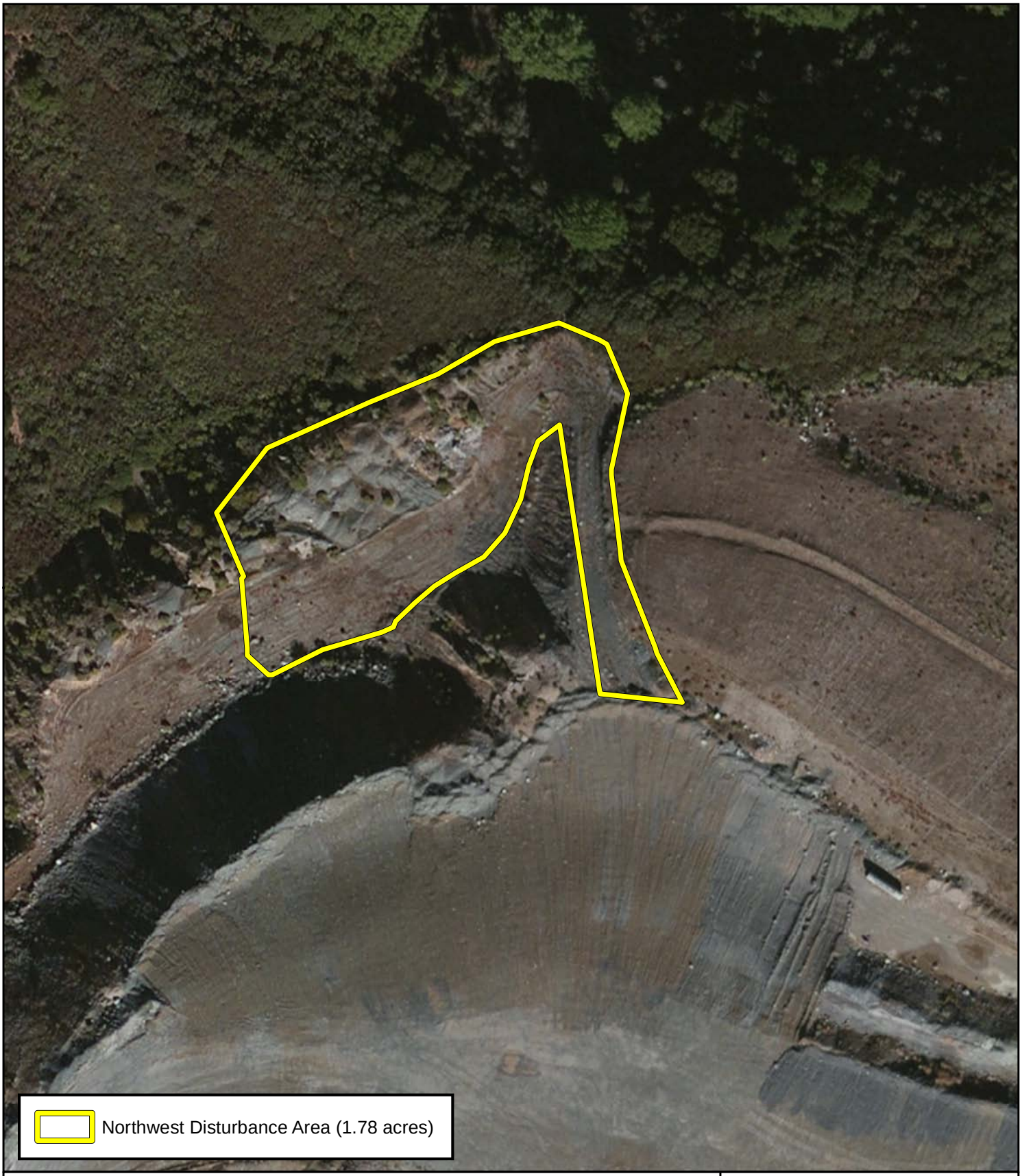
Woodrat Nest Survey

Two WRA biologists surveyed the project area for the occurrence of woodrat nests within the disturbance area on June 3, 2015, and found no woodrat nests within or adjacent to the disturbance area (Attachment 1).

Summary

In anticipation of vegetation removal work WRA performed surveys for nesting birds (COA 46) and San Francisco dusky-footed woodrat nests (COA 53). No bird or dusky-footed woodrat nests were observed in the Disturbance Area.

Per the Final Conditions of Approval and mitigation measures with the Environmental Impact Report, all requirements for proceeding with vegetation removal and ground disturbance have been met and the project may proceed on June 13, 2015. If vegetation removal work is delayed beyond June 16, 2015, additional nesting bird surveys will be required.



Attachment 1. WMSA Vegetation Removal
Northwest Disturbance Area

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0 50 100 200
Feet

wra
ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry
Santa Clara County, California

Map Prepared Date: 6/5/2015
Map Prepared By: MRochelle
Base Source: ESRI World Imagery (2010)
Data Source(s): WRA

Path: L:\Acad 2000 Files\16000\16143-4\ArcMap\2015\June\Disturbance Area NW.mxd

Memorandum

To: Greg Knapp, Lehigh Hanson

Cc: Sam Barket, Lehigh Hanson

George Taylor, Lehigh Hanson

Cliff Maddocks, Lehigh Hanson

From: Erich Schickenberg

schickenberg@wra-ca.com

ext. 1870

Date: June 5, 2015

Subject: Permanente Quarry Southeast WMSA Vegetation Removal Biological Survey Results

Introduction and Project Description

Lehigh Permanente Quarry ("Lehigh") plans to remove vegetation (i.e., grub) in the southeast portion of the Western Materials Storage Area (WMSA) ("Disturbance Area") (Attachment 1 "WMSA Vegetation Removal Southeast Disturbance Area"). The purpose of the grubbing is to clear a path for a road in the southeast portion of the WMSA. The disturbance area is approximately 1.38 acres with a maximum length of approximately 1,530 feet, and a maximum width of approximately 250 feet. This memorandum describes the biological survey requirements and results for the vegetation removal.

Conditions of Approval Requirements

Conditions of Approval (COA) numbers 46 through 54 of the Santa Clara County Final Conditions of Approval specify the measures to be taken to protect sensitive wildlife species when clearing vegetated areas. In summary, the mine operator shall have qualified biologists perform surveys during the times of year when sensitive species have potential to be present. Table 1 shows the timing requirements for each survey.

In anticipation of the vegetation removal described above occurring between May 14 and May 19, 2015 wildlife resource surveys are required for San Francisco dusky-footed woodrat nests (COA 53) and nesting birds (COA 46).

COA number 53 specifies the measures to be taken to protect San Francisco dusky-footed woodrat when conducting ground disturbance or vegetation removal into woodland or scrub/chaparral communities (as identified in the Draft EIR Figures 4.4-1 through 4.4-4). In summary a woodrat nest survey is required. The work must also begin within 30 days of the woodrat nest survey; otherwise that survey and removal of any new nests will need to be repeated.

COA number 46 specifies that if vegetation removal or ground disturbance occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and location of nesting bird species. Documentation shall be submitted to the Planning Manager no later than five business days prior to the start of such activities. This memorandum serves as notification in advance of vegetation removal work in compliance with this COA.

Table 1. Wildlife Resources Surveys Required Timeline

Wildlife Resource	**Survey Requirement**	**Survey Completion Date**	**Survey Submittal Date**	**Ground Disturbance Commencement Period**	
				Start After (5 Business Days after Submittal)	**Start By (within Survey Requirement)**
Hibernating Bats	Survey for suitable hibernating conditions required Nov 1 – Mar 31	N/A	N/A	N/A	N/A
Woodrat Nests	Survey and removal required within 30 days prior to construction year-round	06/04/2015	06/05/2015	06/12/2015	06/17/2015
Nesting Birds	Surveys required Feb 1 – August 31	06/04/2015	06/05/2015	06/12/2015	06/17/2015
Maternity Roosting Bats	Surveys required April 1 – August 31 (if potential bat roosting habitat is being removed)	N/A	N/A	N/A	N/A

Each of the relevant COAs is summarized below:

COA 46. Avian Species.

Ground disturbance into undisturbed areas and vegetation (tree and shrub) removal should occur between September 1 and January 30, outside of the breeding season for most bird species. If ground disturbance or tree and shrub

removal occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and location of nesting bird species. If ground disturbance or removal of vegetation occurs between June 16 and August 31, pre-construction surveys will be performed within 30 days prior to such activities.

Thirty (30) days prior to the start of any ground disturbance into undisturbed areas or vegetation removal, the Mine Operator shall submit to the Planning Manager a copy of a contract with a qualified ornithologist to conduct pre-activity surveys.

The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of such activities. If the tree removal or vegetation clearing shall occur during the non-nesting season, submit documentation both before and after tree removal / vegetation clearing confirmation completion of work within this time frame.

COA 53. San Francisco Dusky Footed Woodrat.

Within 30 days prior to initial ground disturbance in woodland or scrub/chaparral communities, (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), conduct pre-construction surveys for active woodrat stick nests that could be directly impacted. Surveys should take place in all suitable habitat types within the Project Area. Any stick nests within active work areas will be flagged and dismantled under the supervision of a biologist. If young are encountered during the dismantling process, the material shall be placed back on the nest and remain unmolested for three (3) weeks in order to give the young enough time to mature and leave of their own accord. After that period, the nest dismantling process may begin again. Nest material shall be moved to suitable adjacent areas (oak woodland, scrub, or chaparral) that will not be disturbed. If construction does not occur within 30 days of the pre-construction survey, surveys shall be repeated. The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of initial ground disturbance.

Nesting Bird Survey

Two WRA biologists surveyed the project area for the presence and location of nesting bird species within the disturbance area and 250 feet of the disturbance boundary on June 3, 2015. During the survey, no nesting bird species or evidence of nest building was observed within the disturbance area or survey buffer. Overall bird activity was low during the survey, and observed species were limited to dark-eyed junco (*Junco hyemalis*), western scrub-jay (*Aphelocoma californica*), rock wren (*Salpinctes* obsoletus), house finch (*Haemorhous* mexicanus), and violet-green swallow (*Tachycineta* thalassina).

Woodrat Nest Survey

Two WRA biologists surveyed the project area for the occurrence of woodrat nests within the disturbance area on June 4, 2015, and found no woodrat nests within or adjacent to the disturbance area (Attachment 1).

Summary

In anticipation of vegetation removal work WRA performed surveys for nesting birds (COA 46) and San Francisco dusky-footed woodrat nests (COA 53). No bird or dusky-footed woodrat nests were observed in the Disturbance Area.

Per the Final Conditions of Approval and mitigation measures with the Environmental Impact Report, all requirements for proceeding with vegetation removal and ground disturbance have been met and the project may proceed on June 13, 2015. If vegetation removal work is delayed beyond June 17, 2015, additional nesting bird surveys will be required.

Attachment 3. WMSA Vegetation Removal
Southeast Disturbance Area

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry
Santa Clara County, California

0 50 100 200
Feet

Map Prepared Date: 6/5/2015
Map Prepared By: MRochelle
Base Source: ESRI World Imagery (2010)
Data Source(s): WRA

Path: L:\Acad 2000 Files\16000\16143-4\ArcMap\2015\June\Disturbance Area SE.mxd

ENVIRONMENTAL CONSULTANTS

Memorandum

To: Greg Knapp, Lehigh Hanson

Cc: Sam Barket, Lehigh Hanson

George Taylor, Lehigh Hanson

Cliff Maddocks, Lehigh Hanson

From: Erich Schickenberg

schickenberg@wra-ca.com

ext. 1870

Date: June 1, 2015

Subject: Upper Permanente Creek Vegetation Removal Biological Survey Results

Introduction and Project Description

Lehigh Permanente Quarry ("Lehigh") plans to remove vegetation (i.e., grub) along the access road to upper Permanente Creek ("Disturbance Area") (Attachment 1 "Upper Permanente Cree Vegetation Removal Disturbance Area Map"). The purpose of the grubbing is to clear a path for a drilling rig to access a water quality monitoring well drilling site in the upper portion of Permanente Creek. The work will occur in PCRA subareas 1 and 2. The disturbance area is approximately 6.63 acres with a maximum length of approximately 2,810 feet, and a maximum width of approximately 50 feet. This memorandum describes the biological survey requirements and results for the vegetation removal.

Conditions of Approval Requirements

Conditions of Approval (COA) numbers 46 through 54 of the Santa Clara County Final Conditions of Approval specify the measures to be taken to protect sensitive wildlife species when clearing vegetated areas. In summary, the mine operator shall have qualified biologists perform surveys during the times of year when sensitive species have potential to be present. Table 1 shows the timing requirements for each survey.

In anticipation of the vegetation removal described above occurring between May 14 and May 19, 2015 wildlife resource surveys are required for San Francisco dusky-footed woodrat nests (COA 53) and nesting birds (COA 46).

COA number 53 specifies the measures to be taken to protect San Francisco dusky-footed woodrat when conducting ground disturbance or vegetation removal into woodland or scrub/chaparral communities (as identified in the Draft EIR Figures 4.4-1 through 4.4-4). In summary a woodrat nest survey is required. The work must also begin within 30 days of the woodrat nest survey; otherwise that survey and removal of any new nests will need to be repeated.

COA number 46 specifies that if vegetation removal or ground disturbance occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and location of nesting bird species. Documentation shall be submitted to the Planning Manager no later than five business days prior to the start of such activities. This memorandum serves as notification in advance of vegetation removal work in compliance with this COA.

Table 1. Wildlife Resources Surveys Required Timeline

Wildlife Resource	**Survey Requirement**	**Survey Completion Date**	**Survey Submittal Date**	**Ground Disturbance Commencement Period**	
				Start After (5 Business Days after Submittal)	**Start By (within Survey Requirement)**
Hibernating Bats	Survey for suitable hibernating conditions required Nov 1 – Mar 31	N/A	N/A	N/A	N/A
Woodrat Nests	Survey and removal required within 30 days prior to construction year-round	05/28/2015	06/01/2015	06/06/2015	06/10/2015
Nesting Birds	Surveys required Feb 1 – August 31	05/28/2015	06/01/2015	06/06/2015	06/10/2015
Maternity Roosting Bats	Surveys required April 1 – August 31 (if potential bat roosting habitat is being removed)	N/A	N/A	N/A	N/A

Each of the relevant COAs is summarized below:

COA 46. Avian Species.

Ground disturbance into undisturbed areas and vegetation (tree and shrub) removal should occur between September 1 and January 30, outside of the breeding season for most bird species. If ground disturbance or tree and shrub

removal occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and location of nesting bird species. If ground disturbance or removal of vegetation occurs between June 16 and August 31, pre-construction surveys will be performed within 30 days prior to such activities.

Thirty (30) days prior to the start of any ground disturbance into undisturbed areas or vegetation removal, the Mine Operator shall submit to the Planning Manager a copy of a contract with a qualified ornithologist to conduct pre-activity surveys.

The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of such activities. If the tree removal or vegetation clearing shall occur during the non-nesting season, submit documentation both before and after tree removal / vegetation clearing confirmation completion of work within this time frame.

COA 53. San Francisco Dusky Footed Woodrat.

Within 30 days prior to initial ground disturbance in woodland or scrub/chaparral communities, (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), conduct pre-construction surveys for active woodrat stick nests that could be directly impacted. Surveys should take place in all suitable habitat types within the Project Area. Any stick nests within active work areas will be flagged and dismantled under the supervision of a biologist. If young are encountered during the dismantling process, the material shall be placed back on the nest and remain unmolested for three (3) weeks in order to give the young enough time to mature and leave of their own accord. After that period, the nest dismantling process may begin again. Nest material shall be moved to suitable adjacent areas (oak woodland, scrub, or chaparral) that will not be disturbed. If construction does not occur within 30 days of the pre-construction survey, surveys shall be repeated. The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of initial ground disturbance.

Nesting Bird Survey

Two WRA biologists surveyed the project area for the presence and location of nesting bird species within the disturbance area and 250 feet of the disturbance boundary on May 28, 2015. During the survey, no nesting bird species or evidence of nest building was observed within the disturbance area or survey buffer. Overall bird activity was low during the survey, and observed species were limited to Anna's hummingbird (*Calypte anna*), western scrub-jay (*Aphelocoma californica*), California quail (*Callipepla californica*), American bushtit (*Psaltriparus minimus*), ash-throated flycatcher (*Myiarchus cinerascens*), spotted towhee (*Pipilo maculatus*), lesser goldfinch (*Spinus psaltria*), dark-eyed junco (*Junco hyemalis*),), and wrentit (*Chamaea fasciata*).

Woodrat Nest Survey

Two WRA biologists surveyed the project area for the occurrence of woodrat nests within the disturbance area on May 28, 2015, and found no woodrat nests within or adjacent to the disturbance area (Attachment 1).

Summary

In anticipation of vegetation removal work WRA performed surveys for nesting birds (COA 46) and San Francisco dusky-footed woodrat nests (COA 53). No bird or dusky-footed woodrat nests were observed in the Disturbance Area.

Per the Final Conditions of Approval and mitigation measures with the Environmental Impact Report, all requirements for proceeding with vegetation removal and ground disturbance have been met and the project may proceed on June 6, 2015. If vegetation removal work is delayed beyond June 10, 2015, additional nesting bird surveys will be required.

Attachment 1. Upper Permanente Creek Vegetation Removal
Disturbance Area Map

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ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry
Santa Clara County, California

Map Prepared Date: 5/29/2015
Map Prepared By: pkobylarz
Base Source: ESRI World Imagery (2010)
Data Source(s): WRA

Path: L:\Acad 2000 Files\16000\16143-4\ArcMap\2015\FigX_Disturbance Area 20150529.mxd

Memorandum

To: Greg Knapp, Lehigh Hanson

Cc: Sam Barket, Lehigh Hanson

Cliff Maddocks, Lehigh Hanson

From: Erich Schickenberg

schickenberg@wra-ca.com

ext. 1870

Date: February 23, 2015

Subject: Permanente Quarry WMSA Vegetation Removal Biological Survey Results

Introduction and Project Description

Lehigh Permanente Quarry ("Lehigh") plans to remove vegetation (i.e., grub) in southeast corner of the Western Materials Storage Area (WMSA) ("Disturbance Area") (Figure 1 "WMSA Vegetation Removal Map"). The purpose of the grubbing is to prepare the area for mining activities and regrading according to the Reclamation Plan Amendment. The disturbance area is approximately 1.6 acres with a maximum length of approximately 640 feet, and a maximum width of approximately 150 feet. The disturbance area is within the limit of mining area, and is generally west of the North Quarry area and north of PCRA Subareas 2 and 3. This memorandum describes the biological survey requirements and results for the vegetation removal.

Conditions of Approval Requirements

Conditions of Approval (COA) numbers 46 through 54 of the Santa Clara County Final Conditions of Approval specify the measures to be taken to protect sensitive wildlife species when clearing vegetated areas. In summary, the mine operator shall have qualified biologists perform surveys during the times of year when sensitive species have potential to be present. Table 1 shows the timing requirements for each survey.

In anticipation of the vegetation removal described above occurring between March 3 and March 6, 2015 wildlife resource surveys are required for San Francisco dusky-footed woodrat nests (COA 53) and nesting birds (COA 46).

COA number 53 specifies the measures to be taken to protect San Francisco dusky-footed woodrat when conducting ground disturbance or vegetation removal into woodland or scrub/chaparral communities (as identified in the Draft EIR Figures 4.4-1 through 4.4-4). In summary a woodrat nest survey is required. The work must also begin within 30 days of the

woodrat nest survey; otherwise that survey and removal of any new nests will need to be repeated.

COA number 46 specifies that if vegetation removal or ground disturbance occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and location of nesting bird species. Documentation shall be submitted to the Planning Manager no later than five business days prior to the start of such activities. This memorandum serves as notification in advance of vegetation removal work in compliance with this COA.

Table 1. Wildlife Resources Surveys Required Timeline

Wildlife Resource	Survey Requirement	Survey Completion Date	Survey Submittal Date	Ground Disturbance Commencement Period	
				Start After (5 Business Days after Submittal)	Start By (within Survey Requirement)
Hibernating Bats	Survey for suitable hibernating conditions required Nov 1 – Mar 31	N/A	N/A	N/A	N/A
Woodrat Nests	Survey and removal required within 30 days prior to construction year-round	02/20/2015	02/23/2015	03/03/2015	03/25/2015
Nesting Birds	Surveys required Feb 1 – August 31	02/20/2015	02/23/2015	03/03/2015	03/06/2015
Maternity Roosting Bats	Surveys required April 1 – August 31	N/A	N/A	N/A	N/A

Each of the relevant COAs is summarized below:

> **COA 53. San Francisco Dusky Footed Woodrat.** Within 30 days prior to initial ground disturbance in woodland or scrub/chaparral communities, (as identified in the Draft EIR Figures 4.4-1 through 4.4-4), conduct pre-construction surveys for active woodrat stick nests that could be directly impacted. Surveys should take place in all suitable habitat types within the Project Area. Any stick nests within active work areas will be flagged and dismantled under the supervision of a biologist. If young are encountered during the dismantling process, the material shall be placed back on the nest and remain unmolested for three (3) weeks in order to give the young enough time to mature and leave of their own accord. After that period, the nest dismantling process may begin again. Nest material shall be moved to suitable adjacent areas (oak woodland,

scrub, or chaparral) that will not be disturbed. If construction does not occur within 30 days of the pre-construction survey, surveys shall be repeated. The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of initial ground disturbance.

COA 46. Avian Species.

Ground disturbance into undisturbed areas and vegetation (tree and shrub) removal should occur between September 1 and January 30, outside of the breeding season for most bird species. If ground disturbance or tree and shrub removal occurs between February 1 and June 15, preconstruction surveys will be performed within 14 days prior to such activities to determine the presence and location of nesting bird species. If ground disturbance or removal of vegetation occurs between June 16 and August 31, pre-construction surveys will be performed within 30 days prior to such activities.

Thirty (30) days prior to the start of any ground disturbance into undisturbed areas or vegetation removal, the Mine Operator shall submit to the Planning Manager a copy of a contract with a qualified ornithologist to conduct pre-activity surveys.

The pre-construction surveys shall be submitted to the Planning Manager no later than five (5) business days prior to the start of such activities. If the tree removal or vegetation clearing shall occur during the non-nesting season, submit documentation both before and after tree removal / vegetation clearing confirmation completion of work within this time frame.

Woodrat Nest Survey

A WRA biologist surveyed the disturbance area for the occurrence of woodrat nests on February 20, 2015, and found no woodrat nests within or adjacent to the disturbance area.

Nesting Bird Survey

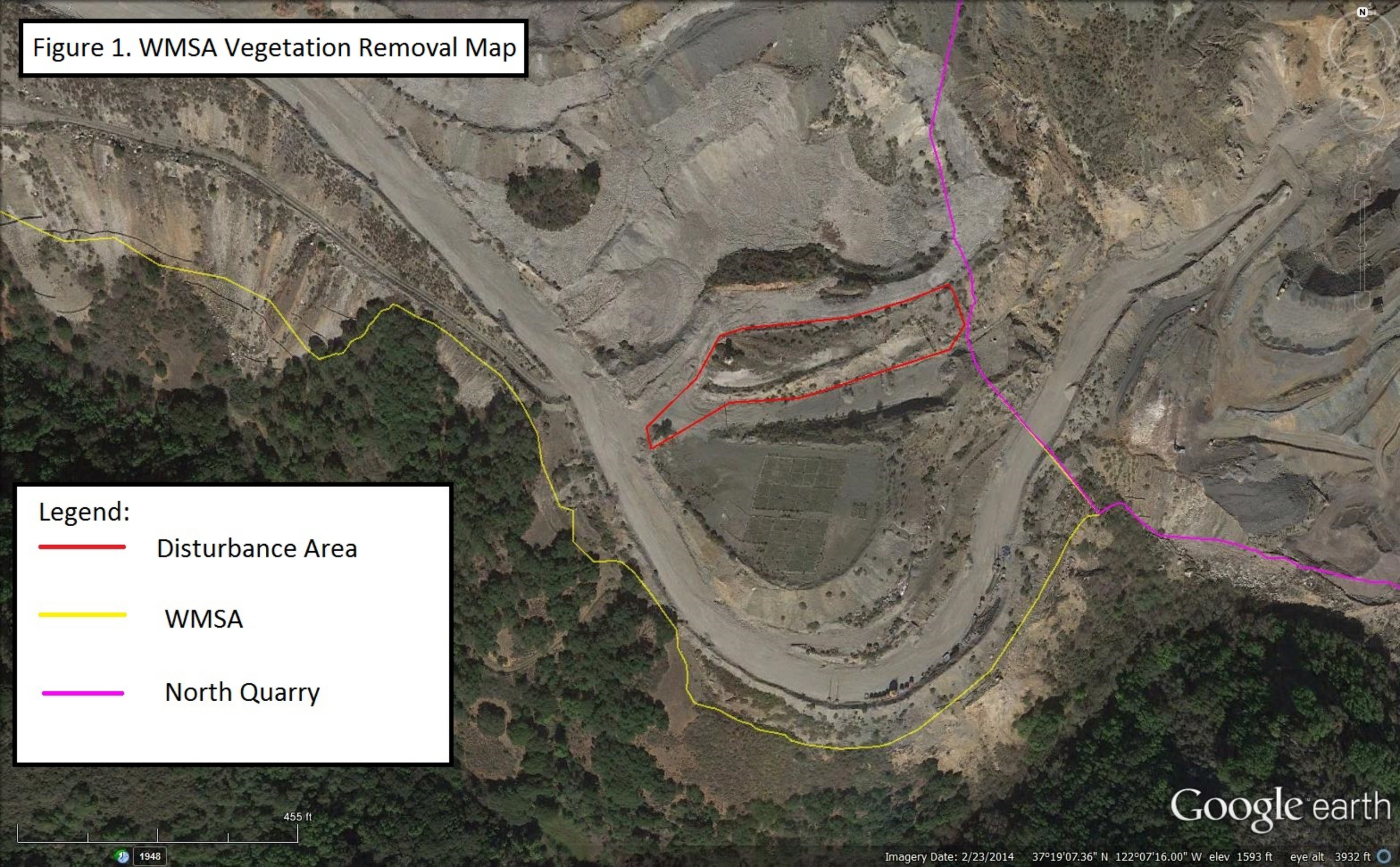
A WRA biologist surveyed the disturbance area on February 20, 2015 to determine the presence and location of nesting bird species. During the survey, no nesting bird species or evidence of nest building was observed within or directly adjacent to the disturbance area. Overall bird activity was low during the survey, and observed species were limited to American crow (*Corvus brachyrhynchos*), and song sparrow (*Melospiza melodia*).

Summary

In anticipation of vegetation removal work WRA performed surveys for San Francisco dusky-footed woodrat nests (COA 53), and nesting birds (COA 46) and found no woodrat nests, nor nesting bird species.

Per the Final Conditions of Approval and mitigation measures with the Environmental Impact Report, all requirements for proceeding with vegetation removal and ground disturbance have been met and the project may proceed on March 3, 2015. If vegetation removal work is delayed beyond March 6, 2015, additional nesting bird surveys will be required.

Figure 1. WMSA Vegetation Removal Map



APPENDIX E:

WATER QUALITY MONITORING MEMO

TECHNICAL MEMORANDUM

Date:	9/21/15	**Project No.:**	1040500502
To:	Sam Barket	**Company:**	Lehigh Southwest Cement Company
From:	George Wegmann, PG Bill Fowler, PG, CEG		
cc:	Greg Knapp	**Email:**	Sam.Barket@LehighHanson.com
RE:	**COA 76 ANNUAL SUMMARY, LEHIGH PERMANENTE QUARRY**		

Golder Associates (Golder) has prepared this technical memorandum to document the activities completed at the Lehigh Permanente Quarry from July 1, 2014 through June 30, 2015 related to the Reclamation Plan Condition of Approval (COA) 76. COA 76 pertains to water quality monitoring and states the following:

> Within ninety (90) days of RPA approval, the Mine Operator shall begin and continue throughout the backfilling and reclamation phases and for 5 years following completion of reclamation and for 5 years following the start of groundwater discharge from the Quarry Pit into Permanente Creek as described on page 4.10-39 of the Final Environmental Impact Report, a Verification and Water Quality Monitoring Program. The Mine Operator shall implement the following:
>
> a. Collect quarterly Quarry pit water samples and analyze for general water chemistry and dissolved and total metals, including selenium.
> b. Perform quarterly electrical conductivity and pH measurements of the Quarry water.
> c. Measure and record daily volume of any water that is pumped from the pit area.
> d. Conduct annual seep surveys in March or April of each year within the Quarry pit. Any seeps shall be sampled for general water chemistry and minerals and dissolved metals, and the seep flow rate shall be estimated.
> e. Perform routine testing of each of the various rock types that comprise the overburden to further characterize bulk and leachable concentrations of key metal constituents (selenium in particular). Such testing shall be performed until the average concentrations and the variability within a rock type is no longer changing significantly as new data are gathered.
> f. Sample and test runoff from the EMSA and WMSA throughout and following reclamation to confirm the concepts and closure plans (i.e., that cover with non-limestone material and re-vegetation results in runoff water quality that meets Basin Plan Benchmarks and all other applicable water quality standards, including, but not limited to, a site specific NPDES permit for the Quarry and a TMDL for selenium in Permanente Creek). Stormwater runoff monitoring and sampling shall be conducted following the placement and final grading of the 1 foot run-of-mine non-limestone cover material to ensure that surface water discharging from this cover does not contain selenium at concentrations exceeding Basin Plan Benchmark values. Three rounds of representative surface water samples shall be collected and analyzed to verify rock cover performance prior to the placement of the vegetative growth layer.
> g. Sample and test groundwater discharge from the Quarry Pit into Permanente Creek following reclamation as described on page 4.10-39 of the Final Environmental Impact Report to confirm that water quality in discharge meets Basin Plan Benchmarks and all other applicable water quality standards.

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h. The data obtained through this mitigation measure shall be used to reevaluate the water balance components such as runoff and groundwater inflow and the water quality associated with these within the last five years of active mining. Based on the results of any refined water balance and water quality projections, the Mine Operator shall also review and refine the water management procedures. *(Implements Mitigation Measures 4.4-5 and 4.10-1b.).* All testing data shall be submitted to the Planning Office with the Annual Report by October 1 of each year.

The following provides a summary of tasks completed:

a. Collect quarterly Quarry pit water samples and analyze for general water chemistry and dissolved and total metals, including selenium.

From July 1, 2014 through June 30, 2015, Golder collected samples from the Quarry pit via Pond 4A. The samples were analyzed for total metals and general water chemistry parameters. The sampling results of the Quarry pit water are listed on the attached Table 1. Table 1 also includes the discharge data from Ponds 13b, 17, and 30 from July 1, 2014 through June 30, 2015.

b. Perform quarterly electrical conductivity and pH measurements of the Quarry water.

Electrical conductivity and pH measurements of the Quarry water (Pond 4a) are included on Table 1.

c. Measure and record daily volume of any water that is pumped from the pit area.

Daily records of volume of water pumped from the pit are included on Table 1 under Pond 4a.

d. Conduct annual seep surveys in March or April of each year within the Quarry pit. Any seeps shall be sampled for general water chemistry and minerals and dissolved metals, and the seep flow rate shall be estimated.

On April 28, 2014, Golder performed a seep survey within the Quarry pit. Two seeps were identified during the survey: one seep (Seep-850) was located in the southwest portion of the pit where it day-lighted on the 900 and 850 ft elevation benches; and the second seep (Seep-750) was identified by the western/northwestern portion of the pit emanating from above the pit floor along the northwestern pit wall by the Main Slide. Golder did not identify any additional seeps within the Quarry pit. During the seep survey, the two identified seeps were sampled and analyzed for general water chemistry and dissolved metals. The results of the sampling and the estimated flow rates are shown on Table 2 below.

Table 2: Quarry Pit Seep Data

Quarry Pit Seeps	Seep-750	Seep-850
Sample Date	4/29/2015	4/29/2015
Metals (dissolved, 200 series)		
Antimony (ug/L)	0.87 J	2.9
Arsenic (ug/L)	1.9 J	1.4 J
Barium (ug/L)	73	32
Beryllium (ug/L)	ND	ND
Cadmium (ug/L)	ND	0.86 J
Chromium (ug/L)	2.4 J	1.7 J
Cobalt (ug/L)	0.083 J	0.17 J
Copper (ug/L)	3.8	2.4
Lead (ug/L)	ND	ND

Quarry Pit Seeps	Seep-750	Seep-850
Sample Date	4/29/2015	4/29/2015
Mercury (ug/L)	ND	ND
Molybdenum (ug/L)	39	130
Nickel (ug/L)	3.1	53
Selenium (ug/L)	5.6	29
Silver (ug/L)	0.026 J	ND
Thallium (ug/L)	ND	0.18 J
Vanadium (ug/L)	58	120
Zinc (ug/L)	ND	130
Calcium (mg/L)	32	190
Magnesium (mg/L)	7.3	65
Potassium (mg/L)	1.8	1.6
Sodium (mg/L)	59	22
Additional Parameters		
Bicarbonate (mg/L)	71	280
Total Dissolved Solids (mg/L)	410	1000
Total Suspended Solids (mg/L)	25	1.3
Hardness	110	750
Nitrate as NO3	ND	2.9
Chloride (mg/L)	2.4	17
Fluoride (mg/L)	0.091	0.13
Sulfate as SO4 (mg/L)	170	490
Turbidity (NTU)	9.12	0.42
pH - Field (s.u.)	8.44	7.00
Temperature - Field (°C)	25.67	16.91
DO - Field (mg/L)	6.82	10.14
Electrical Conductivity - Field (µS/cm)	478	1256
ORP - Field (mV)	68.6	79.7
Estimated Flow Rate (GPM)	Less than 1	350

Notes:
Samples for dissolved metals analysis were field filtered.
J= Estimated Value (CLP Flag); ND = Non-detect

e. Perform routine testing of each of the various rock types that comprise the overburden to further characterize bulk and leachable concentrations of key metal constituents (selenium in particular). Such testing shall be performed until the average concentrations and the variability within a rock type is no longer changing significantly as new data are gathered

In 2014, Golder and WRA collected samples of the following overburden material located within the pit: Santa Clara Formation, Greenstone, and Graywacke. The samples were submitted for laboratory analysis for selenium. The results are summarized below:

Table 3: Quarry Overburden Data

Sample Type	Selenium TTLC (mg/kg)	Selenium STLC (mg/L)
Santa Clara Formation	ND	ND
Greenstone	ND	0.00062
Graywacke	ND	0.00150
Method Detection Limit	0.022	0.00026
ND = Not detected above the laboratory method detection limit; TTLC = total threshold limit concentration; STLC = soluble threshold limit concentration.		

f. Sample and test runoff from the EMSA and WMSA throughout and following reclamation to confirm the concepts and closure plans (i.e., that cover with non-limestone material and re-vegetation results in runoff water quality that meets Basin Plan Benchmarks and all other applicable water quality standards, including, but not limited to, a site specific NPDES permit for the Quarry and a TMDL for selenium in Permanente Creek). Stormwater runoff monitoring and sampling shall be conducted following the placement and final grading of the 1 foot run-of-mine non-limestone cover material to ensure that surface water discharging from this cover does not contain selenium at concentrations exceeding Basin Plan Benchmark values. Three rounds of representative surface water samples shall be collected and analyzed to verify rock cover performance prior to the placement of the vegetative growth layer.

These tasks will be completed going forward when appropriate based on the timeline outlined in COA 76.

Attachments

Table 1

Table 1: Monitoring Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 4A: Discharge						Total Res	Settleable	Chromium								
Date	Flow Rate	TSS	O&G	Temp	pH	Chlorine	Matter	(VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Chronic Tox
Units	gpd	mg/L	mg/L	degree C	s.u.	mg/L	mL/L/hr	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	NTU	% survival	TUc
July 2014		***No discharge for the month***														
August 2014		***No discharge for the month***														
9/1/2014	0															
9/2/2014	0															
9/3/2014	0															
9/4/2014	0															
9/5/2014	0															
9/6/2014	0															
9/7/2014	0															
9/8/2014	0															
9/9/2014	0															
9/10/2014	0															
9/11/2014	0															
9/12/2014	72,200	7.4			8.60	ND							900	4.78		
9/13/2014	0															
9/14/2014	5,700															
9/15/2014	0															
9/16/2014	0				8.39	ND								3.27		
9/17/2014	253,800				8.08	ND								2.79		
9/18/2014	35,300	3.3	ND<1.2		8.18	ND		2.3		11		0.14 J	940	2.41		
9/19/2014	1,600				8.01	ND								2.11		
9/20/2014	0															
9/21/2014	0															
9/22/2014	395,000				7.66	ND								1.53		
9/23/2014	498,700				8.18	ND								1.16		
9/24/2014	156,800	1.3			8.38	ND	ND<0.10	4.1	0.00336	5.5	9.1	0.22 J	860	1.45	100	
9/25/2014	5,000				8.24	ND								4.67		
9/26/2014	0				8.03	ND								1.26		<1
9/27/2014	0															
9/28/2014	0															
9/29/2014	0			24.76	7.96	ND								1.80		
9/30/2014	235,500			22.91	8.54	ND								2.30		
10/1/2014	382,600	2.9			8.42	ND		4.0		5.4		0.17 J	990	2.22		
10/2/2014	282,900				8.48	ND								2.36		
10/3/2014	186,800				7.87	ND								2.10		
10/4/2014	0															
10/5/2014	0															
10/6/2014	0															
10/7/2014	0															
10/8/2014	0															
10/9/2014	0															
10/10/2014	0															

Table 1: Monitoring Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 4A: Discharge						Total Res	Settleable	Chromium								
Date	Flow Rate	TSS	O&G	Temp	pH	Chlorine	Matter	(VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Chronic Tox
Units	gpd	mg/L	mg/L	degree C	s.u.	mg/L	mL/L/hr	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	NTU	% survival	TUc
10/11/2014	0															
10/12/2014	0															
10/13/2014	673,000	2.8			6.94	ND							820	2.49		
10/14/2014	0															
10/15/2014	0															
10/16/2014	0															
10/17/2014	0															
10/18/2014	0															
10/19/2014	0															
10/20/2014	0															
10/21/2014	338,300	3.2		19.7	8.06	ND							810	1.85		
10/22/2014	361,000				8.27	ND								2.83		
10/23/2014	0				8.19	ND								2.35		
10/24/2014	0															
10/25/2014	0															
10/26/2014	640,100															
10/27/2014	180,300	0.90	<1.2	17.92	7.94	ND	<0.10	5.1	0.00536	9.4	12	0.35 J	910	2.57		
10/28/2014	0			19.89	7.43	ND								2.77		
10/29/2014	15			17.43	8.00	ND								2.04		
10/30/2014	6,660				7.91	ND								2.58		
10/31/2014	66,155				7.92	ND								2.43		
11/1/2014	139,082															
11/2/2014	134,092															
11/3/2014	163,248	5.6		16.5	7.89	ND							970	1.86		
11/4/2014	144,752			14.9	6.98	ND								1.59		
11/5/2014	155,822			15.5	7.55	ND								1.45		
11/6/2014	161,437			16.3	7.88	ND								1.12		
11/7/2014	116,781			15.9	7.58	ND								1.27		
11/8/2014	51,668															
11/9/2014	67,394															
11/10/2014	108,580				7.67	ND								2.69		
11/11/2014	140,411				7.27	ND								1.46		
11/12/2014	185,200	3.0	ND<1.2	16.4	7.12	ND	ND<0.10	0.072 J	0.00100	21	23	ND<0.10	980	2.02	100	<1
11/13/2014	165,233				7.24	ND								1.77		
11/14/2014	124,735				7.22	ND								3.28		
11/15/2014	208,045															
11/16/2014	245,095															
11/17/2014	220,856				7.05	ND								0.78		
11/18/2014	251,020	1.6			7.18	ND							820	1.92		
11/19/2014	227,822				7.28	ND								0.80		
11/20/2014	172,683				7.39	ND								1.85		
11/21/2014	122,407				7.35	ND								1.20		

Table 1: Monitoring Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 4A: Discharge						Total Res	Settleable	Chromium								
Date	Flow Rate	TSS	O&G	Temp	pH	Chlorine	Matter	(VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Chronic Tox
Units	gpd	mg/L	mg/L	degree C	s.u.	mg/L	mL/L/hr	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	NTU	% survival	TUc
11/22/2014	120,726															
11/23/2014	121,714															
11/24/2014	118,853				7.40	ND								2.70		
11/25/2014	98,461	2.5			7.39	ND		ND<0.055		17		ND<0.10	600	1.58		
11/26/2014	112,260				7.08	ND								2.75		
11/27/2014	120,862				7.53									6.97		
11/28/2014	121,559				7.40	ND								1.9		
11/29/2014	121,627															
11/30/2014	124,533															
12/1/2014	154,349				7.3	ND								1.91		
12/2/2014	123,168	3.3	<1.2		7.08	ND	<0.10	<0.055	0.00126	14	6.8	<0.10	990	19.4		
12/3/2014	135,413				7.1	ND								3.18		
12/4/2014	113,186				6.89	ND								4.70		
12/5/2014	191,708				6.98	ND								1.91		
12/6/2014	134,290															
12/7/2014	181,117															
12/8/2014	342,124				7.10	ND								1.98		
12/9/2014	505,011				7.16	ND								2.84		
12/10/2014	431,182				7.29	ND								1.92		
12/11/2014	101,352															
12/12/2014	47,961	7.8			7.18	ND							900	1.80		
12/13/2014	173															
12/14/2014	173															
12/15/2014	139,802			12.47	7.0	ND								2.49		
12/16/2014	548,726			11.75	7.1	ND								1.07		
12/17/2014	374,540			14.9	6.8	ND								6.49		
12/18/2014	439,804				6.65	ND								10.96		
12/19/2014	860,145	3.3			7.57	ND		2.9		44		0.15 J	980	7.12		
12/20/2014	625,969															
12/21/2014	931,956															
12/22/2014	823,051	3.1		17.3	7.47	ND							1100	1.96		
12/23/2014	798,129				7.21	ND								8.21		
12/24/2014	1,102,524				6.99	ND								3.63		
12/25/2014	1,392,139															
12/26/2014	1,541,127															
12/27/2014	1,825,710				7.55	ND								4.28		
12/28/2014 [1]	1,671,929			14.02	7.83	ND								2.01		
12/29/2014	1,620,122	1.6		14.66	7.71	ND							1200	2.29		
12/30/2014	1,541,912				7.25	ND								3.43		
12/31/2014	1,533,341				7.54	ND								3.13		
1/1/2015	1,542,395				7.15	ND								4.19		
1/2/2015	1,410,446				6.92	ND								2.89		

Table 1: Monitoring Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 4A: Discharge						Total Res	Settleable	Chromium								
Date	Flow Rate	TSS	O&G	Temp	pH	Chlorine	Matter	(VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Chronic Tox
Units	gpd	mg/L	mg/L	degree C	s.u.	mg/L	mL/L/hr	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	NTU	% survival	TUc
1/3/2015	924,656				6.16	ND								2.98		
1/4/2015	790,100															
1/5/2015	1,494,303				6.80	ND								2.98		
1/6/2015	2,342,003			14.5	7.59	ND								0.97		
1/7/2015	1,801,537	1.4		15.0	7.13	ND							1200	3.97		
1/8/2015	1,780,542			15.6	6.9	ND								3.2		
1/9/2015	1,467,450			15.5	7.6	ND								3.92		
1/10/2015	1,557,740															
1/11/2015	1,556,797															
1/12/2015	1,538,545			15.4	7.1	ND								2.06		
1/13/2015	1,216,537			14.94	7.69	ND								2.32		
1/14/2015	764,625	1.7		12.73	7.0	ND		2.4		22		0.12 J	1000	8.42		
1/15/2015	922,553			13.9	7.33	ND								5.50		
1/16/2015	629,026			10.65	7.76	ND								6.98		
1/17/2015	827,275															
1/18/2015	1,530,765															
1/19/2015	609,463				7.05	ND								11.86		<1.0
1/20/2015	731,028				6.99	ND								10.01		
1/21/2015	546,286				6.88	ND								10.98		
1/22/2015	1,147,526	3.8			7.34	ND							1000	11.20		
1/23/2015	2,172,932				8.0	ND								2.66		
1/24/2015	2,884,176															
1/25/2015	2,148,403															
1/26/2015	2,149,863	2.5	ND<1.2	16.82	7.94	ND	ND<0.10	1.2	0.00360	56	40	0.24 J	1200	4.32		
1/27/2015	2,007,617			16.23	6.9	ND								3.88		
1/28/2015	1,750,481			16.1	7.7	ND								3.47		
1/29/2015	863,688				7.39	ND								11.2		
1/30/2015	790,775				7.29	ND								10.63		
1/31/2015	584,307															
2/1/2015	722,200															
2/2/2015	689,700			14.6	6.9	ND								15.2		
2/3/2015	1,731,100	3.0		15.0	7.4	ND							1100	9.03		
2/4/2015	1,736,800			15.8	7.5	ND								4.03		
2/5/2015	1,544,400			16.2	7.1	ND								3.45		
2/6/2015	1,454,100				7.49	ND								4.02		
2/7/2015	1,533,700															
2/8/2015	676,300															
2/9/2015	12,600			14.58	7.42	ND								12.3		
2/10/2015	460,000	12		15.5	7.9	ND							660	4.87		
2/11/2015	770,600	1.7		17.24	7.52	ND		2.3		54		0.21 J		4.10		
2/12/2015	616,700				7.52	ND								5.80		
2/13/2015	710,900				7.56	ND								2.10		

Table 1: Monitoring Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 4A: Discharge						Total Res	Settleable	Chromium								
Date	Flow Rate	TSS	O&G	Temp	pH	Chlorine	Matter	(VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Chronic Tox
Units	gpd	mg/L	mg/L	degree C	s.u.	mg/L	mL/L/hr	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	NTU	% survival	TUc
2/14/2015	905,300															
2/15/2015	1,288,800															
2/16/2015	1,423,100	1.6		17.07	7.30	ND							1100	1.32		
2/17/2015	1,257,600			15.8	7.5	ND								1.95		
2/18/2015	1,156,700				7.17	ND								2.86		
2/19/2015	1,398,600				7.21	ND								1.25		
2/20/2015	1,356,400				7.24	ND								2.18		
2/21/2015	1,250,300															
2/22/2015	1,386,700															
2/23/2015	1,269,700				7.23	ND								2.19		
2/24/2015	1,269,000			14.8	7.21	ND								3.31		
2/25/2015	974,700	1.7	ND<1.2	16.63	6.79	ND	ND<0.10	0.39	0.00167	77	38	0.13 J	1100	1.76	100	
2/26/2015	1,137,900				7.24	ND								2.61		
2/27/2015	1,132,800				7.3	ND								3.11		
2/28/2015	639,300															
3/1/2015	736,300															
3/2/2015	718,200				7.27	ND								1.88		
3/3/2015	894,700	2.4		14.60	7.47	ND							430	4.19		
3/4/2015	1,129,700				7.63	ND								5.87		
3/5/2015	933,200				7.62	ND								5.62		
3/6/2015	2,106,700				7.65	ND								4.36		
3/7/2015	2,782,900															
3/8/2015	3,229,200															
3/9/2015	2,324,500				7.78	ND								2.35		
3/10/2015	3,111,500	2.0	ND<1.2	16.55	7.77	ND	ND<0.10	3.2	1.91	66	36	0.20 J	1100	2.24		
3/11/2015	1,543,500				7.86	ND								2.55		
3/12/2015	1,008,600			15.5	7.2	ND								5.56		
3/13/2015	1,711,700				7.58	ND								3.51		
3/14/2015	1,899,200															
3/15/2015	1,376,400															
3/16/2015	3,034,300				7.49	ND								5.72		
3/17/2015	2,377,800			17.7	7.3	ND								2.71		
3/18/2015	2,786,800	1.2		15.2	7.7	ND							1100	3.11		
3/19/2015	2,899,800			15.3	7.72	ND								3.3		
3/20/2015	2,508,700			16.1	7.64	ND								2.86		
3/21/2015	2,533,500															
3/22/2015	3,239,500															
3/23/2015	2,522,800				7.42	ND								2.54		
3/24/2015	2,835,900	2.1		15.31	7.60	ND		0.64		86		0.28 J	1100	2.91		
3/25/2015	2,161,700				7.63	ND								3.32		
3/26/2015	2,968,500				7.55	ND								3.11		
3/27/2015	2,653,400				7.79	ND								3.06		

Table 1: Monitoring Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 4A: Discharge						Total Res	Settleable	Chromium								
Date	Flow Rate	TSS	O&G	Temp	pH	Chlorine	Matter	(VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Chronic Tox
Units	gpd	mg/L	mg/L	degree C	s.u.	mg/L	mL/L/hr	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	NTU	% survival	TUc
3/28/2015	2,471,300															
3/29/2015	2,626,400															
3/30/2015	2,419,100	1.9		16.0	7.80	ND							960	3.10		
3/31/2015	2,787,200				7.70	ND								3.94		
4/1/2015	3,580,200				7.70	ND								3.70		
4/2/2015	2,557,800				7.55	ND								4.93		
4/3/2015	3,150,500				7.63	ND								4.00		
4/4/2015	3,047,000															
4/5/2015	2,861,800															
4/6/2015	2,612,900				7.58	ND								3.52		
4/7/2015	2,487,800	4.1		14.35	7.68	ND							900	6.18		
4/8/2015	2,590,900				7.90	ND								5.00		
4/9/2015	2,039,300				7.28	ND								3.87		
4/10/2015	1,180,300				7.77	ND								4.21		
4/11/2015	1,592,800															
4/12/2015	1,572,400															
4/13/2015	1,308,100	2.1	ND<1.7	18.60	7.35	ND	ND<0.10	ND<0.055	0.00128	62	27	ND<0.10	960	3.57	100	
4/14/2015	1,360,900				7.50	ND								6.37		
4/15/2015	1,107,400				7.00	ND								5.26		
4/16/2015	881,300				7.10	ND								5.04		
4/17/2015	1,913,500				7.46	ND								4.09		
4/18/2015	1,829,300															
4/19/2015	1,655,000															
4/20/2015	1,709,000				7.37	ND								3.55		
4/21/2015	1,139,600	1.8		18.53	7.35	ND							920	2.35		
4/22/2015	72,800				7.20	ND								2.18		
4/23/2015	120,400			20.58	7.66	ND		ND<0.055		41		ND<0.10		3.58		
4/24/2015	0				7.51	ND								5.87		
4/25/2015	0															
4/26/2015	0															
4/27/2015	418,900				7.13	ND								15.2		
4/28/2015	1,305,200				7.38	ND								5.78		
4/29/2015	1,533,900	2.2		18.28	7.44	ND							1000	2.22		<1.0
4/30/2015	1,498,200				7.50	ND								2.59		
5/1/2015	1,631,500				7.38	ND								2.32		
5/2/2015	1,396,500															
5/3/2015	1,717,600															
5/4/2015	1,230,300				7.35	ND								3.37		
5/5/2015	625,900	2.6	<1.7	18.76	7.39	ND	<0.10	<0.055	0.00062	35	15	<0.10	980	2.79		
5/6/2015	883,100				7.34	ND								2.22		
5/7/2015	609,500				7.03	ND								7.60		
5/8/2015	601,500				7.12	ND								6.44		

Table 1: Monitoring Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 4A: Discharge						Total Res	Settleable	Chromium								
Date	Flow Rate	TSS	O&G	Temp	pH	Chlorine	Matter	(VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Chronic Tox
Units	gpd	mg/L	mg/L	degree C	s.u.	mg/L	mL/L/hr	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	NTU	% survival	TUc
5/9/2015	576,500															
5/10/2015	501,400															
5/11/2015	828,300				7.53	ND								3.83		
5/12/2015	804,500	1.0		16.38	7.49	ND							930	4.63		
5/13/2015	654,500				7.41	ND								7.58		
5/14/2015	556,200				7.23	ND								17.9		
5/15/2015	612,400				6.83	ND								33.6		
5/16/2015	601,900															
5/17/2015	752,300															
5/18/2015	712,400				6.75	ND								35.2		
5/19/2015	693,800				7.56	ND								24.2		
5/20/2015	626,900				7.42	ND								18.8		
5/21/2015	600,700				7.32	ND								20		
5/22/2015	648,700	1.0		16.98	7.06	ND		<0.055		19		<0.10	1000	13.9		
5/23/2015	606,300															
5/24/2015	540,400															
5/25/2015	616,000															
5/26/2015	611,500				7.24	ND								19.2		
5/27/2015	686,900	4.0		18.51	7.17	ND							960	22.0		
5/28/2015	577,900				6.99	ND								23.0		
5/29/2015	675,500				7.07	ND								19.7		
5/30/2015	584,300															
5/31/2015	602,500															
6/1/2015	670,200				7.32	ND								19.8		
6/2/2015	570,000				7.07	ND								21.9		
6/3/2015	606,700	3.4			7.61	ND							1100	11.8		
6/4/2015	620,300			15.5	6.86	ND								10.9		
6/5/2015	636,000				7.04	ND								13.1		
6/6/2015	611,700															
6/7/2015	590,100															
6/8/2015	562,500				7.37	ND								11.6		
6/9/2015	615,400				7.34	ND								13.9		
6/10/2015	541,700	1.2	ND<1.7	20.66	7.24	ND	ND<0.10	ND<0.055	0.00059	13	3.7	ND<0.10	1000	15.4		
6/11/2015	603,700				7.29	ND								15.6		
6/12/2015	659,800				7.33	ND								12.8		
6/13/2015	477,800															
6/14/2015	228,700															
6/15/2015	185,200				7.51	ND								22.3		
6/16/2015	466,700				7.33	ND								54		
6/17/2015	439,300	2.4		20.45	7.31	ND							1000	46.5		
6/18/2015	492,000				7.27	ND								30.5		
6/19/2015	580,800				7.33	ND								41		

Table 1: Monitoring Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 4A: Discharge						Total Res	Settleable	Chromium								
Date	Flow Rate	TSS	O&G	Temp	pH	Chlorine	Matter	(VI)	Mercury	Nickel	Selenium	Thallium	TDS	Turbidity	Acute Tox	Chronic Tox
Units	gpd	mg/L	mg/L	degree C	s.u.	mg/L	mL/L/hr	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	NTU	% survival	TUc
6/20/2015	348,400															
6/21/2015	205,100															
6/22/2015	241,800				7.25	ND								18.0		
6/23/2015	99,300				7.28	ND								36		
6/24/2015	272,700				7.30	ND								16.8		
6/25/2015	537,900	2.6		21.64	7.35	ND		ND<0.055		14		ND<0.10	1000	33.0		
6/26/2015	511,900				7.25	ND								12.8		
6/27/2015	345,700															
6/28/2015	223,600															
6/29/2015	355,300				7.33	ND								34.9		
6/30/2015	199,200	1.6		23.14	7.51	ND							940	17.7		

1: Additional Metals Results from 12/28/14:

Antimony	Arsenic	Berylium	Cadmium	Chromium	Copper	Lead	Silver	Zinc
ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
4.98	1.29	ND<0.043	0.823	0.429	0.934	ND<0.005	ND<0.0200	93.3

J = estimated value below reporting limit (DNQ)

Table 1: Monitoring Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 13b Discharge												
Date	Flow Rate	TSS	O&G	pH	Settleable Matter	Turbidity	Conductivity	Chromium (VI)	Mercury	Nickel	Selenium	Thallium
	gpd	mg/L	mg/L	s.u.	mL/L/hr	NTU	umhos/cm	ug/L	ug/L	ug/L	ug/L	ug/L
July 2014		***No discharge for the month***										
August 2014		***No discharge for the month***										
September 2014		***No discharge for the month***										
October 2014		***No discharge for the month***										
November 2014		***No discharge for the month***										
December 2014		***No discharge for the month***										
January 2015		***No discharge for the month***										
February 2015		***No discharge for the month***										
March 2015		***No discharge for the month***										
April 2015		***No discharge for the month***										
May 2015		***No discharge for the month***										
June 2015		***No discharge for the month***										

Table 1: Monitoring Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 17 Discharge												
Date	Flow Rate	TSS	O&G	pH	Settleable Matter	Turbidity	Conductivity	Chromium (VI)	Mercury	Nickel	Selenium	Thallium
	gpd	mg/L	mg/L	s.u.	mL/L/hr	NTU	umhos/cm	ug/L	ug/L	ug/L	ug/L	ug/L
July 2014	***No discharge for the month***											
August 2014	***No discharge for the month***											
9/25/2014	400	1	ND<1.2	8.18	ND<0.10	1	2477	0.8	0.00363	9.7	61	0.16 J
9/26/2014	400											
10/25/2014	2,160											
10/31/2014	1,440											
11/5/2014	2880											
11/6/2014	1440	17	ND<1.4	7.96	ND<0.10	1.02	1646	0.77	0.00236	6.7	30	ND<0.10
11/13/2014	1440											
11/20/2014	1440											
11/21/2014	1440											
12/2/2014	3,676											
12/3/2014	4,811											
12/11/2014	2,201											
12/12/2014	703											
January 2015	***No discharge for the month***											
2/7/2015 [1]	1,100											
2/8/2015 [1]	900											
2/9/2015[1]	2,800											
2/10/2015[1]	700											
2/11/2015	***No discharge for the month***											
2/12/2015	***No discharge for the month***											
2/13/2015	***No discharge for the month***											
2/14/2015	***No discharge for the month***											

1: Pond 17 outlet is capped and sealed off; flow is likely from area seepage entering discharge pipe at some point downgradient from Pond 17 (flow not from Pond 17) to Permanente Creek during storm event.

J = estimated value below reporting limit (DNQ)

Table 1: Monitoring Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 30 Discharge											
Date	Flow Rate	TSS	pH	Settleable Matter	Conductivity	O&G	Chromium (VI)	Mercury	Nickel	Selenium	Thallium
	gpd	mg/L	s.u.	mL/L/hr	umhos/cm	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L
July 2014		***No discharge for the month***									
August 2014		***No discharge for the month***									
September 2014		***No discharge for the month***									
October 2014		***No discharge for the month***									
November 2014		***No discharge for the month***									
12/2/2014	69,405	7100	7.74	80	1037	<1.2	1.5	2.47	890	26	3.2
12/3/2014	170,263										
12/4/2014	11,512										
12/5/2014	14,457										
12/6/2014	31,007										
12/7/2014	9,936										
12/8/2014	7,261										
12/9/2014	4,607										
12/10/2014	1,484										
12/11/2014	159,326										
12/12/2014[1]	181,984		7.84		2306			<0.033	14	65	0.24 J
12/13/2014	192,735										
12/14/2014	152,598										
12/15/2014	126,437										
12/16/2014	130,721										
12/17/2014	120,940										
12/18/2014	111,068										
12/19/2014	109,978										
12/20/2014[1]	92,734		8.04		3148			<0.033	21	81	<0.20
12/21/2014	60,632										
12/22/2014	57,855										
12/23/2014	46,997										
12/24/2014	41,737										
12/25/2014	16,059										
12/26/2014	6,699										
12/27/2014	4,327										
12/28/2014	1,133										
January 2015		***No discharge for the month***									
2/6/2015	30,100										

Table 1: Monitoring Data Summary
Lehigh Southwest Cement Company Permanente Quarry
September 2015

Pond 30 Discharge											
Date	Flow Rate	TSS	pH	Settleable Matter	Conductivity	O&G	Chromium (VI)	Mercury	Nickel	Selenium	Thallium
	gpd	mg/L	s.u.	mL/L/hr	umhos/cm	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L
2/7/2015	34,200	23	8.53	0.10	1524	ND<1.2	2.5	0.0423	9.0	31	0.12 J
2/8/2015	99,300										
2/9/2015	159,300										
2/10/2015	164,400										
2/11/2015	155,700										
2/12/2015	137,100										
2/13/2015	107,300										
2/14/2015	88,900										
2/15/2015	73,800										
2/16/2015	52,600										
2/17/2015	21,400										
2/18/2015	10,700										
2/19/2015	4,800										
2/20/2015	2,600										
2/21/2015	2,100										
March 2015		***No discharge for the month***									
April 2015		***No discharge for the month***									
May 2015		***No discharge for the month***									
June 2015		***No discharge for the month***									

1: Additional Parameters from 12/12/14 and 12/20/14:

Pond 30 Discharge	Parameter	Antimony	Arsenic	Berylium	Cadmium	Chromium	Copper	Lead	Silver	Zinc	TDS
	Unit	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
12/12/2014		1.1 J	3.4	<0.23	0.26 J	3.9	9.6	0.15 J	<0.10	67	170
12/20/2014		<0.22	3.9 J	<0.46	0.31 J	3.3 J	8.3	0.25 J	<0.20	60	2800

J = estimated value below reporting limit (DNQ)

BEST MANAGEMENT PRACTICES PLAN

BEST MANAGEMENT PRACTICES PLAN

Lehigh Southwest Cement Company
Permanente Plant and Quarry
24001 Stevens Creek Boulevard
Cupertino, California

Submitted To: Lehigh Southwest Cement Company and Hanson Permanente Cement, Inc.
24001 Stevens Creek Blvd.
Cupertino, CA 95014

Submitted By: Golder Associates Inc.
1000 Enterprise Way, Suite 190
Roseville, CA 95678 USA

October 2014 (revised July 2015) **Project No. 123-81502-01**

Golder Associates

Record of Revisions

Revision Number	Prepared by	Description of Revision	Date of Revision
	Original Issue Golder	All	October 2014
1	Sam Barket	Minor changes	July 2015

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List of Acronyms and Abbreviations

AST	Aboveground Storage Tank
BMP	Best management practices
BMPP	Best management practices plan
CASCA	California Stormwater Quality Association
EPA	United States Environmental Protection Agency
HMBP	Hazardous Materials Business Plan
NPDES	National Pollutant Discharge Elimination System
NPDES Permit	Permit Number CA0030210
O&G	Oil and Grease
PPT	Pollution Prevention Team
SMR	Self-Monitoring Report
SPCC	Spill, Prevention, Counter Control
SWPPP	Stormwater Pollution Prevention Plan
TSS	Total Suspended Solids
µmho/cm	micromhos per centimeter
µg/L	micrograms per Liter
WDRs	Waste Discharge Requirements

1.0 INTRODUCTION

Golder Associates, Inc. (Golder) has prepared this stormwater best management practices (BMP) plan for the Permanente Plant (Facility) located at 24001 Stevens Creek Blvd., Cupertino, Santa Clara County, California. This plan is intended to satisfy provision VI.C.6.b of the waste discharge requirements (WDRs) in Order Number R2-2014-0010, National Pollutant Discharge Elimination System (NPDES) Permit Number CA0030210 (NPDES Permit). This BMP Plan is a component of Lehigh's stormwater pollution prevention program to manage discharges to Permanente Creek through Discharge Point Nos. 002 through 006. Provision VI.C.6.b states that Lehigh shall maintain a BMP Plan in usable condition and available for reference and use by all appropriate personnel:

> *The BMP Plan shall be developed and implemented to minimize the potential impact of periodic discharges on Permanente Creek, to prevent the accidental release of toxic or hazardous substances to the environment, and to minimize and mitigate the effects of any such releases using equipment and techniques available and practical for such use. The BMP Plan shall be consistent with United States Environmental Protection Agency's (EPA's) Guidance Manual for Developing Best Management Practices (BMP) (EPA 1993) and shall, at a minimum, include BMPs described in NPDES General Permit No. CAS000001 (State Water Board Order No. 97-03-DWQ), Section A, Stormwater Pollution Prevention Plan Requirements.*

EPA's guidance manual (EPA 1993) describes the components of a BMP Plan including planning, development and implementation, and evaluation/ reevaluation. Lehigh has developed several documents that include the development of BMPs applicable to activities at the site and these BMPs have been incorporated or referenced in the Stormwater Pollution Prevention Plan (SWPPP) (Golder 2014). This BMP Plan compiles and summarizes these BMPs in the SWPPP and describes Lehigh's planning and evaluation/ reevaluation processes.

2.0 PLANNING

Consistent with the EPA guidance (EPA 1993), the planning element of the BMP Plan includes forming a BMP committee, developing the BMP policy statement, and release identification and assessment. These elements are included in the SWPPP as the Pollution Prevention Team (PPT), the SWPPP objective, and the assessment of the potential stormwater pollutant sources.

2.1 BMP Committee

The BMP Committee is responsible for developing the BMP Plan and assisting the facility management in its implementation, periodic evaluation, and updating.

2.1.1 Pollution Prevention Team

The existing Lehigh Pollution Prevention Team (PPT) will comprise the BMP Committee. Members of the Lehigh PPT are listed in Table 1, below, along with their job title. Alan Sabawi, Plant Manager, is designated as the lead committee member. In his absence, Ricardo Del Valle, Assistant Plant Manager, will be the lead committee member.

Table 1: Pollution Prevention Team

Name	Position	Duties and Activities
Alan Sabawi	Plant Manager	Lead committee member, provides overall management of the Permanente Quarry Pollution Prevention Program
Ricardo Del Valle	Assistant Plant Manager	Alternate lead committee member (see above)
Sam Barket	Environmental Manager	Provides coordination of the Pollution Prevention Program
Chow Yip	Environmental Engineer	Provides coordination of the Pollution Prevention Program
George Taylor	Quarry Manager	Provides maintenance personnel and resources to perform inspection and repair of pollution prevention facilities and equipment.

2.2 BMP Policy Statement

The purpose of the BMP Plan is to protect surface water quality by minimizing the potential impact of periodic permitted discharges at Discharge Point Nos. 002 through 006 to Permanente Creek, to prevent the accidental release of toxic or hazardous substances into the environment, and to minimize and mitigate the effects of any such releases using equipment and techniques available and practical for such use. The BMP Policy Statement is aligned with the SWPPP Objectives as noted below:

- To identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of stormwater discharges from the Facility; and

- To identify and implement site-specific BMPs to reduce or prevent pollutants associated with industrial activities in stormwater discharges.

2.3 Release Identification and Assessment

The NPDES Permit establishes the monitoring program for stormwater and includes discharge limitations or action levels for the following potential stormwater pollutants:

- Discharge Limitations:
  - total suspended solids (TSS)
  - oil and grease (O&G)
  - pH
  - settleable matter
  - turbidity
- Action Levels:
  - conductivity
  - metals: chromium VI, mercury, nickel, selenium, thallium
  - visible oil
  - visible color

Industrial activities and materials at the facility that are potential sources of these pollutants include: materials the facility mines, crushes, and processes; materials storage; equipment fueling and maintenance; truck and equipment transport, repairs, maintenance, and washing; settled dust and particulates resulting from facility operations; and wastewater treatment.

Lehigh mines and processes limestone at the facility and produces Portland cement and construction aggregate. Overburden and limestone that are not suitable for cement manufacturing are deposited in materials storage areas or sold as aggregate. Finished Portland cement is shipped by bulk truck or trucked in bags to offsite commercial markets. Additionally, regulated hazardous materials are stored at the facility for use in all aspects of facility operations. A Hazardous Material Business Plan (HMBP) for the facility has been prepared and a copy is kept onsite.

Table 2, below, lists materials used outside of the Reclaim Water System and Discharge Point 001 that could be potential stormwater pollutants. The table provides a summary of industrial activities where stormwater run-off could originate along with potential sources of pollutants, potential pollutants, and the BMPs to prevent pollutants from entering the stormwater discharges. The most likely sources of

stormwater pollutants are industrial processes that result in the release of dust and particles, oil and grease, metals, and high pH liquids.

Potential pollutant sources are noted on Figures 3 through 7 and are discussed further by area and process in the SWPPP Sections 4.1 through 4.11.

Table 2: Materials Inventory

Product or Material	Maximum Quantity	Handling Frequency	Storage Method	Storage Location	Receiving Location	Shipping Location	Likelihood of Contact with Stormwater[1]
Waste Material Storage		Daily	Stockpile	Eastern Material Storage Area	Same	NA	Likely
Limestone		Daily	Stockpile	Surge Pile	Same	NA	Likely
Limestone		Daily	Stockpile	Cement Plant Stockpile Storage	Same	NA	Likely
Lubricating Oil	880 gallons	Daily	Inside Building	Electrical, Vehicle and Equipment storage	Same	NA	Unlikely
Chemsearch High Core-Petroleum	275 gallons	Daily	Inside Building	Electrical, Vehicle and Equipment Storage	Same	NA	Unlikely
D-Limonene	165 gallons	Daily	Inside Building	Electrical, Vehicle and Equipment Storage	Same	NA	Unlikely
Lubricating Oil	1,600 gallons	Daily	Inside Building	Electrical, Vehicle and Equipment Storage	Same	NA	Unlikely
Grease	350 gallons	Daily	Inside Building	Electrical, Vehicle and Equipment Storage	Same	NA	Unlikely
Petroleum Contaminated (Oil and Grease) Debris	2,000 pounds	Daily	Waste dumpster	Electrical, Vehicle and Equipment Storage, Oily Debris Waste Dumpsters	Same	NA	Possible
Sodium Hypochlorite Solution	360 gallons	Daily	Aboveground Storage Tank (AST)	Sewage Treatment Plant, Water Treatment Area	Same	NA	Unlikely
Materials Testing Chemicals and Wastes (Liquids)	<100 gallons	Daily	Inside Building	QC Lab	Same	NA	Unlikely
Materials Testing Chemicals (Solids)	<50 kg	Daily	Inside Building	QC Lab	Same	NA	Unlikely

Notes:
1. Likelihood determined based on storage method; unlikely- stored indoors or under permanent cover, possible- temporary cover, likely- uncovered.

3.0 BMP DEVELOPMENT AND IMPLEMENTATION

The EPA guidelines (EPA 1993) suggests including the following sections as part of the BMP Development and Implementation section: good housekeeping, preventive maintenance, inspections, security, employee training, and recordkeeping and reporting. This BMP Plan includes those sections as well as additional BMPs described in the SWPPP.

3.1 Good Housekeeping

The Facility will implement the good housekeeping BMPs described below.

- Observe all outdoor areas associated with industrial activities including stormwater discharge locations, drainage areas, conveyance systems, waste handling/disposal areas, and perimeter areas impacted by facility materials or stormwater run-on to determine housekeeping needs. Any identified debris, waste, spills, tracked materials, or leaked materials shall be cleaned and disposed of properly.
- Before the wet season, inspect storm drain inlets and other conveyances, sedimentation traps and basins, retention ponds, and other BMPs in place at the Facility to assess efficacy. Remove accessible deposited sediment or debris as needed.
- Sweep paved areas of the Facility daily during the storm season (October 1 through May 30) and weekly during the remainder of the year. Use a regenerative truck sweeper and sweep inaccessible areas by hand. Conduct comprehensive and focused sweeping of paved areas before forecasted rain events.
- Place drip pans under equipment stored or parked for a week or longer.
- Minimize or prevent materials tracking.
- Minimize or reduce dust generated from industrial activities.
- Ensure that Facility areas impacted by rinse/wash waters are cleaned as soon as possible.
- Cover stored industrial materials that can be readily mobilized by contact with stormwater.
- Contain stored non-solid industrial materials (e.g., liquid, powder, etc.) that can be transported or dispersed via wind or contact with stormwater.
- Prevent disposal of any rinse/washwaters or industrial materials into the stormwater system.
- Minimize or reduce stormwater discharges from non-industrial areas (e.g., stormwater flows from upland, non-industrial areas or from employee parking area) that contact industrial areas of the Facility.

Good housekeeping measures are implemented in the maintenance areas to avoid spills or leaks being tracked outside. Per the Facility's Spill Prevention Counter Control (SPCC) Plan (LFR Inc. 2006), the following activities occur:

- A member of the PPT observes parking lots, driveways, and storage areas and removes trash and debris on a regular basis.

- Oils, other liquids, chemicals and used oils/liquids are stored in labeled containers with tight-fitting lids and secondary containment in the maintenance area or covered storage area.
- Suitable spill kits are maintained near the maintenance area and oil storage area
- Facility personnel promptly implement established spill cleanup procedures for leaks and spills. These procedures are detailed in the SPCC Plan and the HMBP for the Facility.
- In the event that vehicle or movable equipment maintenance or repairs are performed in uncovered areas, a member of the PPT inspects the area where the maintenance or repair occurred and ensures that waste products, including pollutant-containing fluids deposited or spilled on the ground as a result of the maintenance or repair are cleaned up.

Additionally, per the Reclamation Plan, the BMPs within the reclamation plan boundary are inspected during the rainy season at least once a month and after any significant rain event.

3.2 Spill and Leak, Prevention and Response

The Facility implements the spill prevention procedures described below consistent with the Facility's SPCC and HMBP.

- Establish procedure and/or controls to minimize spills and leaks.
- Develop and implement spill and leak response procedures to prevent industrial materials from discharging through the stormwater conveyance system. Spilled or leaked material shall be cleaned and disposed of properly.
- Identify and describe all necessary and appropriate spill and leak response equipment, location(s) of spill and leak response equipment, and spill or leak response equipment maintenance procedures.
- Identify and train appropriate spill and leak response personnel.

Facility personnel properly label and use lids to seal cans and drums storing liquids and use spigots, pumps, and funnels to dispense and transfer liquids to reduce the possibility of spills. Drip pans or other protective devices are used for liquid transfer operations to catch incidental spillage and drips from dispensing products from drums, barrels, or dispenser pumps. Used liquids, including petroleum hydrocarbons and coolant, are stored under cover and within secondary containment pending removal by a hazardous waste disposal contractor. Containers of products like paint, solvents, or cleaners are completely emptied before disposal in the solid waste garbage, returned to the supplier, or handled as hazardous waste if not empty. Spill cleanup kits are maintained near the material storage areas consistent with the SPCC.

Spills must be immediately reported to proper authorities. Reporting is required for spills of oil or hazardous substances greater than the reportable quantities described in CFR Title 40, Parts 302.4 and 117 and the Facility's SPCC and HMBP. Forms for describing significant spills and leaks and recording response procedures are included in the Facility's SPCC and HMBP.

3.3 Material Handling and Waste Management

The following material handling and waste management procedures are implemented as described below.

- Control dust generation by implementing the control measures in the Fugitive Dust Control Plan (Lehigh 2010)
- Prevent or minimize handling of industrial materials or wastes that can be readily mobilized by contact with stormwater during a storm event
- Cover waste disposal containers and materials storage containers when not in use
- If practicable, cover outdoor materials 48 hours ahead of likely storm events forecast at 50 percent or greater probability
- Divert run-on and stormwater generated from within the Facility away from all stockpiled materials
- Clean all spills of industrial materials/wastes that occur during handling in accordance with the spill response procedures in the Facility's SPCC and HMBP
- Observe and clean as appropriate, any other material/waste handling equipment or containers that can be contaminated by contact with industrial materials or wastes.

Equipment leak prevention and spill cleanup procedures are discussed in Sections 3.2 and 3.9.

3.4 Fuel, Oil, Used Oil, and Antifreeze Delivery and Pickup

Fuel, oil delivery and used oil and used antifreeze pickup is attended by a Facility representative. The lower most drain and outlets of delivery vehicles are inspected for evidence of leakage prior to filling and prior to departure. The ground surface is inspected for spills and drips and corrective action is taken as needed. The drains and outlets are tightened, adjusted, or replaced to prevent liquid discharge while in transit. If a spill due to a hose connection/equipment failure were to occur, the spilled material would be contained using spill kit material, and the resulting contaminated clean-up materials would be transferred to a storage container for off-site disposal. These procedures as well as a notification to vendors providing these services are included in the Facility's SPCC.

3.5 Leakage of Oil from Stored Equipment and Vehicles

Occasionally fuel, hydraulic oil, or engine oil may drip from stored vehicles and equipment. Any such leakage should be identified during daily inspection of the Facility and reported to the Stormwater Team Leader so that corrective actions can be taken to:

- Repair the equipment to eliminate the leak
- Contain the leak, using absorbent "diapers" or pads, or a pan or bucket, until equipment can be repaired
- Containerize and properly dispose of used absorbent materials, and replace that material used in the spill kit

3.6 Equipment/ Vehicle Fueling

Equipment and vehicle fueling activities have the potential to contribute spillage of gasoline or diesel fuel. To ensure this activity does not contribute to hydrocarbon contamination of stormwater, the following BMPs are implemented and these activities are performed consistent with the Facility's SPCC:

- Fueling during heavy rainfall events will be avoided, when possible
- Fueling of equipment or vehicles will be attended by an operator
- Spill response kits with appropriate absorbent materials (oil dry, absorbent booms and pillows/pads) will be maintained and absorbents deployed at the time of a spill to insure complete and immediate clean up
- Used absorbent materials will be containerized and properly disposed of and materials used will be replaced in the spill kit

3.7 Erosion and Sediment Control

The majority of the Facility ground surface is unpaved. To prevent soil erosion and sediment transport in stormwater, the Facility implements the erosion and sediment control procedures described below to the extent practicable.

- Maintain effective perimeter controls; site entrances and exits are paved and swept to control discharges or tracking of erodible materials
- Control dust generation by implementing the control measures in the Fugitive Dust Control Plan
- Divert runoff from within the Facility away from erodible materials
- Maintain drainage and erosion control systems and all-weather working surfaces at the site

Maintain vegetation on intermediate slopes, including track walking, hydroseeding and placement of mulch or straw on sparsely vegetated inactive earth surfaces prior to October 1 of each year. Advanced erosion and sediment control, structural controls, and specific implementation details are also discussed in Section 3.8.

3.8 Advanced Structural, Source Control, and Treatment BMPs

Structural BMPs are to be considered when non-structural BMPs have been ineffective. Structural BMPs consist of structural devices that reduce or prevent pollutants in stormwater discharges. Examples include:

- Overhead coverage
- Retention ponds, basins or surface impoundments
- Berms or other run-on/run-off channeling devices
- Secondary containment structures

- Treatment through inlet controls, filtration, or vegetative swales that reduce the pollutants in surface waters discharged from the site

The following structural controls are implemented at the Facility.

3.8.1 Overhead Coverage

The Facility stores petroleum products and other fluids and materials associated with equipment maintenance under cover to the extent practicable. This overhead coverage reduces or prevents the potential for stormwater pollutants associated with these activities from contacting or entering stormwater. These potential pollutants include TSS, O&G, metals, and visible oil.

3.8.2 Stormwater Retention Basins

Several stormwater retention basins are located at the Facility: Pond 9, Pond 13B, Pond 30, Pond 31A, Pond 31B, and SB-7. The locations of the stormwater retention basins are shown on Figure 3 and more detailed views are shown on Figures 4, 5, 6, and 7. Pond 20, given its configuration as a drainage throughput, and not a traditional “pond,” does not contain freeboard necessary to accomplish retention of stormwater flows.

Retention basins allow particulates to settle before stormwater is discharged. Potential pollutants mitigated by the retention basins include TSS, settleable matter, turbidity, conductivity, and metals. Annual sediment removal from these basins should be performed to maintain retention capacity and reduce potential pollutant exceedances associated with particulates.

3.8.3 Secondary Containment

Secondary containment is used for the storage of petroleum products and other fluids and materials associated with equipment maintenance and hazardous materials. The secondary containment reduces or prevents the potential exposure of these materials to stormwater.

3.8.4 Advanced Erosion and Sediment Control

Activities that generate the potential for erosion and sediment migration include transport and storage of limestone, unsuitable limestone, and overburden rock and soil. Operations at the site expose slopes and access roads to erosion. Erosion or sediment controls are generally commenced as soon as practicable following completion of soil/ rock disturbing activities. The stormwater drainage systems in place have been designed to divert storm water away from operational areas and to stormwater retention basins.

Specific narrative descriptions of BMPs that are implemented at the Facility, to the extent practicable, are listed by category in each of the following sections. Additionally, copies of California Stormwater Quality Association (CASQA) BMP Handbook fact sheets for erosion and sediment control BMPs are included for implementation guidance and reference in Appendix D.

3.8.4.1 Erosion Control

Erosion control, also referred to as soil stabilization, consists of source control measures that are designed to prevent soil particles from detaching and becoming transported in stormwater runoff. Erosion control BMPs protect the soil surface by covering and/or binding soil particles. The Facility will incorporate erosion control measures that are effective and result in the reduction of sediment related pollutants in stormwater discharges. The Facility will implement the following practices for effective temporary and longer-term erosion control during soil disturbing activities:

- Preserve existing vegetation where practicable and when feasible.
- Implement temporary erosion control measures with focused implementation prior to the wet season.
- Stabilize non-active areas prior to the wet season.
- Control erosion in concentrated flow paths by applying erosion control products and maintaining swales as required.
- Apply hydroseed for vegetation development or other longer-term erosion control such as non-limestone rock to areas deemed available for longer-term controls (e.g. areas no longer planned for soil disturbance).

Sufficient erosion control materials will be maintained on-site to allow implementation in conformance with the SWPPP. This includes implementation of BMPs in active areas and non-active areas before the onset of rain.

The BMPs that should be considered for implementation to prevent erosion include:

- Scheduling: Operating activities will be scheduled with the incorporation of both soil stabilization and sediment control measure BMPs to reduce the discharge of pollutants. The schedule will limit exposure of disturbed soil to wind, rain, and stormwater run-on and run-off where practicable.
- Preservation of Existing Vegetation: Existing vegetation will be maintained to the extent practicable.
- Hydroseeding: Hydroseeding or other longer-term erosion control such as placement of non-limestone rock will be applied in areas deemed available for longer-term controls to protect disturbed soil areas from soil erosion. The hydroseeding materials will be applied after final grading operations. The application of hydroseeding materials will be performed in accordance with manufacturer's specifications.
- Geotextile and Mats: Geotextile, erosion control matting (ECM), or non-limestone rock should be installed in all v-ditches where the erosive potential exceeds the resistance of the native compacted soil; the application of ECM will be performed in accordance with manufacturer's specifications. ECMs, should not include any synthetic component because of this material's potential adverse impact to Wildlife
- Slope Protection:
  - Slope drains consist of a pipe used to intercept and direct surface runoff into a stabilized watercourse, trapping device, or retention basin. Slope drains are used

with earth dikes and drainage ditches to intercept and direct surface flow away from slope areas to protect cut or fill slopes.

- Compost Blankets can be applied to protect disturbed soil areas from soil erosion, and can be used as an alternative to hydroseeding, particularly on steeper slopes.

- Soil Binders
  - Soil binding consists of application and maintenance of a soil stabilizer to exposed soil surfaces including unpaved roads. Soil binders are materials applied to the soil surface to temporarily prevent water and wind induced erosion of exposed soils. Examples of soil binders that are recommended include:
    - Earthguard®: a useful soil stabilizing emulsion specifically formulated to reduce erosion and sediment runoff. Earthguard can be applied by water truck or by spray application.
    - Gorilla-Snot®: a useful biodegradable liquid copolymer used to stabilize and solidify any soil or aggregate as well as provide erosion control and dust suppression.
    - Posi-Shell®: a spray-applied, mineral mortar coating similar to stucco, which is a typically effective erosion control solution when immediate performance is imperative. Posi-Shell usually stabilizes steep slopes, controls dust, and controls erosion.

3.8.4.2 Sediment Control

Sediment controls are structural measures that are intended to complement and enhance the selected erosion control measures and reduce sediment discharges from disturbed soil areas. Sediment controls are designed to intercept and settle out or filter soil particles that have been detached and transported by the force of water.

Sufficient quantities of temporary sediment control materials will be maintained on-site to allow implementation of temporary sediment controls in the event of predicted rain and for rapid response. This includes implementation requirements of BMPs in active areas and non-active areas that require deployment before the onset of rain. The BMPs that should be considered for implementation to prevent sediment migration from disturbed soil areas include:

- Fiber Rolls (or straw wattles): Fiber rolls or straw wattles can be installed surrounding the entire outside perimeter of the disturbed soil area as well as surrounding stockpiles. Fiber rolls should be placed along the toe, top, face, and at grade breaks of exposed and erodible slopes to shorten slope lengths and spread runoff as sheet flow Fiber rolls, should not include any synthetic component because of this material's potential adverse impact to wildlife.
- Check Dams: Check dams are small dams, which can be either temporary or permanent, built across a minor channel, v-ditch, swale, bioswale, or larger drainage ditch. Check dams reduce erosion and gullying in the channel or ditch and allow sediments and pollutants to settle by slowing down the surface waters.
- Gravel Bag Berm: Gravel bag berms can be installed along the down gradient perimeter of disturbed soil areas to prevent run-off if there is a sufficient structural base for support

and stabilization of the gravel bags. Gravel bags can also be used alongside access roads to reduce flow velocities and settle out particles.

- Sweeping: Paved areas will be swept daily during the storm season (October 1 through May 30) and weekly during the remainder of the year. The Facility uses a truck sweeper and sweeps inaccessible areas by hand. Comprehensive and focused sweeping of the paved areas is conducted before anticipated rain events.
- Storm Drain Inlet Protection: Drain inlets (DIs) within the facility should receive drain inlet protection. The DIs will consist of filter fabric (inverse witches' hats) to filter out any sediment and pollutants before run-off enters the storm drainage systems. DI protection will be installed in a manner that will not cause ponding or pose a threat to traffic safety. If ponding does cause an issue, the source of the ponding will be identified and corrective actions taken if necessary. During critical operations where potential exists of non-stormwater entering the storm drain inlet, the inlet should be sealed off with urethane sheets, plastic covers, or an equivalent product. Once the critical operation is completed the DIs should be opened up again.
- Flocculent: Flocculent use may need to be approved by the RWQCB prior to its use. Floc logs introduce a flocculent into the stormwater to promote and accelerate sedimentation in the stormwater basins. The placement of floc logs should be upstream of the stormwater basins to introduce the flocculent upstream, so it is well mixed with the surface water run-off.

3.9 Preventive Maintenance

The Facility implements the preventative maintenance procedures described below.

- Identify equipment and systems used outdoors that may spill or leak potential stormwater pollutants.
- Observe the identified equipment and systems to detect leaks, or identify conditions that may result in the development of leaks.
- Establish an appropriate schedule for maintenance of identified equipment and systems.
- Establish procedure for prompt maintenance and repair of equipment, and maintenance of systems when conditions exist that may result in the development of spills of leaks.

A member of the PPT performs visual inspections to identify maintenance needs. Maintenance implementation and completion is tracked on the inspection forms. The inspections are described in the following section.

3.10 Inspection Program

Inspections regarding BMP implementation and effectiveness at this Facility are done in accordance with the Facility's SPCC, SWPPP, and HMBP.

3.10.1 SWPPP Inspections

The SWPPP inspections are described in the SWPPP and are consistent with the monitoring and reporting program (MRP) provided in Attachment E to the NPDES Permit. A BMP Inspection Log is included in Appendix A

3.10.2 SPCC Inspections

A visual inspection shall be performed monthly of all storage tanks, piping, valves, secondary containments, drum storage areas, and loading/unloading areas. The inspections shall be performed by an employee or employees designated by the Plant Manager. The designated employee(s) are to complete the forms attached in Appendix B of this BMP Plan, which include inspections for:

- Aboveground storage tanks (maintenance/operations)
- Drum and small container storage and handling
- Spill containment and drainage systems
- Loading / unloading events

Tank Integrity Testing: In addition to visual inspection, tanks will be tested on a regular schedule and whenever material repairs are made. Testing will use one of the following testing methods such as hydrostatic, radiographic, ultrasonic, acoustic emissions, or another system of non-destructive shell testing. Tank inspectors must have STI or API certification. Completed licensed tank installer inspections and tank integrity test results are to be provided to the Plant Manager and will be available for review upon request.

3.10.3 HMBP Inspections

Inspections regarding hazardous material BMPs are to be conducted in accordance with the current HMBP for the Facility. Relevant weekly and monthly inspection forms are included in Appendix C of this BMP Plan.

3.11 Security

The security measures taken to prevent environmental releases are discussed in the Facility's SPCC Plan and also described below:

- All entrances to the site have gates that are locked when there is no one at the site
- Due to the size and geographic location, the site is not fully fenced. However, equivalent environmental protection by natural barriers (e.g. Permanente Creek) exist where there is no fencing.
- Starter controls on all product pumps locked in the off position while not in operation or are located in an area accessible only to authorized personnel
- Loading/unloading pipeline connections securely capped or blank-flanges when not in service
- Night lights in place to provide adequate lighting where appropriate to permit the discovery of discharges, including those caused by an act of vandalism, during hours of darkness.

3.12 Employee Training

The Facility implements the employee training program procedures described below and consistent with the SPCC, SWPPP, and HMBP.

- Ensure that all team members implementing the various compliance activities in the BMP Plan are adequately trained to implement the requirements of the NPDES Permit, including but not limited to: BMP implementation, BMP effectiveness evaluations, visual observations, and monitoring activities.
- Prepare or acquire appropriate training manuals or training materials
- Identify which personnel need to be trained, their responsibilities, and the type of training they shall receive
- Provide a training schedule
- Maintain documentation of all completed training classes and the personnel that received training in the SWPPP

The Facility has an established training program. The PPT will provide annual training for current and future employees. The PPT will provide training for new employees within 30 days. This training will include good housekeeping procedures, preventive maintenance, spill prevention and response, BMP maintenance, and record keeping.

Facility employees that have direct responsibilities in areas of the Facility that have the potential to impact stormwater will receive training annually. More frequent training will be conducted as necessary to address employee turnover. All PPT and employee training is to be documented and the records will be stored with the SWPPP. Records of employee training are maintained for a minimum of five (5) years.

3.13 Recordkeeping and Reporting

The Facility implements the quality assurance and record keeping procedures described below.

- Develop and implement management procedures to ensure that appropriate staff implements all elements of the SWPPP, including the monitoring and reporting program in the NPDES Permit
- Develop a method of tracking and recording the implementation of BMPs identified in the SWPPP (BMP Inspection and Preventative Maintenance Log, Appendix A)
- Maintain the BMP implementation records, training records, and records related to any spills and clean-up related response activities for a minimum of five (5) years

The PPT or plant manager is responsible for ensuring that all elements of the SWPPP are implemented, that BMP implementation is tracked and recorded, and that all records required by the NPDES Permit and SWPPP are maintained for a minimum of five (5) years. Quality assurance activities undertaken will be documented and entered into the SWPPP records.

Records regarding SPCC inspections are to be placed in the back of the Appendix in which the form was taken from in the SPCC Plan and maintained for a minimum of five (5) years.

4.0 BMP PLAN ASSESSMENT

This BMP Plan shall be reviewed annually and revised and updated as necessary, as soon as possible, to ensure that the Plan remains useful and relevant. Revisions to this BMP Plan may not be reflected in the SWPPP. In this case, the BMP Plan shall govern. Additionally, the BMP Plan should be reviewed and revised, as necessary, due to significant changed conditions including, but not limited to, the following:

- Restructuring of facility management
- Substantial growth
- Significant changes in the nature or quantity of pollutants discharged
- Process or treatment modifications
- New permit requirements
- New legislation related to BMPs
- Releases to the environment.

Lehigh will complete appropriate revisions within 90 days of significant changes in Facility equipment or operations. Lehigh will include a description or summary of its review and evaluation procedures and any changes to its BMP Plan in each annual Self-Monitoring Report (SMR) as required by the NPDES Permit. The BMP Plan shall be maintained in usable condition and be available for reference and use by all relevant personnel.

The NPDES Permit establishes stormwater action levels to facilitate evaluation of the effectiveness of the BMPs to reduce or prevent pollutant discharges. Lehigh will implement the MRP that includes collecting and analyzing stormwater samples. Provisions VI.C.6.c requires Lehigh to review and, if possible, improve the BMPs if action levels are exceeded.

Upon an initial detection of a pollutant at Discharge Point Nos. 002 through 006 in excess of the action levels in Table 3 below, (Table 7 in Section VI.C.6.c.i of the NPDES Permit), Lehigh shall review the selection, design, installation, and implementation of its BMPs to identify necessary modifications. Lehigh shall complete such modifications before the next storm, if possible, or as soon as practical. Within 45 days of becoming aware of results that exceed these action levels, Lehigh shall report to the Executive Officer the exceedances, the results of its review of its BMPs, and additional BMPs to be implemented.

Table 3: Stormwater Action Levels

Parameter	Unit	Action Level
Conductivity	µmho/cm	200
Chromium (VI)	µg/L	16
Mercury	µg/L	2.4
Nickel	µg/L	1,020
Selenium	µg/L	5.0
Thallium	µg/L	1.7
Visible Oil	---	Presence
Visible Color	---	Presence

If after modifying its BMP Plan, the Facility continues to detect a pollutant in excess of the action levels above, the Facility shall again review its control measures and perform either of the following tasks:

1. Further modify and report as in Provision VI.C.6.c.i as noted above.
2. Determine that no further pollutant reductions are technologically available and economically practicable in light of best industry practice, document the rationale for concluding that no further pollutant reductions are achievable, and retain all records related to this documentation with the SWPPP. The Facility will also report these findings to the Executive Officer within 45 days of detecting the pollutant; written concurrence from the Executive Officer is required before the Facility is authorized to stop improving its BMPs.

5.0 REFERENCES

EPA, 1993. Guidance Manual for Developing Best Management Practices (BMP). October 1993.

Golder Associates, 2014. Stormwater Pollution Prevention Plan Lehigh Southwest Cement Company Permanente Plant and Quarry, 24001 Stevens Creek Boulevard, Cupertino, California. May 16, 2014.

Established in 1960, Golder Associates is a global, employee-owned organization that helps clients find sustainable solutions to the challenges of finite resources, energy and water supply and management, waste management, urbanization, and climate change. We provide a wide range of independent consulting, design, and construction services in our specialist areas of earth, environment, and energy. By building strong relationships and meeting the needs of clients, our people have created one of the most trusted professional services organizations in the world.

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Golder Associates

Engineering Earth's Development, Preserving Earth's Integrity

APPENDIX G:

NON-LIMESTONE COVER MATERIAL VERIFICATION MEMO

July 28, 2015 Project No. 140500502

Mr. Sam Barket
Area Environmental Manager
Lehigh Southwest Cement Company
24001 Stevens Creek Blvd.
Cupertino, CA 95014

RE: DOCUMENTATION OF ACTIVITIES PERFORMED TO ADDRESS CONDITION OF APPROVAL 74, EAST MATERIALS STORAGE AREA, LEHIGH SOUTHWEST CEMENT, PERMANENTE FACILITY, CUPERTINO, CALIFORNIA

Dear Mr. Barket:

Golder Associates (Golder) has prepared this letter to document activities performed related to reclamation at the East Material Storage Area (EMSA) at Lehigh's Permanente Facility (Figure 1). These tasks were performed to address Condition of Approval (COA) 74 per the "Final Conditions of Approval" (COA) approved by County of Santa Clara Board of Supervisors on June 26, 2012. COA 74 states the following (annotated):

> *"A California Certified Engineering Geologist shall be onsite during reclamation to verify that non-limestone run-of-mine rock is used as cover on the EMSA and WMSA…. Using visual and field testing methods, with occasional bulk sampling and laboratory analysis, the geologist shall observe and document the type of rock placed over the limestone-containing material during reclamation activities. The geologist shall inspect and document whether limestone is present at the source area (Quarry Pit and WMSA), whether limestone rock is transported from the source area to segregation stockpiles, and whether limestone is present within the lifts of the proposed 1-foot layer of run-of-mine cover rock (in the EMSA, WMSA, and Quarry Pit). Inspection involves observing the excavation hauling, stockpiling, and placement of the non-limestone cover material, performing a visual assessment of the rock, and conducting random spot sampling and field testing of suspect rock fragments…"*

In November 2014, Golder provided a report documenting activities that occurred prior to November 1, 2014.[1] This current report provides an update on activities completed since the previous report.

1.0 INSPECTION AND TESTING OF COVER MATERIALS

As noted in the November 2014 report, a Golder geologist, under the direct supervision of the undersigned, inspected overburden material encountered during mining activities along the southeast portion of the quarry. Golder determined the material consisted of clayey, sandy gravel that was comprised of the Santa Clara Formation and weathered greenstone and to a lesser degree graywacke of the Franciscan Formation. No significant quantities of limestone were observed in the material. Three samples were collected by Golder and analyzed for TTLC and STLC selenium by a California-certified laboratory. The results, which were included in the November 2014 report, are summarized below:

[1] Golder Associates. November 14, 2014, Documentation of Work Performed to Address Conditions of Approval, East Materials Storage Area, Permanente Facility, Cupertino, CA.

Golder Associates Inc.
425 Lakeside Drive
Sunnyvale, CA 94085 USA
Tel: (408) 220-9223 Fax: (408) 220-9224 www.golder.com

Table 1: Analytical Results for EMSA Cover Materials

Sample Type	Selenium TTLC (mg/kg)	Selenium STLC (mg/L)
Santa Clara Formation	ND	ND
Greenstone	ND	0.00062
Graywacke	ND	0.00150
Method Detection Limit	0.022	0.00026

ND = Not detected above the laboratory method detection limit; TTLC = total threshold limit concentration; STLC = soluble threshold limit concentration.

Golder concluded that the overburden material was suitable to be used as cover material. As the material was mined in the summer of 2014, Lehigh transported the material to the EMSA and segregated it for later use as cover material by stockpiling at two designated areas. Golder inspected the stockpiled material and determined that no significant quantities of limestone were present. After the stockpiled material was placed as cover, Lehigh began directly placing the cover material in the EMSA instead of stockpiling. The overburden material originated from the same section of the mine as the stockpiled material and consisted primarily of Santa Clara Formation.

2.0 INSPECTION OF COVER MATERIAL PLACEMENT

A Golder geologist, under the direct supervision of the undersigned, inspected the remaining portions of the EMSA limit of fill while the final cover material was placed (Figure 2). Several site visits and inspections were performed from December 2014 through July 2015 while the remaining portions of the EMSA were covered. Golder performed field inspections to ensure that only non-limestone bearing earth material was placed as the final cover material. Prior to the placement of the final cover, Golder confirmed that the previous identified areas containing rock plant fines were either removed or re-graded to a maximum 8-ft thickness and covered by a minimum 25-ft overburden with a 30-ft minimum horizontal setback from surface.

The cover material was from the stockpiled material and from overburden material of the same origin as it was mined from the southeast portion of the quarry. During the site visits, Golder observed the hauling and placement of the approved cover materials to ensure adequate cover thickness (minimum one-foot-thick) and that the place cover materials were being track-walked a minimum of three equipment passes to achieve appropriate compaction. After the material was placed, Golder completed field observations to confirm that limestone was not present.

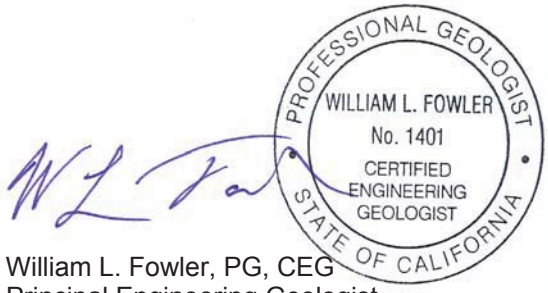
During an April 2015 inspection, Golder inspected the lower portion of the EMSA outside of the material storage area, but within the EMSA boundary (Figure 2). In May and June 2015, Lehigh removed limestone bearing earth material from this area and placed at least one foot of cover material. The cover material was recently mined overburden consisting of weathered greenstone from the southeast part of the quarry. Lehigh completed the work in July 2015 and reconstructed the Pond 30 drainage swale. Golder inspected the area upon completion and verified that no limestone bearing earth material was present within the upper one foot of cover.

On July 20, 2015, Golder performed a final inspection of the EMSA and determined that the area has been covered in accordance to COA 74 with run-of-mine rock. The run-of-mine rock consisted of predominately Santa Clara Formation overburden. No significant quantities of limestone bearing material were present within the top one foot of the cover. Placement of final cover for other areas within the Reclamation Plan Boundary will be completed at a later date once site operations are complete and reclamation activities are initiated.

3.0 CLOSING

If you have any questions or we can provide additional information please free to contact us.

GOLDER ASSOCIATES INC.



George C. Wegmann, PG
Senior Geologist

William L. Fowler, PG, CEG
Principal Engineering Geologist

Attachments:

Figure 1 – Site Plan
Figure 2 – EMSA Layout

LEGEND

- Stream
- Property Boundary

NOTES

1) Locations based on conversion from local coordinates or Google Earth placement.

REFERENCES

1)Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
2) Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

1,200 0 1,200
Feet

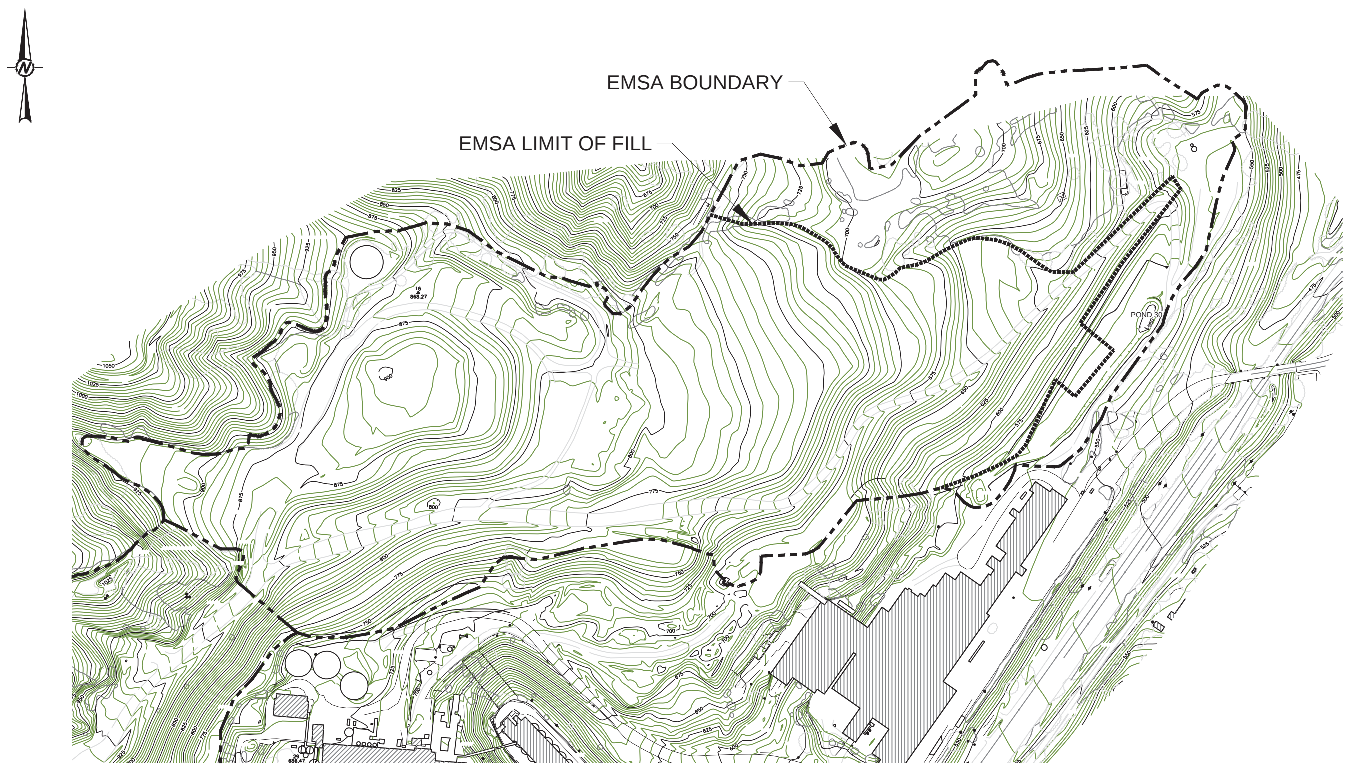
PROJECT
EAST MATERIALS STORAGE AREA
PERMANENTE QUARRY
SANTA CLARA COUNTY, CALIFORNIA

TITLE
SITE PLAN

Golder Associates

PROJECT No.	1405005		FILE No.	SitePlan_1405005_SV.mxd
DESIGN	DZF	10/31/2013	SCALE:	AS SHOWN
GIS	DZF	11/11/2014	REV.	0
CHECK	GW	11/11/2014		
REVIEW	GW	11/11/2014		

FIGURE 1



0 150 300
1" = 300' FEET

REFERENCE(S)

1. BASE MAP OBTAINED FROM AERIAL PHOTOMAPPING SERVICES, DATE 6-16-2015.

CLIENT
LEHIGH SOUTHWEST CEMENT COMPANY
SANTA CLARA COUNTY, CALIFORNIA

CONSULTANT

Golder Associates

YYYY-MM-DD	2015-07-28
DESIGNED	####
PREPARED	LKB
REVIEWED	####
APPROVED	####

PROJECT
EAST MATERIAL STORAGE AREA
PERMANENTE QUARRY
SANTA CLARA COUNTY, CALIFORNIA

TITLE
EMSA LAYOUT

PROJECT NO.	PHASE	REV.	FIGURE
1405505	100	0	1

APPENDIX H:

ANNUAL GREENHOUSE GAS INVENTORY REPORT

ENVIRONMENTAL CONSULTANTS

September 23, 2015

Mr. Sam Barket
Lehigh Hanson
Area Environmental Manager

Re: Annual Reclamation Plan Amendment Activities Greenhouse Gas Inventory

Dear Mr. Barket,

This letter is an annual analysis of the Greenhouse Gas Emissions (GHG) associated with Reclamation Plan Amendment activities at the Lehigh Southwest Cement Company's Permanente Quarry (Quarry) in Santa Clara County, California. This inventory is pursuant to Conditions of Approval (COA) 71, 72, and 73 of the 2012 Reclamation Plan Amendment, for the reporting period of July 31, 2014 through June 30, 2015.

Methods and Thresholds

The methodology used in this memo to analyze the project's contribution to global climate change includes a calculation of GHG emissions associated with Reclamation Plan Amendment Activities, beyond baseline levels as described in the EIR[1], and a comparison of GHG emissions with the thresholds set forth in the COA. GHG emission would be considered significant and require mitigation if they exceed 1,100 metric tons of Carbon Dioxide equivalent ($CO2_e$) within a year. Reclamation Plan Amendment activities included, but not limited to, the following:

- Reclamation of slope, grading, and hauling of materials
- Maintenance of erosion control features
- Hydroseeding activities
- Sediment basin maintenance

The Bay Area Air Quality Management District (BAAQMD) recommends use of the California Emissions Estimator Model™ (CalEEMod) to estimate GHG emissions associated with construction of individual development projects and operational GHG emissions.[2] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential

1 Activities that are within the baseline, mining activities, ongoing before the 2012 Reclamation Plan Amendment are not included in these GHG calculations.

2 BAAQMD CEQA Guidelines: Available at *http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES.aspx*

criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects.[3] The mobile source emission factors used in the model (EMFAC2011) includes the Pavley standards and Low Carbon Fuel standards into the mobile source emission factors. The model was developed in collaboration with the air districts of California. Default data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions.

GHG emissions associated with the projects were modeled using CalEEMod version 2013.2.2 using general project information provided to WRA. Project inputs and assumptions are summarized in the Table 1 below.

Table 1. Off-Road Reclamation Activities Diesel Equipment

Model	Equipment Type	Total Hours	HP*
2001 Freightliner FL70	Off-Highway Truck	56	290
Gradeall 5200	Excavator	27	173
2014 John Deere 460E	Off-Highway Truck	5340	481
2010 Caterpillar D8T	Dozer	849	347
2012 Caterpillar D8T	Dozer	435	347
2012 Volvo Excv. 340c	Excavator	621	189
2008 Volvo A40E WtrTr	Off-Highway Truck	279	469
2012 Volvo Excv. 460c	Excavator	901	239
2014 John Deere 872G	Grader	170	287
2008-9 Volvo A40E	Off-Highway Truck	861	469

**Horsepower (HP) figures are based on available information from equipment manufacturer specification sheets. Not all manufacturers listed gross HP figures; therefore net HP was utilized for calculations.*

Greenhouse Gas Inventory Results

An inventory of reclamation activity emissions was taken for the period of July 1, 2014 to June 30, 2015. Appendix A shows the results of the modeling of this inventory. Total emissions for the study period were 887.7908 metric tons of $CO2_e$. Emissions were below the threshold of 1,100 metric tons of $CO2_e$ as set in COA 71. Therefore, no offset or additional actions are required to mitigate for GHG emissions.

Sincerely,

Erich Schickenberg
Scientist / Environmental Planner

[3] http://www.caleemod.com/

Appendix A: CalEEMod GHG Inventory Results

Model	Equipment Type	CO2e Metric Tons
Freightliner FL70	Off-Highway Truck	
	Total Freedlun	3.2033
Gradeall 5200	Excavator	
	Total Coulter	0.8214
Cat 950	Small Loader	
Caterpillar 992G	Loader	
Freightliner FL70	Off-Highway Truck	
Gradeall 5200	Excavator	
John Deere 460E	Off-Highway Truck	
Caterpillar D8T	Dozer	
Caterpillar D8T	Dozer	
Volvo Excv. 340c	Excavator	
	Total Off-Highway Trucks	883.7741
Total Emissions		**887.7908**

2014-2015 RPA GHG Inventory

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	0.00	1000sqft	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	3			**Operational Year**	2014
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - * User specs

Off-road Equipment - * User specs

Off-road Equipment - * User Spec

Off-road Equipment - * User Specs

Grading - * User Specs

Road Dust - * User specs

Trips and VMT - * User Specs

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	0.00	1.00
tblConstructionPhase	NumDays	0.00	1.00
tblConstructionPhase	NumDays	0.00	1.00
tblConstructionPhase	PhaseEndDate	1/2/2015	1/1/2015
tblConstructionPhase	PhaseEndDate	1/2/2015	1/1/2015
tblConstructionPhase	PhaseStartDate	1/2/2015	1/1/2015
tblConstructionPhase	PhaseStartDate	1/2/2015	1/1/2015
tblGrading	AcresOfGrading	10.50	0.00
tblOffRoadEquipment	HorsePower	400.00	290.00
tblOffRoadEquipment	HorsePower	162.00	189.00
tblOffRoadEquipment	HorsePower	255.00	347.00
tblOffRoadEquipment	HorsePower	162.00	239.00
tblOffRoadEquipment	HorsePower	400.00	469.00
tblOffRoadEquipment	HorsePower	162.00	173.00
tblOffRoadEquipment	HorsePower	174.00	287.00
tblOffRoadEquipment	HorsePower	400.00	469.00
tblOffRoadEquipment	HorsePower	400.00	481.00
tblOffRoadEquipment	HorsePower	255.00	849.00
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	7.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	78.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	54.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	113.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	35.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	21.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	108.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	668.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	106.00
tblOffRoadEquipment	PhaseName		Freedlun
tblOffRoadEquipment	PhaseName		Turner Contracting, Inc.
tblOffRoadEquipment	PhaseName		Turner Contracting, Inc.
tblOffRoadEquipment	PhaseName		Turner Contracting, Inc.
tblOffRoadEquipment	PhaseName		Coulter
tblOffRoadEquipment	PhaseName		Turner Contracting, Inc.
tblOffRoadEquipment	PhaseName		Turner Contracting, Inc.
tblOffRoadEquipment	PhaseName		Turner Contracting, Inc.
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	100	0
tblTripsAndVMT	WorkerTripNumber	23.00	0.00
tblTripsAndVMT	WorkerTripNumber	73.00	0.00
tblTripsAndVMT	WorkerTripNumber	2,965.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015																887.7908
Total																887.7908

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015																887.7898
Total																887.7898

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area																0.0000
Energy																0.0000
Mobile																0.0000
Waste																0.0000
Water																0.0000
Total																**0.0000**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area																0.0000
Energy																0.0000
Mobile																0.0000
Waste																0.0000
Water																0.0000
Total																**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Freedlun	Site Preparation	1/1/2015	1/1/2015	5	1	
2	Coulter	Site Preparation	1/1/2015	1/1/2015	5	1	
3	Turner Contracting, Inc.	Grading	1/1/2015	1/1/2015	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Turner Contracting, Inc.	Excavators	113	8.00	239	0.38
Freedlun	Off-Highway Trucks	7	8.00	290	0.38
Turner Contracting, Inc.	Excavators	78	8.00	189	0.38
Turner Contracting, Inc.	Graders	21	8.00	287	0.41
Turner Contracting, Inc.	Off-Highway Trucks	108	8.00	469	0.38
Turner Contracting, Inc.	Off-Highway Trucks	668	8.00	481	0.38
Turner Contracting, Inc.	Rubber Tired Dozers	54	8.00	347	0.40
Turner Contracting, Inc.	Rubber Tired Dozers	106	8.00	849	0.40
Turner Contracting, Inc.	Off-Highway Trucks	35	8.00	469	0.38
Coulter	Excavators	3	8.00	173	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Freedlun	9	0.00	0.00	0.00	12.40	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Coulter	29	0.00	0.00	0.00	12.40	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Turner Contracting, Inc.	1186	0.00	0.00	0.00	12.40	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Freedlun - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust																0.0000
Off-Road																3.2033
Total																**3.2033**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																0.0000
Total																**0.0000**

3.2 Freedlun - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust																0.0000
Off-Road																3.2033
Total																**3.2033**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																0.0000
Total																**0.0000**

3.3 Coulter - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust																0.0000
Off-Road																0.8124
Total																**0.8124**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																0.0000
Total																**0.0000**

3.3 Coulter - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust																0.0000
Off-Road																0.8124
Total																0.8124

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																0.0000
Total																0.0000

3.4 Turner Contracting, Inc. - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust																0.0000
Off-Road																883.7751
Total																**883.7751**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																0.0000
Total																**0.0000**

3.4 Turner Contracting, Inc. - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust																0.0000
Off-Road																883.7741
Total																**883.7741**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling																0.0000
Vendor																0.0000
Worker																0.0000
Total																**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated																0.0000
Unmitigated																0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.546249	0.062948	0.174600	0.125189	0.034587	0.004960	0.015036	0.022157	0.002053	0.003311	0.006538	0.000702	0.001670

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated																0.0000
Electricity Unmitigated																0.0000
NaturalGas Mitigated																0.0000
NaturalGas Unmitigated																0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	0																0.0000
Total																	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	0																0.0000
Total																	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	0				0.0000
Total					**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	0				0.0000
Total					**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated																0.0000
Unmitigated																0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating																0.0000
Consumer Products																0.0000
Landscaping																0.0000
Total																**0.0000**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating																0.0000
Consumer Products																0.0000
Landscaping																0.0000
Total																**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				0.0000
Unmitigated				0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 0				0.0000
Total					**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 0				0.0000
Total					**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				0.0000
Unmitigated				0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	0				0.0000
Total					**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	0				0.0000
Total					**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

APPENDIX I:

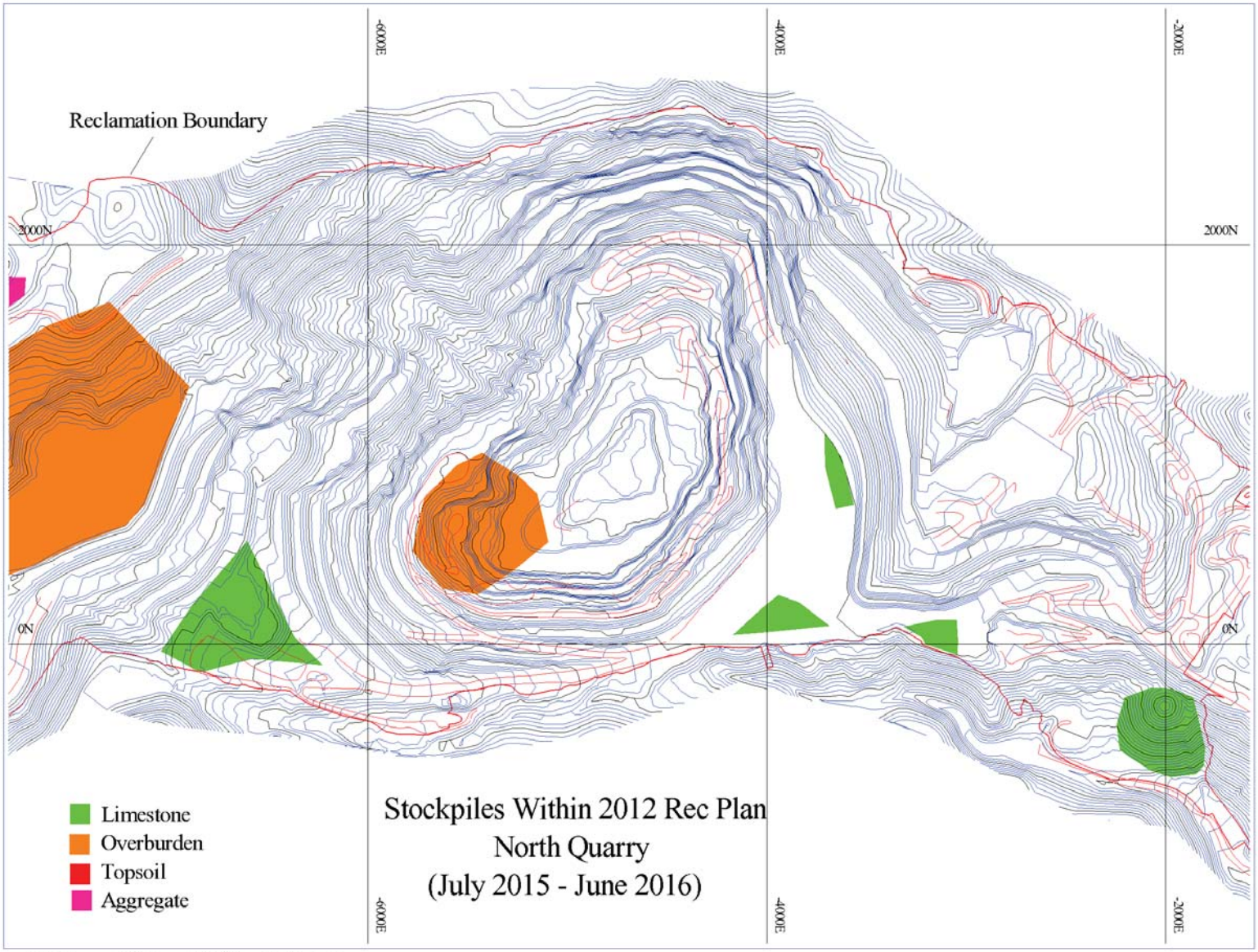
2015-2016 MAP OF EXISTING AND PROPOSED STOCKPILES

HANSON PERMANENTE

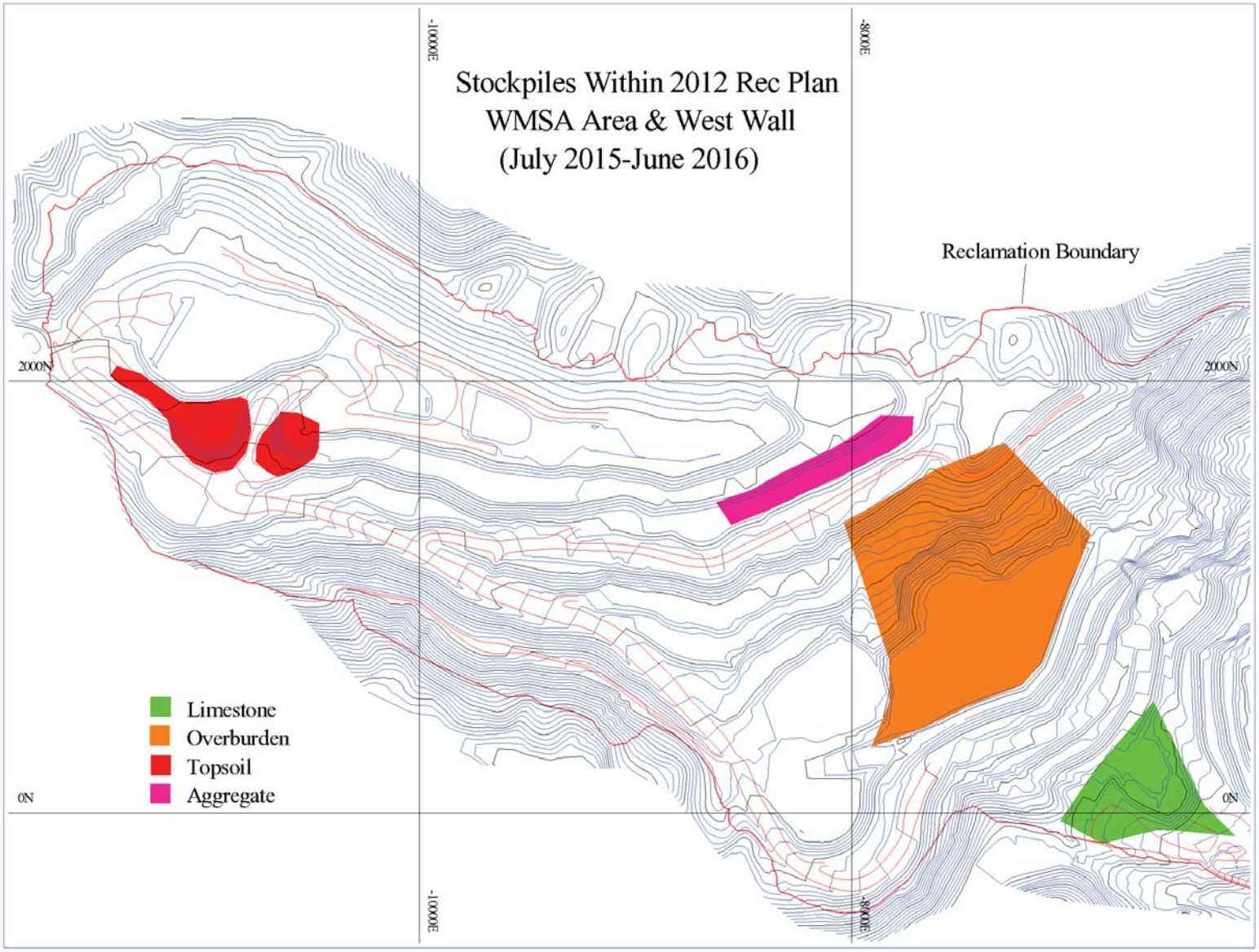
Stockpiles Within 2012 Rec Plan
(July 2015 – June 2016)

C. Maddocks

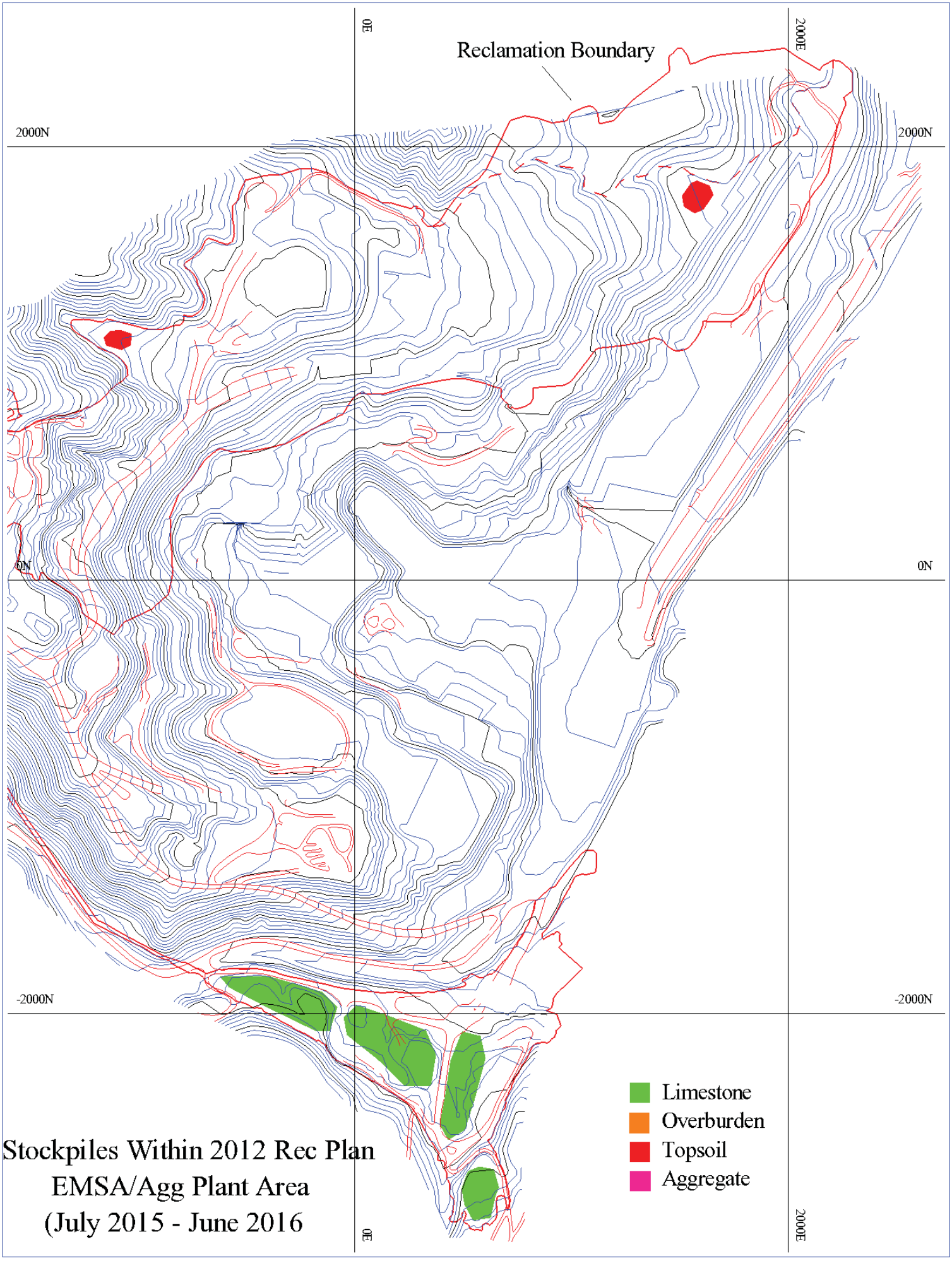
July 2, 2015



Pivot: -1500N, -7800E, 650scale



Pivot: -600N, -11900E, 600scale



Pivot: -3100N, -1600E, 600scale

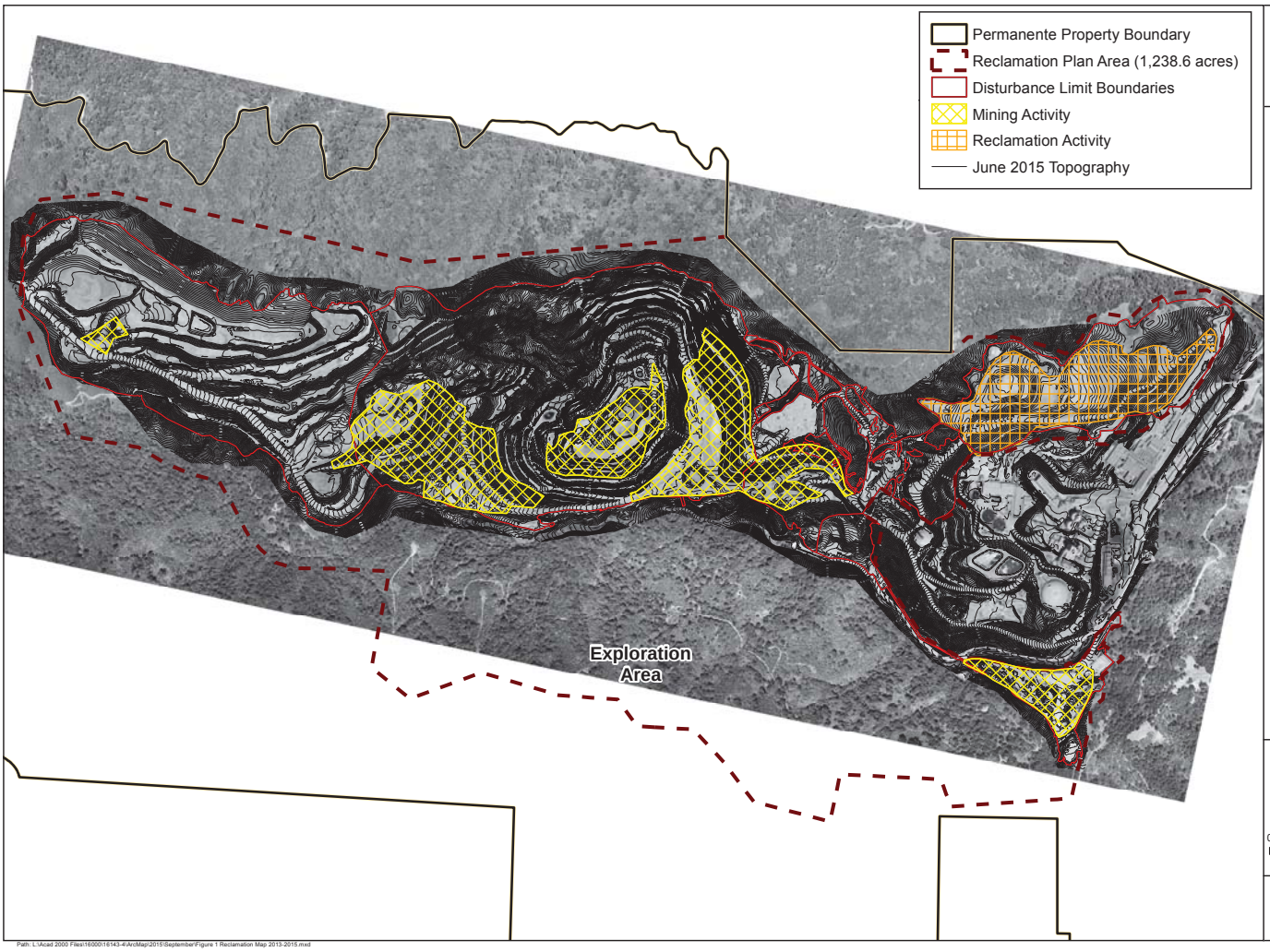
Stockpile July 2015 - June 2016

	Centroid		Total Area
Material	North	East	acres
Limestone	-2339	496	
	-2120	163	
	-1919	-333	
	-431	-2025	
	41	-3138	
	789	-3645	
	130	-3955	
	137	-6667	17.0
Overburden	1145	-7487	
	581	-5435	30.0
Topsoil	1790	-11042	
	1697	-10605	
	1107	-1077	
	1771	1578	5.0
Aggregate	1582	-8155	3.0

Note: survey coordinates in local Lehigh grid

APPENDIX J:

MAPS OF PAST 24 MONTHS SURFACE MINING AND RECLAMATION ACTIVITY AND FUTURE 24 MONTHS ESTIMATED ACTIVITY



wra
ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry
Santa Clara County, CA

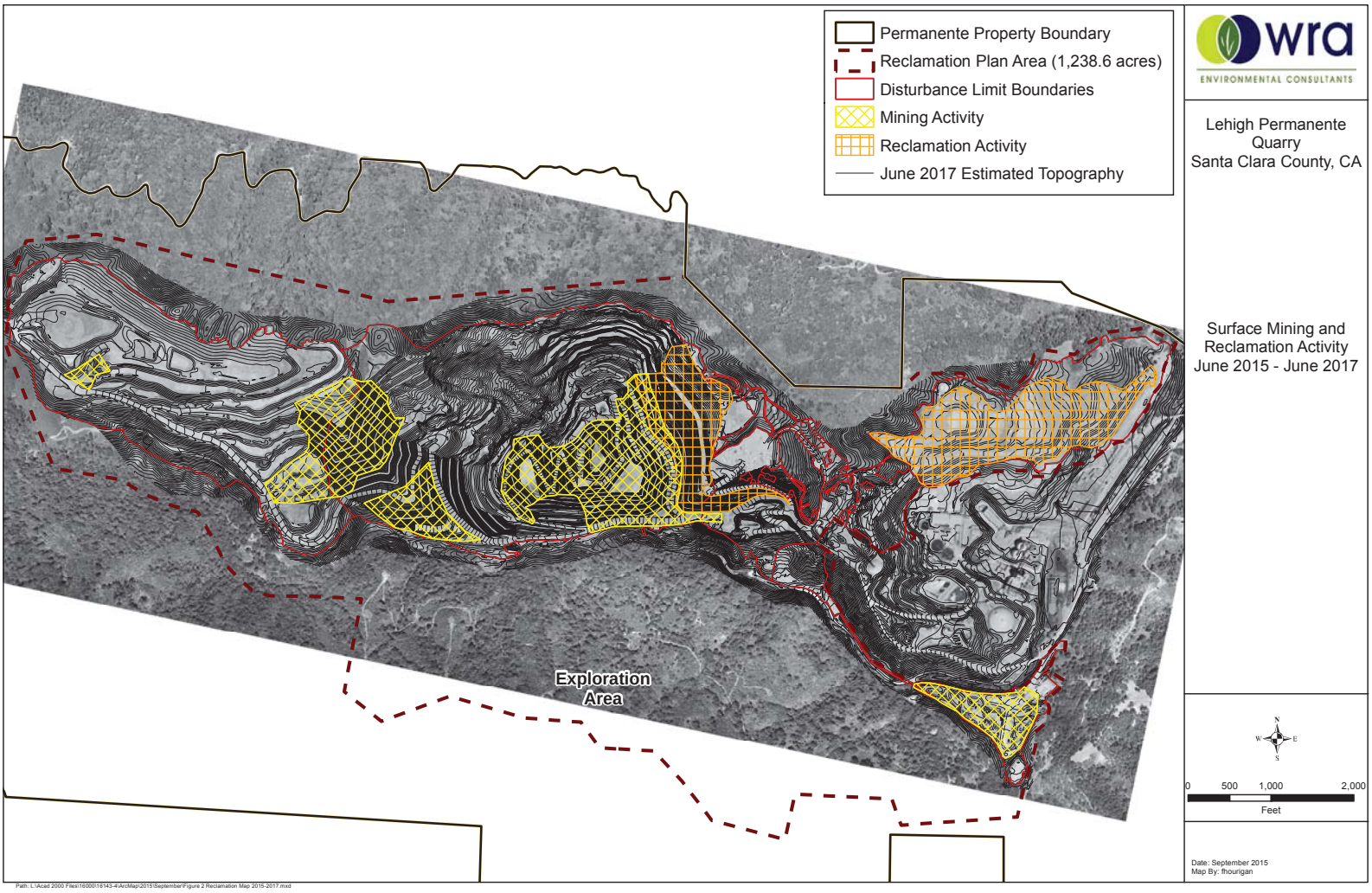
Surface Mining and Reclamation Activity
June 2013 - June 2015

N
W E
S

0 500 1,000 2,000
Feet

Date: September 2015
Map By: fhourigan

Path: L:\Acad 2000 Files\16000\16143-4\ArcMap\2015\September\Figure 1 Reclamation Map 2013-2015.mxd



wra
ENVIRONMENTAL CONSULTANTS

Lehigh Permanente Quarry
Santa Clara County, CA

Surface Mining and Reclamation Activity
June 2015 - June 2017

N
W E
S

0 500 1,000 2,000
Feet

Date: September 2015
Map By: fhourigan

Path: L:\Acad 2000 Files\16000\16143-4\ArcMap\2015\September\Figure 2 Reclamation Map 2015-2017.mxd

APPENDIX K:

IMPROVED RECLAMATION PLAN BOUNDARY DEMARCATION MEMO

Memorandum

To: Greg Knapp, Lehigh Hanson

Cc: Sam Barket, Lehigh Hanson

George Taylor, Lehigh Hanson

Cliff Maddocks, Lehigh Hanson

From: Erich Schickenberg
schickenberg@wra-ca.com
ext. 1870

Date: September 15, 2015

Subject: Improved Reclamation Plan Boundary Demarcation

In order to maintain compliance with Santa Clara County Final Conditions of Approval number 22, the T-posts that served to demarcate the EMSA, WMSA, and Rock Plant Reclamation Plan Amendment (RPA) Boundaries were repainted with high visibility pink spray paint. This was done to improve the visibility of the demarcation boundary (see Demarcation Maps, Figures 1-3).

Conditions of Approval Requirements

Conditions of Approval (COA) number 22 of the Santa Clara County Final Conditions of Approval specify the measures to be taken to maintain the demarcation of the EMSA, WMSA, and Rock Plant Reclamation Plan Amendment Boundary.

The relevant COA is summarized below:

> **COA 22. Maintain Demarcation of EMSA, Rock Plant, and WMSA RPA Boundaries.**
> Within 60 days of RPA approval, the RPA limit of disturbed area surrounding the northern and eastern edges of the EMSA, the northern and western edges of the WMSA, and the perimeter of the Rock Plant area shall be clearly demarcated in the field and shall remain in place until final reclamation has been completed. On an annual basis, demarcation shall be modified to encompass the RPA boundaries nearest the areas subject to surface mining and reclamation, as shown on aerials submitted per Condition number 23. Demarcated areas shall be located and marked in the field by a licensed land surveyor or registered civil engineer authorized to practice land surveying. Demarcation shall use orange construction fencing or other brightly colored material acceptable to the Planning Manager.

EMSA, Rock Plant, and WMSA RPA Boundary Demarcation Improvements

On July 14 and 16, 2015 a WRA, Inc. (WRA) biologist repainted the existing T-post markers, which demarcated the EMSA, Rock Plant, and WMSA RPA boundaries, with metal T-posts. The T-posts were

painted with high visibility pink paint. The demarcation boundary did not move as quarry activities are not planned in or near those areas and there are no plans in place to go beyond the demarcation line. Additional markers were not needed in other areas because future quarry activities are not scheduled to be located near other portions of the RPA boundary.

Summary

In order to maintain compliance with COA 22, improvements to the durability and visibility of the RPA Boundary were made by repainting the existing T-posts. All T-posts were observed to be standing in the exact locations as when they were placed.

Per the Final Conditions of Approval, all requirements for maintaining the demarcation of the EMSA, Rock Plant, and WMSA RPA Boundaries have been met.

Figure 1. Location of RPA Boundary Demarcation in the EMSA.

Figure 2. Location of RPA Boundary Demarcation in the WMSA.

Figure 3. Location of RPA Boundary Demarcation in the Rock Plant.

Photo 1. Repainted RPA Boundary demarcation T-posts at Pond 31a.

Photo 2. Repainted RPA Boundary demarcation T-posts near Pond 31b.

Photo 3. Repainted RPA Boundary demarcation T-posts along south side of EMSA.

Photo 4. Repainted RPA Boundary demarcation T-posts between ponds 31a and 31b.

APPENDIX L:

FINANCIAL ASSURANCE COST ESTIMATE TRANSMITTAL